



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

June 29, 2012



Reply To: ECL-112

Marko E. Adzic
Teck American Incorporated
501 North Riverpoint Boulevard, Suite 300
Spokane, Washington 99202

Re: Upper Columbia River Site Remedial Investigation and Feasibility Study
Tribal Consumption and Resource Use Survey

Dear Mr. Adzic:

The purpose of this letter is to transmit a copy of the June 2012 report titled "Upper Columbia River Site Remedial Investigation and Feasibility Study Tribal Consumption and Resource Use Survey, Final Report," prepared by Westat for the U.S. Environmental Protection Agency (EPA). A CD copy of the report is enclosed.

The enclosed report summarizes the types of data collected for the Tribal survey conducted by EPA in coordination and cooperation with the Confederated Tribes of the Colville Reservation (CCT), describes the types of analyses undertaken and presents representative data tables. In addition, the report describes the respective roles of Westat, EPA and CCT in the project survey, provides details on study participant selection, describes the survey instruments used and their development, and the methods and procedures used to collect the data. Problems encountered and changes made are also described.

The final report and the information contained therein will be evaluated along with other pertinent information as we continue our work in the risk assessment process. EPA greatly appreciates the comments previously provided by TAI on the draft version of the report. If you have any questions, please feel free to contact Marc Stifelman at (206) 553-6979, or myself at (206) 553-0323.

Sincerely,

A handwritten signature in blue ink that reads "Monica Tonel".

Monica Tonel
UCR Project Team

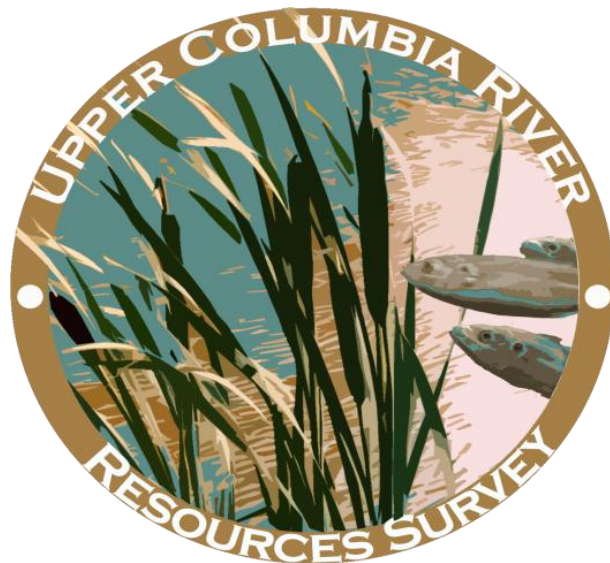
Enclosure

cc: Kris McCaig, TAI (w/ Enclosure)



UPPER COLUMBIA RIVER SITE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY TRIBAL CONSUMPTION AND RESOURCE USE SURVEY

Final Report



June 22, 2012

Westat®

Submitted to:
U.S. Environmental Protection
Agency (EPA)
Region 10

Submitted by:
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Part 1

Background and Methodology

Pursuant to United States Environmental Protection Agency (EPA) Contract No. EP-R7-08-13, Westat, in coordination with the Confederated Tribes of the Colville Reservation (CCT) and the EPA, planned and implemented the Upper Columbia River (UCR) Tribal Consumption and Resource Use Survey. The Tribal Consumption and Resource Use Survey was conducted as part of the Upper Columbia River Human Health Risk Assessment (HHRA) and Remedial Investigation/Feasibility Study (RI/FS) (U.S. Department of Justice (DOJ) *et al*, 2006). The work was conducted under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendment and Reauthorization Act of 1986 (SARA), and in accordance with relevant work plans developed pursuant to the June 2006 Settlement Agreement signed by the United States (EPA and DOJ) and Teck American Incorporated. Under this contract, Westat conducted a variety of survey design, development, implementation support, and analytic tasks for the UCR Tribal Consumption and Resource Use Survey. This work was conducted with the coordination, assistance, and guidance of the EPA and the CCT and their contractor, Environment International (EI). This Methodology Report (Part 1 of the Final Report) describes the respective roles of Westat, EPA, and the CCT in the survey, a timeline of activities, details on survey participant selection, a description of the survey instruments used and their development, the field staff training that was provided, and procedures used to analyze the data. Special features of the survey are described in detail, along with problems encountered and changes made. Implications of the procedures for future follow-up data collection activities are also discussed.

All data collection and informed consent procedures for the survey were approved by the Institutional Review Boards for both Westat and EPA. A Tribal Research Permit application was also submitted to, and approved by, the CCT. To further protect the confidentiality of survey data, EPA obtained a Certificate of Confidentiality from the National Institutes of Health (NIH). No Office of Management and Budget (OMB) Clearance was required.

Roles of Key Organizations

2

2.1 EPA

EPA's role in the survey was to ensure that all data needs relative to the UCR HHRA were met. In particular, EPA ensured that the survey obtained site-specific data that allowed for reliable identification and characterization of potential exposures of the CCT population from subsistence or tribal cultural practices involving hunting, fishing, gathering, and utilization of environmental resources from the UCR Site and surrounding area. Specific EPA tasks included the following.

- Provided oversight and program management authority for the work performed by the survey contractor, Westat.
- Managed the development of the *Tribal Consumption and Resource Use Survey Work Plan for the Upper Columbia River Site Human Health Risk Assessment and Remedial Investigation/Feasibility Study (August 2010), hereafter referred to as the "UCR Tribal Exposure Work Plan."*
- Attended several trainings for field data collectors and provided information about the site and EPA's role in the survey.
- Provided advice, discussion, and final direction whenever changes in survey procedures needed to be addressed.
- Led weekly calls with CCT, EI, Westat, and other team members to review survey progress and plan for survey activities.

2.2 Westat

Westat's role was key to all phases of the survey, including planning and development, training, data collection, and reporting. Specific tasks included the following.

- With technical support from the CCT and their contractor, Westat prepared the *UCR Tribal Exposure Work Plan*.

- Designed and piloted data collection instruments, including a computer-assisted personal interview (CAPI) for the 24-hour recall (Automated Multiple Pass Method interview, or AMPM), and hard-copy instruments for the Food Questionnaire (FQ), and Resource Utilization and Practices (ReUP) Questionnaire. For the AMPM, Westat adapted the U.S. Department of Agriculture (USDA) system. Appropriate training programs and guides were also developed for each survey instrument.
- Developed and maintained a survey management system (SMS) to track and support all survey activities including completion of interviews.
- Developed segments for sampling purposes.
- Developed within-household sampling procedures.
- Developed and applied study identification (ID) numbers to uniquely identify households and survey participants.
- Provided the CCT with segment maps, address rosters, and Household Screeners necessary to complete the household enumeration tasks.
- Customized the standard AMPM CAPI interview to add indigenous foods of specific interest to the study.
- Provided laptop computers loaded with the SMS and CAPI interviews to field interviewers and field supervisors.
- Established a Helpdesk to provide support for interviewers who may have experienced technical difficulties in the field.
- Advised the CCT on the level of effort required to complete fieldwork, and suggested traits of successful interviewers for hiring purposes.
- Developed and documented field procedures in a *Field Interviewer Manual of Procedures (Part I: Field Procedures and Part II: Food Interview)*.
- Developed and documented procedures to be followed in the Field Office and implemented by the CCT Field Supervisor in a *Field Supervisor Manual of Operations*.
- Provided on-site training for CCT interviewers and supervisors.
- Provided consultation and support to the CCT and EPA during the data collection phase.
- Monitored progress of data collection activities and reporting.
- Held regular calls with the CCT Field Supervisor to discuss specific issues relevant to the fieldwork.

- Participated in weekly calls with EPA, CCT, EI, and other team members to review survey progress and plan for survey activities.
- Developed quality control (QC) procedures for survey data collection and provided follow-up on results of QC efforts implemented in the field.
- Formatted and processed survey data.
- Prepared a Final Report, including survey methods and descriptive analyses of survey data.

All of Westat’s activities were coordinated with and done in cooperation with representatives of the CCT and the EPA.

2.3 CCT

The CCT provided critical expertise, oversight, review, and direction (as appropriate), of work performed during all phases of the survey. Specific tasks included the following.

- Contributed to the development of the *UCR Tribal Exposure Work Plan*.
- Formed a Survey Advisory Council comprised of Tribal and outside experts in local resources and their use and consumption to give feedback and direction at key junctures regarding survey development and execution.
- Consulted with EPA regarding all important changes to the survey.
- Provided information to the local public and tribal membership on all aspects of the survey implementation.
- Hired a Field Supervisor to oversee all day-to-day operations of the survey, including:
 - Hiring and managing CCT field data collectors.
 - Assisting at all field data collector trainings.
 - Setting up a primary field office and three satellite offices with all supplies required by the field data collectors.
 - Performing interviews, including Household Screening, AMPM, FQ, and ReUP interviews.
 - Overseeing data entry at the field office and managing organization of all paperwork.

- Overseeing scheduling of data collectors and EI activities.
- Shipping all necessary hard-copy materials to Westat.
- Holding regular calls with Westat to discuss specific issues relevant to the fieldwork.
- Participating in weekly calls with EI, EPA, Westat, and other team members to review survey progress and plan for survey activities.
- Paid incentives to survey participants for taking part in each interview.

Environment International

Environment International, providing technical assistance as a contractor to the CCT, played an integral role during all phases of the survey, including survey planning and development, training, and data collection, including field work. Specific tasks included the following.

- Contributed to the development of the *UCR Tribal Exposure Work Plan*.
- Coordinated CCT Survey Advisory Council meetings.
- Interviewed CCT elders and resource experts to determine indigenous foods of specific interest to the survey.
- Worked with Westat to determine AMPM question paths for each newly added indigenous food.
- Drafted the questions necessary for the hard-copy data collection instruments, the FQ and ReUP Questionnaires.
- Provided Enhanced 911 (E911) lists used to identify dwelling units in Ferry and Okanogan counties. The E911 lists are from county land use/planning departments. They are tied to county emergency services and all dwelling units are required to be in the E911 system.
- Performed on-site QC listing field work to verify dwelling units identified by Westat. Before beginning data collection, QC efforts were performed as a check on the completeness of the E911 lists. Eight segments were selected for this QC effort including rural and more urban areas of both counties. Westat trained EI staff to conduct a complete physical listing of all dwelling units in these segments to verify the completeness of the E911 address list.
- Assisted with trainings conducted by Westat, including logistical arrangements, presentation of material, and support for participants during training.
- Conducted one AMPM training for field data collectors.

- Performed in-person observations of each field data collector to ensure that the interviewers were properly following survey procedures.
- Conducted field work, including Household Screening, AMPM interviews, and FQ/ReUP interviews.
- Made QC verification calls for a percentage (at least 10 percent) of each interviewer's cases as defined by Westat and the CCT Field Supervisor.
- Provided consultation and support to the CCT and EPA during the data collection phase.
- Held regular calls with the CCT Field Supervisor to discuss specific issues relevant to the fieldwork.
- Participated in weekly calls with EPA, CCT, Westat, and other team members to review survey progress and plan for survey activities.
- Developed maps and guides supporting FQ and ReUP surveys.

Study Timeline

3

Below is a list of key dates relevant to the development and implementation of the survey.

6/2/06	Settlement Agreement requiring the conduct of survey studies of consumption, recreational use and resource use for both present and future use at the UCR Site
Fall 2006	Initiation of survey planning
8/4/08	EPA RFP for Survey Support Contractor
9/22/08	Award of Westat contract
March 2009	Final HHRA Work Plan approval
3/12/09	CCT Tribal Research Permit approval received
5/18/09	Training of listers to perform quality control checks of selected segments
8/27/09	Initial Westat IRB approval received (annual updates and approval of subsequent changes as needed)
9/14/09	Initial EPA IRB approval received (annual updates and approval of subsequent changes as needed)
10/28/09	Certificate of Confidentiality granted
10/21-30/09	Interviewer/supervisor training for Household Screening and AMPM interview
11/1/09	Began Household Screening and AMPM data collection
2/18-25/10	Interviewer training for Household Screening and AMPM interview
5/12-19/10	Interviewer training for AMPM interview
5/17-19/10	Cognitive testing for FQ and ReUP
6/30/10	Last date for Household Screening
August 2010	Final UCR Tribal Exposure Work Plan approval
11/29-12/1/10	Interviewer/supervisor training for FQ/ReUP interviews
12/1/10	Began FQ/ReUP data collection

3/31/11 Last date for interviews
7/31/11 Westat contract ends

For the year between the award of the contract to Westat (9/22/2008) and the Westat & EPA Institutional Review Boards (IRB) approvals (8/27/2009 & 9/14/2009), work was conducted to reach agreement on basic features of the survey, including but not limited to:

- Determining who is eligible for the survey and how to develop the eligibility list;
- Selecting a survey instrument to use for the 24-hour dietary recalls (AMPM or Nutrition Data Systems for Research [NDSR]);
- Selecting a survey instrument to use for the dietary history (one year recall – food propensity questionnaire [FPQ] or food frequency questionnaire [FFQ]);
- Developing the questionnaire;
- Developing the schedule for implementing the different interviews;
- Defining “heavy consumers¹” practicing traditional subsistence lifestyle.

¹Heavy Consumers: An individual who responded ‘yes’ to question 5 or 6 of the Household Screener Questionnaire. A Heavy Consumer is a person who eats food from local sources at least three times per week (Question 5) or who takes part in traditional practices using local natural resources at least three times a week (Question 6).

Study Participant Selection

4

The eligible population for the survey included all current residents of the Colville Reservation at the time of screening.² The study did not specifically target migrant workers. There were two steps required to identify and select individuals from the Reservation for inclusion in the survey: 1) identification of dwelling units; and 2) household screening and selection of eligible participants within households. Procedures for each of these steps are described below. Chapter 2 of the *UCR Tribal Exposure Work Plan* includes a discussion on sample size requirements.

4.1 Identification of Dwelling Units (Step 1)

A list of all dwelling units on the Colville Reservation was needed to give all persons living there a chance to be selected for the survey. The list of dwelling units was derived from the E911 listings for the two counties that make up the Reservation. The E911 lists for Ferry and Okanogan Counties were obtained for this purpose by Environment International (a consultant to the CCT). The E911 lists are from county land use/planning departments. They are tied to county emergency services and all dwelling units are required to be in the E911 system. The study population was all Reservation residents, not just enrolled Tribal members, so enrollment lists would not have been complete for survey purposes. Further, physical addresses were needed to visit, and most of the addresses on the enrollment list are Post Office boxes.

The Ferry E911 shape file was made up of address points, indicating the exact location of dwelling units, while the Okanogan E911 shape file consisted of land parcels. The assumption was that land parcels were most probably created from tax plat maps. Therefore, these were converted to points (the parcel's geographic centroid) which became the approximate location of each dwelling unit.

All dwelling units were then plotted onto a map of the Reservation, and the Reservation was divided into smaller geographic areas called “segments” for purposes of partitioning and managing the field work. Two primary factors were considered in the construction of segments: the maximum

²Originally, the survey design included CCT members residing adjacent to the Reservation and in the North Half. However, this population was excluded to focus resources on obtaining sufficient data from reservation residents.

number of dwelling units within a segment; and the area (square miles) of a segment. Using U.S. Census blocks as guidelines, to the extent possible, Westat grouped the blocks into segments of no more than 100 dwelling units or no larger than 30 square miles (roughly 5 miles by 6 miles). In most cases, the segment borders were the borders of Census blocks or a physical or topographic feature such as a river or a road. In all, the Reservation was divided into a total of 94 segments. For reporting and analysis purposes, these 94 segments were grouped into nine regions, as follows. Figure 4-1 is a map of the Reservation showing each of the segments.

Northeast Ferry (Inchelium) is comprised of Segments 105, 160, 161, 162, 163, 171, 172, 173, 174, 175, 176, 177, 178, 187, 191, 192, and 193

Southeast Ferry is comprised of Segments 106, 107, 159, 182, 183, 184, 186, 188, 189, 190, and 194

West Ferry is comprised of Segments 108, 155, 156, 157, 158, 164, 165, 166, 167, 168, 169, 170, 179, 180, 181, and 185

East Okanogan (Nespelem) is comprised of Segments 112, 115, 116, 134, 135, 136, 138, and 153

North Okanogan is comprised of Segments 103, 104, 127, 140, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, and 154

Northeast Okanogan (Disautel) is comprised of Segments 111, 131, 139, and 141

Northwest Okanogan (Omak) is comprised of Segments 102, 109, 124, 125, 126, 128, 129, and 142

South Okanogan (Coulee Dam) is comprised of Segments 114, 117, 118, 132, and 133

Southwest Okanogan is comprised of Segments 101, 110, 113, 119, 120, 121, 122, 123, 130, and 137

During assignment preparation quality control and prior to assigning segments to the field, the home office staff noticed that the five heavily populated areas of Okanogan County were not represented on the E911 listings. These were segments in the towns of Omak, Nespelem, Elmer City, and Coulee Dam. A review of Google Earth maps and other satellite images confirmed that dwelling units existed but were not reflected in the E911 listings. Environment International staff visited these segments and created a complete listing of all dwelling units in these five segments. As a result, more than 1,000 dwelling units were added to the original number obtained from the E911 list. Later, during field work, another 397 dwelling units were added to the sample through a standardized Missed Structure procedure (see Table 10-1). This procedure was conducted by interviewers throughout the field period and consisted of interviewers routinely reviewing the E911 lists against actual observations while they were in each area conducting interviews.

To assist interviewers working in the field and ensure that all dwelling units were locatable, detailed segment maps were created and generated by Westat's mapping department. The location of each dwelling unit was identified on a map, along with its assigned case ID number. Accompanying rosters of address lists were also provided to the interviewers.

During the field period, additional QC checks were included as a standard procedure to ensure complete coverage of all dwelling units on the Reservation. During the Household Screening process, every household was asked whether there were other living quarters (or "hidden dwelling units") located within the structure. These are dwelling units that may not clearly be identifiable from the outside as separate quarters where people might live. In addition, as interviewers worked within their assigned areas and traveled to known addresses, they used maps containing the locations of all dwelling units known to the study from the E911 lists and the pre-field QC checks. Consistent with the *UCR Tribal Exposure Work Plan*, if any additional dwelling units were found that were not accounted for, they were added to the database as "missed structures" and were assigned to a data collector for Household Screening.

The "missed structures" identified by interviewers during the field period included several housing developments near Omak and Nespelem. These developments were discovered close to the end of the screening period. As a result of the limited time available to perform household screenings in these segments, many households were left unscreened, and potential survey participants who were sampled had less time to complete their first AMPM before the survey deadline. The deadline was set in place in order to allow enough time to pass between each AMPM (90 days). If these households were screened after the deadline, the two required AMPM's could not have been completed for the survey. All of these houses, however, were screened. According to procedures,

the home had to be visited at least 5 or more times to receive a final code besides the “not worked” code. So, if the home was visited 3 times, for example, it would have been coded not worked. This likely contributed to the overall lower response rates seen in the Omak and Nespelem areas.

4.2 Household Screening and Selection of Eligible Participants (Step 2)

Dwelling units identified through the methods described above in Section 4.1 (Step 1) were visited by CCT data collectors or EI staff to conduct a Household Screening. The purpose of the Household Screening was to determine if the dwelling unit was inhabited and, if so, to enumerate all persons living in the household. From this list of household members, a random sampling procedure was applied to identify individuals selected to participate in the survey. This procedure is detailed in Appendix A of the *UCR Tribal Exposure Work Plan*. In brief, household members were divided into four age groups (0-6 years, 7-17 years, 18-54 years, and 55+ years). Within each household, persons were selected using a predetermined sampling rate assigned to that household for each of the four age categories. The rate was developed based on information from summary files of the Census 2000 data on “Colville Reservation and Off-Reservation Trust Land.” At the beginning of the survey the following sampling rates were used to select individuals within households based on age. (Only one person was selected from each age group within a given household based on age.)

- 100% of households with 0-6 year olds
- 80% of households with 7-17 year olds
- 33% of households with 18-54 year olds unless the household also had children in both the 0-6 and 7-17 year old groupings. If children were sampled from both age groupings no 18-54 year old adult was sampled. In the 20% where no 7-17 year old was sampled, we did select an 18-54 year old.
- 52% of households with ages 55 or older

For purposes of managing fieldwork and ensuring that assumptions about response rates and prevalence of specific age groups in the population were accurate, household screening activities were released in two waves. The counties were divided into 94 segments. Sixteen segments had no dwelling units in them. The first wave consisted of 33 segments, 10 in Ferry County (269 DUs) and 23 in Okanogan County (654 DUs), for a total of 923 dwelling units. The remaining 45 segments

were released in the second wave. When the second wave was released to the field, the rates shown above were modified slightly (as shown below) to reflect actual experience gained during the first wave.

- 100% of households with 0-6 year olds
- 80% of households with 7-17 year olds
- 39% of households with 18-54 year olds unless the household also had children in both the 0-6 and 7-17 year old groupings. If children were sampled from both age groupings no 18-54 year old adult was sampled. In the 20% where no 7-17 year old was sampled, we did select an 18-54 year old.
- 61% of households with ages 55 or older

Sampled participants were limited to one per age category in a household. In addition, no more than two age categories were selected per household, except for persons ages 55 or older. If, in a household, one person was surveyed from both of the child age categories (0-6) and (7-17), no person between 19-54 years old was eligible to be sampled, although a person aged 55 or older could still have been surveyed.

The maximum number of participants from each household was two people from the 0-54 age groups (in accord with the subsampling frequencies for each age group specified in Appendix A of the *UCR Tribal Exposure Work Plan*) plus one person from the 55+ age group. If more than one person was eligible within a specific age group, then the survey participant was selected based on most recent birth month. Specific procedures for selecting eligible participants are described in the *Field Interviewer Manual of Procedures, Part I: Field Procedures* developed for the study.

In addition to household members selected at random, there was a subgroup of special interest added to the sample. These were individuals reported to be practicing a more traditional subsistence lifestyle who, as a result, may have higher exposures. Since these individuals are thought to represent a smaller (but unknown) fraction of the total population of interest, it was decided that a random selection of individuals living on the Reservation would not yield an adequate number of these “heavy consumers.” Therefore, in addition to those individuals randomly selected by applying the age sampling algorithm, a limited number of additional individuals who met the definition of a “heavy consumer” were also invited to participate.

During the Household Screening, interviewers routinely asked the household reporter to identify any individuals who regularly (more than 3 times per week) ate local foods or took part in traditional Native American practices. A map showing what was meant by the “local” area was shown to the household reporter to provide a standardized frame of reference when answering these questions. (This map is provided as Figure 2 of the *UCR Tribal Exposure Work Plan*.) Up to one additional person from each household who met these criteria was selected as a “heavy consumer” for participation in the survey. To avoid bias in the data analysis, these targeted individuals are uniquely identified in the survey database, and assigned a weight based on this selection criterion to distinguish them from participants selected at random. Additional details about the sampling plan are provided in Section 3 and Attachment A of the *UCR Tribal Exposure Work Plan*.

Development of Data Collection Instruments

5

There were two types of data collection instruments -- a Household Screener administered at the household level and a series of in-person interviews administered to each selected participant.

5.1 Household Screener

A hard-copy Household Screener was developed by Westat and used by field interviewers to enumerate all persons living in households on the Colville Reservation. The purpose of the Household Screener was to develop a list of every household member as a basis for the selection of individuals eligible to take part in the survey and their consequent weighting assignment. General demographic information, such as age, gender, CCT membership, and date of birth, was recorded for each individual in the household. As requested by the CCT, the Household Screener also included questions about frequent use of local resources by household members. A copy of the Household Screener is shown as Appendix B.1 in the *UCR Tribal Exposure Work Plan*.

5.2 Participant Interviews

There were three different types of survey instruments administered to survey participants. Two of these (the AMPM and the FQ) focused exclusively on food consumption and were designed to provide complementary data. While the AMPM provided repeated “snapshots” of all foods consumed during the previous 24 hours, the FQ obtained information on selected indigenous foods consumed throughout the previous 12 months. This approach provided the advantage of having detailed, recent recall data (AMPM), combined with possibly broader information over the course of a full year to capture information on less frequently consumed foods. The FQ results are used in tandem with the AMPM results to improve estimates of usual food intakes and to identify the locations of locally harvested foods. The third survey instrument, the ReUP questionnaire, was designed to collect data about non-dietary local practices.

Prior to the development of each of the questionnaires, EI interviewed CCT resource experts and recommended a list of specific local foods, plants or other resources, and traditional practices to be included. The types of interviews are described in more detail below.

- **Automated Multiple Pass Method (AMPM)** – The AMPM is a standardized interviewer administered 24-hour dietary recall developed by the USDA which uses computer-assisted personal interviewing (CAPI) techniques. The AMPM has been used for a variety of previous research studies as well as the collection of national dietary surveillance data. The interview asks about foods and beverages consumed during the previous 24-hour period. The AMPM also includes questions about the preparation and source of the foods. In addition to the list of foods that are standard to the AMPM, the instrument used for the UCR Study included an additional 57 local and indigenous foods identified by EI in consultation with CCT resource experts. Therefore, the AMPM is not restricted to UCR-harvested foods, but includes all food items ingested in the previous day regardless of source (i.e., UCR harvested, non-UCR harvested, and store bought). The AMPM was administered multiple times (up to four) over the data collection period, although the majority of participants completed only two AMPMs. For each survey respondent, attempts were made to administer the AMPM over the course of a year to capture seasonal variability in food consumption patterns.
- **Food Questionnaire (FQ)** – The FQ was developed specifically for the UCR Survey, based on a standardized collection methodology instrument (the Food Frequency Questionnaire, or FFQ) used for a variety of previous research studies. The minimum age for FQ eligibility was 2 years of age at the time of interview. This age was selected as the time at which children typically begin eating locally harvested foods. The CCT determined the types of local and indigenous foods from the UCR area to be included, as well as key data to be gathered regarding each food. The FQ asked about each specific food and how often it was consumed during the past 12 months. It also obtained specific information on where the food was obtained (UCR locations, non-UCR locations, store bought). The location data allows for the assignment of the food into the major geographic domains important to EPA and the CCT. Environment International developed a unique mapping procedure using a laminated map, dry-erase markers, and an attached transparency of designated resource zones. The procedure was used by participants to standardize their frame of reference when reporting where local harvesting occurred. Westat formatted these questions into a modified FQ, intended to be an interviewer-administered, hard-copy questionnaire designed as an optical character recognition (OCR) form in Teleform (a software package used to develop and process forms using optical scanning technology). The FQ was 85 pages in length and contained 121 questions, some of which were multi-part questions. Continuation pages were provided if the respondent reported more than the allotted number of responses for a given item, such as types of foods consumed.
- **Resource Utilization and Practices (ReUP) Questionnaire** – The ReUP focused on exposures to environmental media from non-dietary uses and was developed by Westat in close consultation with EPA and CCT. It captured information about exposure

frequency, duration, and contact rates associated with subsistence (e.g., hunting, fishing, gathering) and tribal activities (e.g., sweat lodge use, basket weaving, other cultural practices) performed within the past year. The ReUP also collected detailed information on the types of materials (e.g., species) that may have been utilized as part of these activities. The CCT determined the types of traditional activities and resources from the UCR area to be included and key data to be gathered regarding each. The same mapping procedure that was used for the FQ was also used during administration of the ReUP to help the participant identify where they obtained the local resources. The ReUP was administered at the end of the data collection period, usually in conjunction with the FQ. Minimum age for ReUP eligibility was 14 years old at the time of interview. This age was recommended by the CCT as the age at which children typically begin taking part in traditional practices. Westat formatted the ReUP as an interviewer-administered, hard-copy questionnaire designed as an OCR form in Teleform. The ReUP was 78 pages in length and contained 89 questions, some of which were multi-part questions. Continuation pages were provided if the respondent reported more than the allotted number of responses for a given item, such as types of materials used.

5.3 Cognitive Testing

In May 2010, Westat staff conducted cognitive interviews with 14 residents from the Colville Reservation using the FQ and/or the ReUP. These interviews involved one-on-one interviews with test respondents to help ensure that the instrument was being interpreted the way it was intended. These cognitive interviews were conducted in the Inchelium area, and residents were selected by convenience sampling from groups known to study interviewers to be heavy consumers of local resources. Convenience sampling refers to a method of sample selection. The word ‘convenience’ refers to the amount of effort that is expended by the sampler(s). In the present case, a selection of people was made that were known to be heavy consumers (reference footnote 2), which presumably would take less effort than randomly selecting heavy consumers from the entire population. Additional cognitive testing interviews were conducted on new interviewers during training in May 2010.

For each interview, one staff member administered the questionnaire while the other observed and asked specific probes (e.g., “Can you tell me how you came up with your answer?”), and took careful notes on both the administration of the interview and respondents’ reactions to the questions. As a result of these cognitive interviews, Westat recommended changes to the items (or series of items) where multiple respondents had difficulty either understanding what was being asked or difficulty formulating an appropriate response. In consultation with the CCT, EPA made final decisions on each of these recommendations, as documented in the report *“Cognitive Testing of the Food*

Questionnaire and Resource Uses and Practices Questionnaire – Findings and Recommendations” (June 1, 2010). Those changes that were accepted were incorporated into the final versions of the survey instruments.

Participant Materials

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In addition to the data collection instruments, a number of participant materials were developed for the survey. These participant materials included: an advance letter sent to all households on the Colville Reservation; a study brochure sent with the advance letter explaining the survey; and an informed consent form signed by all participants eligible for the interview. Westat developed these materials in consultation with EPA and the CCT. All participant materials were submitted for, and received, approval from the EPA and Westat Institutional Review Boards (IRBs).

- **Advance letter:** Prior to interviewers visiting homes on the Reservation to conduct household screening, an advance letter was sent to every available address. This “Dear Neighbor” letter, signed by a CCT official, served to introduce the survey prior to the interviewer’s visit. It was sent about 5-7 days prior to the interviewer’s first visit and explained the purpose of the survey, the voluntary nature of participation, and stressed that all information provided would be kept confidential. It also mentioned that participants enrolled in the survey would receive \$30 for every completed interview. Copies of the letter and accompanying brochure were carried by the interviewers and given to persons who did not remember receiving them.
- **Study brochure:** A survey brochure was developed in a Question and Answer format and sent to every household along with the advance letter. The brochure served to further introduce the study and provided some additional information about the purpose of the survey.
- **Informed consent form:** Once a participant was selected to take part in the survey, prior to beginning the first AMPM interview, each participant read and signed the appropriate consent form document. Consent documents consisted of an Information Sheet and a signature page. For study participants under the age of 18, a parent or guardian was asked to sign a Parental Permission Form giving consent for their child to be included in the survey. For children ages 8 and younger, the parent or guardian was asked to act as a proxy for the child. For children ages 9 and above, the child was asked to respond directly to the survey questions if possible. Children ages 9-17 were asked to sign an assent form, indicating their agreement to take part in the survey. A copy of each consent and assent document was left with the participant for his/her records.

Copies of these documents may be found in the *Field Interviewer Manual of Procedures, Part I: Field Procedures*.

Interviewer Materials

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There were a number of materials provided to field interviewers to assist in the completion of household screening and participant interviews. These included the following.

- **Participant Folder:** A participant folder was created by the interviewer for each eligible participant identified during the household screening process. The folder included space to enter appointment dates and times, as needed. It also contained a Record of Calls, used by interviewers to record results of each contact attempt.
- **Household/Participant ID labels:** Each interviewer received a supply of ID labels to be used to affix to hard-copy materials associated with the households and individual survey participants.
- **Screening Map:** Each interviewer received a laminated map of the Reservation used during Household Screening to assist respondents with answering the question about use of local resources and traditions.
- **Utensils:** During administration of the AMPM, interviewers used standardized measuring cups, spoons, and a wooden ruler to assist the respondent when estimating the amount of foods and beverages consumed.
- **Food Model Booklet:** During administration of the AMPM, a spiral-bound booklet containing illustrations of dishes, teacups, plates, bowls, mounds of food, and graphs to estimate sizes of squares and wedges was used interactively with participants to help them estimate the amounts of foods and beverages consumed. The measuring guides were the same as those used for the National Health and Nutrition Examination Survey (http://www.cdc.gov/nchs/nhanes/measuring_guides_dri/2002/fmb.htm).
- **Hand Cards:** For the AMPM, interviewers had a card containing short-cuts for computer key strokes to assist them with administration of the computerized instrument. For the FQ and ReUP, hand cards containing various answer choices for selected questions were provided to help participants choose an answer from some of the longer lists of options.
- **Reservation Map for the FQ and ReUP:** A laminated map of the Reservation, with plastic overlays depicting various areas and regions of the Reservation was developed by EI and used to assist participants with answering questions about the area in which they gathered local resources or took part in traditional practices.
- **Resource Identification Guides for the FQ and ReUP:** Environment International developed these guides with pictures of the plants and animals mentioned in these two questionnaires as well as alternative names or nicknames that participants may have

used to describe these plants or animals. Interviewers used these guides if the participant was uncertain about a plant/animal or asked for a picture/description of the plant/animal.

- **Field Manuals:** Interviewers received copies of the *Field Interviewer Manual of Procedures (Part I: Field Procedures and Part II: Food Interview)* which served as guides for training as well as reference during the field data collection.
- **Tote bag:** Each interviewer was given a tote bag printed with the survey logo which was used to carry all materials necessary for interviewing.

8.1 Field Supervisor Training

Training for the CCT Field Supervisor and three EI staff was conducted in October 2009, in Rockville, MD. The primary focus of this training was on use of the automated Survey Management System (SMS), assignment of cases to interviewers, managing the field work, and quality control procedures.

8.2 Field Interviewer Training

Westat developed a comprehensive training program for CCT interviewers in the use of all survey instruments, including the Household Screening, the computer-assisted AMPM interview, and the hard-copy FQ and ReUP. Environment International and the CCT provided site-specific information during the training, coordinated training logistics with the Data Collector Team and facilities and assisted in implementing Westat's training programs. In addition, Westat provided training on general survey techniques such as methods for recording responses, interacting with respondents, documentation of work in the field, completion of administrative forms, and methods for converting non-responders.

Survey procedures were described and documented by Westat in the *Field Interviewer Manual of Procedures, Part I: Field Procedures*. Additionally, Westat developed a *Field Interview Manual of Procedures, Part II: Food Interview*, which detailed procedures for administering the AMPM interviews. These manuals served as the basis for the training programs. Other training materials included interactive role plays that provided trainees with practice on the questionnaires and other key skills needed to successfully enroll and engage study participants. Agendas for each of the training sessions are included in Appendix A.

Below is a list of the interviewer training sessions that were conducted. All field interviewer training sessions were conducted in Spokane, WA. Prior to the first interviewer training listed below, Westat held a training session in Rockville, MD for the CCT Field Supervisor and three EI staff.

October 21-30, 2009, 14 people (11 CCT, 3 EI)

- UCR Site Information – CCT and EI
- General Interviewing Techniques – Westat
- Training on use of the laptop computers and the interviewer management system – Westat
- Household Screener Training – Westat
- AMPM Training – Westat with assistance from EI and the CCT

February 23 – March 3, 2010, 7 people (all CCT)

- UCR Site Information – CCT and EI
- General Interviewer Training – Westat
- Training on use of the laptop computers and the interviewer management system – Westat
- Household Screener Training – Westat
- AMPM Training – EI with assistance from the CCT

May 12-19, 2010, 13 people (all CCT)

- UCR Site Information – CCT and EI
- AMPM Training – Westat with assistance from EI and the CCT

November 29 – December 1, 2010, 17 people (14 CCT, 3 EI)

- Introduction to Resource Identification Guide – EI
- Introduction to Mapping Procedure – EI
- FQ Training – Westat with assistance from EI and the CCT
- ReUP Training – Westat with assistance from EI and the CCT

Household Screening Procedures

9

Each dwelling unit (DU) on the Reservation was assigned a unique Household ID number. Individual participants within households identified as eligible for the survey were assigned a Participant ID number, linking them to the household.

The first in-person contact with households on the Colville Reservation involved talking to an adult member of the household to obtain information about all household members. If repeated attempts to reach someone at a household were unsuccessful, attempts were made to obtain a Neighbor Report to determine if there were any potential eligible survey participants living in the household. If the neighbor indicated that no eligible participants lived in that household, the case was finalized and no further contacts were made. However, if the neighbor indicated that potential eligible participants lived at that household, the interviewer continued to attempt to reach someone within the household to complete the Household Screening.

In most cases, the Household Screener was completed on the doorstep. Once the household enumeration was completed, the interviewer used the information provided, along with the sampling instructions applicable to that household, to determine which individuals were eligible for the survey, and asked to speak to them directly. If the selected participants were available at the time of the Household Screening, the interviewer introduced the survey, and attempted to obtain informed consent and complete the first AMPM at that time. If the selected individual was not available, return trips to the household were conducted as many times as required, in order to speak to the individual, obtain consent, and complete the AMPM interview.

If a dwelling unit was found to be vacant during the screening period, it was assigned an interim code of “Vacant.” This dwelling unit was then re-visited before the end of the screening period to determine if it became occupied. If so, attempts were made to complete the Household Screening. If not, it was given a final code of “Vacant” and was not revisited during the survey period.

Results of Household Screening

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Table 10-1 presents the number of dwelling units that were identified during the household screening process, along with the final results of screening attempts by region. There were a total of 3,710 potential dwelling units identified on the Reservation. Of these, a Household Screener resulting in eligible participants was completed for 1,530 dwelling units. Another 260 Household Screeners were completed where no household members were selected for the survey. The screeners leading to no household member selection is because for those households, there was no one in the sampled age groups and no high resource consumers/users. Over 1,200 potential dwelling units from the original listings were found not to actually be dwelling units – that is, these dwelling units either did not exist or were not habitable structures. This can be attributed to the fact that the original listings were from the county E911 lists, which do not distinguish residential units from other types of buildings, nor do they specify occupied/unoccupied. Field personnel were instructed to be conservative in their assessment of structure habitability, which likely led to some non-habitable structures being included in the total number of vacant DUs. More than 100 structures were businesses rather than residential structures. For approximately 500 units the habitability or occupancy status was never able to be determined.

Table 10-2 provides the number of individuals selected within households by region, by the method of selection. As mentioned in Section 4.2, there were two methods of selection: 1) using a sampling rate based on age; and 2) based on the response to a question in the Household Screener about the amount of local resources used by the individual (i.e., “heavy consumers”). Table 10-2 shows that 812 (or 32%) of the eligible participants were selected based on their heavy use of local UCR resources, while 1,764 (or 68%) were sampled based on their age. More than half (416, or 51%) of the “heavy consumers” came from the Northeast Ferry (Inchelium) or Northwest Okanogan (Omak) regions. Regions with the highest numbers of persons selected based on age were Northwest Okanogan (Omak) (434, or 25%) and South Okanogan (Coulee Dam) (427, or 24%). This is a reflection of the relatively larger population base within these regions.

Table 10-3 shows the number of persons selected within households by age group, by the method of selection. Persons selected as “Heavy Consumers” were overwhelmingly 18-54 years old.

Table 10-1. Number of dwelling units identified and results of household screening by region

Region	DU's from E911 Lists	Missed Struct. Added	Total DU's Identified	Complete with SP's	Complete with No SP's*	Mistaken Added DU	Not a DU	Duplicate	Max. Contacts	Vacant	Business/Comm.	Lang. Problem	Refusal	Other Nonresp**	Not Worked***
NE Ferry (Inchelium)	906	18	924	313	31	20	404	6	26	40	70	-	8	3	3
SE Ferry	92	-	92	38	6	-	34	-	1	10	-	-	2	1	-
West Ferry	308	1	309	126	22	-	79	-	21	31	12	-	7	-	11
East Okanogan (Nespelem)	178	138	316	166	17	-	30	2	27	36	12	-	20	1	5
North Okanogan	96	24	120	25	4	-	71	1	8	5	-	-	3	1	2
NE Okanogan (Disautel)	58	2	60	24	2	-	18	-	12	2	1	-	-	-	1
NW Okanogan (Omak)	682	136	818	384	52	-	129	1	83	43	29	16	63	5	13
South Okanogan (Coulee Dam)	776	4	780	369	114	2	69	4	43	115	6	2	38	6	12
SW Okanogan	217	74	291	85	12	11	65	3	37	20	7	3	12	29	7
Total	3,313	397	3,710	1,530	260	33	899	17	258	302	137	21	153	46	54

DU = Dwelling Unit

SP = Sampled Participant

* Includes 7 neighbor reports

** Includes Ill/Incompetent (14), Migrant Housing (28), Other (4)

*** The respondent was not visited enough times to put him/her down as "max contacts" but the times they were visited, the respondent was not available.

Table 10-2. Number of persons selected, by region and method of selection

Region	Sampled Based on Age	Selected as "Heavy Consumers"	Other Not Eligible*	Total Selected
NE Ferry (Inchelium)	337	207	12	556
SE Ferry	44	27	1	72
West Ferry	142	65	10	217
East Okanogan (Nespelem)	217	101	10	328
North Okanogan	31	15	6	52
NE Okanogan (Disautel)	25	18	-	43
NW Okanogan (Omak)	434	209	9	652
South Okanogan (Coulee Dam)	427	121	16	564
SW Okanogan	107	49	5	161
Total	1,764	812	69	2,645

* Includes sampled in error. Since data were successfully collected from this group, they are included in the analysis if they otherwise met the definition of a "complete."

Table 10-3. Number of persons selected, by age group and method of selection

Age Group	Sampled Based on Age*	Selected as "Heavy Consumers"	Other Not Eligible**	Total Selected
0-6	378	22	9	409
7-17	357	73	7	437
18-54	500	475	34	1,009
55+	529	242	19	790
Total	1,764	812	69	2,645

* Of those sampled by age, a total of 896 individuals also reported being "heavy consumers:" 0-6 years (182), 7-17 years (196), 18-54 years (269), 55+ (249).

** Includes sampled in error. Since data were successfully collected from this group, they are included in the analysis if they otherwise met the definition of a "complete."

Informed Consent Procedures



Written informed consent was obtained from all eligible survey participants before they began their first interview. Participants ages 18 and older signed the consent form for themselves. Participants ages 9-17 signed an Assent Form and their parent/guardian signed a Parental Permission and Assent Form. For participants ages 0-8, the parent/guardian signed a Parental Permission and Assent Form. All signatures were witnessed by the field interviewer and a copy of the form was left with the participant.

Copies of the Consent Form and the Parental Permission and Assent Form may be found in the *Field Interviewer Manual of Procedures, Part I: Field Procedures*.

12.1 Eligibility for Interviews

Adults and children of all ages were eligible for the AMPM. Participants ages 2 and older were eligible for the FQ. A parent or guardian was asked to serve as a proxy for children ages 8 years and under. Beginning at age 9 years, the child was encouraged to provide his/her own self-report, with assistance from a parent/guardian as necessary.

The National Cancer Institute (NCI) recommends a minimum of two AMPMs to calculate reliable estimates of long-term average intake (Tooze et al. 2006). The FQ was not administered unless the participant had completed at least two AMPMs. Only those participants aged 14 or older who completed at least two AMPM interviews were eligible for the ReUP.

12.2 Field Operations and Logistics

Hiring and supervision of field interviewers and the Field Supervisor was the responsibility of the CCT. Westat made suggestions regarding types of individuals to be hired as interviewers, including prior experience and desirable skills.

A main Field Office was established by the CCT Field Supervisor in Nespelem, WA, to serve as the main base of operations for the survey. Satellite offices were also set up in Inchelium, Keller, and Omak. Westat shipped all survey supplies (e.g., hard-copy instruments, etc.) to the main office in Nespelem. This office was also the location of a call-in number for participants with questions about the survey.

Westat provided laptop computers for each interviewer, the Field Supervisor, and EI. A technical Helpdesk located at Westat's headquarters in Rockville, MD was available to support the field staff and provide assistance with any hardware or software problems. Field interviewers were responsible for electronically transmitting completed AMPMs from their laptops to Westat on a regular basis. All completed hard-copy FQ and ReUP questionnaires were sent to the CCT Field Office and checked by the supervisor for completeness and accuracy before being sent to Westat.

Survey participants received an incentive of \$30 for each interview completed to reimburse them for time spent completing the interview. At the time of the interview, the participant signed a form designating where the incentive check was to be mailed and the CCT handled all administrative procedures associated with the distribution and payment of these incentives.

Results of Interviewing Activities

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Table 13-1 presents final results for each of the interviewing activities (informed consent, AMPM interviews, FQ, and ReUP questionnaires). While survey response rates are shown in Part 2 of this Final Report, this table includes the number of participants with each type of result code for each activity. The table shows that there were 2,645 participants who were approached to participate in the survey. Of these, 1,734 (or 68%) agreed to participate and completed the Informed Consent activity. For subsequent activities, there were smaller drop-offs in the numbers of participants completing each activity.

Table 13-2 provides the total number of survey participants who completed the various combinations of interviewing activities based on the number of AMPMs completed (1, 2, 3, or 4). The table shows there were 258 individuals who completed only one AMPM and therefore were not technically eligible for the FQ and/or ReUP interview. The table also shows that there were 1,325 individuals who completed two or more AMPMs and were technically eligible for the FQ and/or ReUP interview (although 290 of these did not meet one or both of the age eligibility requirements).

Table 13-3 provides a summary of the number of FQs and ReUPs completed by participants who completed the minimum of at least two AMPMs.

One reason for conducting multiple AMPMs with each survey participant was to capture “snapshots” of food consumed across different seasons throughout the year. The original protocol called for four AMPMs to be completed with each person, approximately 70-90 days apart. In actuality, the majority of participants received only two AMPMs. In total, 3,620 AMPMs were completed – 3,000 of these AMPMs are from respondents who met the definition of a survey complete and are therefore included in the AMPM analytic file. Table 13-4 shows that more than 60 percent of the 3,620 were completed in the summer or fall. The fewest AMPMs were completed during the winter months (18%).

Table 13-1. Number of participants by type of data collection activity and activity result code (total eligible participants at time of household screening, N = 2,645)

Type of Data Collection Activity	Complete	Refused	Moved	Maximum Contacts	Unlocatable	Other Nonresponse*	Age Ineligible	Other Not Eligible**	Not Worked***	Total
Informed Consent	1,734	304	39	188	97	25	-	34	224****	2,645
AMPM1	1,583	6	5	6	7	2	-	3	122	1,734
AMPM2	1,325	44	32	113	47	6	-	3	13	1,583
AMPM3	696	14	6	63	22	11	-	-	-	812
AMPM4	16	-	-	11	-	-	-	-	1	28
FQ	1,174	23	12	150	28	6	27	-	6	1,426
ReUP	899	23	12	151	28	6	305	-	6	1,430

* Includes Moved within the Reservation, Ill/Incompetent, Language Problem, and Deceased.

** Includes sampled in error, and other administrative problems.

*** The respondent was not visited enough times to put him/her down as “max contacts” but the times they were visited, the respondent was not available.

****Includes 62 participants who were sampled but never entered into the SMS to be worked. Therefore, these cases were never consented; they do not have any effect on weighting.

NOTE: Row totals do not always equal “Completes” from the previous task because the minimum period of time between AMPMs was not satisfied in all cases. In particular, there was significant drop-off between AMPM2/AMPM3/AMPM4 due to the decision to prioritize 2 AMPMs for all participants.

Table 13-2. Number of participants by interviews completed

No. of AMPMs Completed	FQ and ReUP Status	No. of Participants	Total
0	No FQ or ReUP completed	1062*	
1	Both FQ and ReUP age ineligible	1	
1	Both FQ and ReUP completed	26	
1	FQ completed and ReUP age ineligible	10	
1	No FQ or ReUP completed	221	258 with only 1 AMPM complete
2	Both FQ and ReUP age ineligible	8	
2	Both FQ and ReUP completed	371	
2	FQ completed and ReUP age ineligible	129	
2	FQ completed and ReUP not done	1	
2	FQ not done and ReUP completed	1	
2	No FQ or ReUP completed	119	
3	Both FQ and ReUP age ineligible	18	
3	Both FQ and ReUP completed	491	
3	FQ completed and ReUP age ineligible	132	
3	FQ completed and ReUP not done	1	
3	No FQ or ReUP completed	38	
4	Both FQ and ReUP completed	11	
4	FQ completed and ReUP age ineligible	3	
4	No FQ or ReUP completed	2	1,325 with 2 or more AMPMs complete

*These individuals were selected to participate in the survey but did not complete the informed consent activity or any AMPM interviews. This includes 117 consented individuals with no AMPM 1 result. (See Table 13-1.)

Table 13-3. Summary of interviews completed by participants with 2 or more AMPMs

Interviews Completed	No. of Participants
2 or more AMPMs and no FQ or ReUP	185
2 or more AMPMs and FQ only	267
2 or more AMPMs and ReUP only	2
2 or more AMPMs and both FQ and ReUP	871
Total	1,325

Table 13-4. Number of completed AMPM's by month/season

Month Administered	Season	AMPM1	AMPM2	AMPM3	AMPM4	Total	
December	Winter	84	59	42	3	188	
January	Winter	95	19	86	1	201	
February	Winter	107	48	118	1	274	663 (18%)
March	Spring	175	77	99	10	361	
April	Spring	97	15	1	0	113	
May	Spring	210	116	17	0	343	817 (23%)
June	Summer	263	139	11	0	413	
July	Summer	139	111	47	0	297	
August	Summer	191	150	66	0	407	1,117 (31%)
September	Fall	124	86	78	0	288	
October	Fall	3	167	76	1	247	
November	Fall	95	338	55	0	488	1,023 (28%)
Total Completed		1,583	1,325	696	16	3,620	

Survey Management System

14

An automated Survey Management System (SMS) was developed by Westat to facilitate data collection and monitor survey progress. The management system consisted of two parts – a Supervisor Management System which allowed the Field Supervisor to assign cases to interviewers and track survey progress, and an Interviewer Management System (IMS) that interviewers used to receive cases, complete and transmit AMPM interviews, and record survey results.

Supervisor modules of the system operated on Westat-provided computers located in the CCT Field Office and at EP's Seattle office. The IMS was included on all field laptops used by the interviewers. The field laptops were used to launch the computerized AMPM instrument and automatically record result codes for this interview. An electronic record of calls (EROC) was available on the laptops to allow interviewers to track their contact with a household and/or a participant and provide both interim and final interview status codes.

Interviewers connected to secure centralized database servers maintained at Westat to upload results of the AMPM interviews and the EROC, and to download assignments. The CCT Field Supervisor was responsible for accessing results of data uploads to verify that interviewers transmitted results of interviews successfully.

Below is a list of the types of data items that were stored and available in the SMS.

- Household and Participant ID numbers
- Participant name, household address, mailing address, telephone numbers, and other current contact information
- Assigned interviewer
- Dates and statuses for all survey activities (pending, interim, complete)
- Time interval for next scheduled interview
- Appointment time for next scheduled interview (if available)
- Status of interview validations

Throughout the survey period, the SMS produced a variety of regular and ad hoc reports that were available to the CCT supervisor and Westat to monitor study progress and guide field efforts.

QC procedures that were carried out by field interviewers and the Field Supervisor were documented in the *Field Supervisor Manual of Procedures and the Field Interviewer Manual of Procedures (Parts I and II)*. Quality control (QC) activities conducted for the UCR Study included:

- Activities conducted by CCT field interviewers;
- Activities conducted by the CCT Field Supervisor;
- Activities conducted by Westat as part of an ongoing review of survey data and activities;
- Activities that were inherent within the design and functioning of automated survey instruments, such as the AMPM; and
- Activities undertaken during the data preparation and processing of completed interviews.

At the end of training for each survey instrument (Household Screener, AMPM, FQ, and ReUP), field data collectors were required to complete a full interview with an individual unaffiliated with the survey work. These interviews were individually observed by the CCT Field Supervisor or staff from EI or Westat and, after the interview, areas of difficulty and suggestions for improvement were discussed with the data collectors. After data collectors were deployed to the field, a QC procedure was conducted during which an EI staff member accompanied each interviewer during field data collection, observed him or her administering each instrument in a real-world setting, and submitted an In-Person Observation Report regarding how closely the interviewer followed correct procedures. No major problem was observed during these in-person QC observations.

QC procedures also included verification of a percentage of each interviewer's work. At the beginning of the survey, 10 percent of each interviewer's work was selected for verification; however, as some issues were noted with the work of certain interviewers, this percentage was increased for these interviewers – in some cases to 100 percent. Four interviewers required 100% verification. Verification required re-contacting survey participants by telephone to conduct a brief verification interview confirming that the interviewer actually visited the home and spoke to the

participant. If the verification indicated that the interview was not conducted, or if there are significant discrepancies noted, the data were not used, and the interview was re-attempted. Verification work involving re-contacts with survey participants was conducted by EI.

In addition to inherent data quality checks incorporated into the AMPM instrument, Westat also utilized information on total daily caloric intake to identify unexpected dietary responses, as well as other data anomalies or inconsistencies noted during data reduction. (See Chapter 16 for further details on data processing.)

16.1 Household Screener Data

Key entry of data from the Household Screener, including demographic data for all household members, was done by the CCT Field Supervisor. Data were keyed into the SMS and stored for analytic purposes. Westat used these data to evaluate sample yield on an ongoing basis to ensure that individuals were being sampled correctly. At the time of data entry, all forms were reviewed by the Field Supervisor for completeness.

16.2 AMPM Data

The AMPM, a USDA dietary survey program, is a computerized method for collecting interviewer-administered 24-hour dietary recalls (surveys) either in person or by telephone. It is a research-based, multiple-pass interview approach employing five steps, or passes, designed to enhance complete and accurate food recall and reduce respondent burden. It is the same method used in *What We Eat in America*, the dietary interview component of the National Health and Nutrition Examination Survey (NHANES), and other research studies. Once the UCR interviews were completed, they were processed with the USDA's Food Survey Research Group's dietary coding system, SurveyNet, which allows nutrients from the USDA Food and Nutrient Database for Dietary Studies to be applied to each food. Following this food coding, the intake data underwent a QC and data cleaning step before being prepared for delivery.

Below is a summary of the processing steps for the AMPM interview.

- Study Participants (SPs) completed the dietary recalls via an in-person computerized interview with a specially trained interviewer. The intake record consisted of Blaise[®] data files, transmitted to Westat on a regular basis. The term Blaise[®] refers to the software used to record SP responses.
- Completed intakes underwent a pre-processing step, where the Data Processing Program (DPP) evaluated each intake and determined the status of its completion: 1) Complete or 2) Incomplete. Complete intakes were transmitted on a monthly basis to the USDA Food Survey Research Group (FSRG) for processing through the Post-

Interview Processing System (PIPS). PIPS Processing or Auto Coding is the process that is used at FSRG to assign food codes for common foods in the survey. Processed files (formatted to be opened in SurveyNet, the food coding system), were returned to Westat for Post-Interview Processing.

- PIPS processed intake files were reviewed by experienced dietary coders using SurveyNet, FSRG's food coding system. Coders reviewed each intake to ensure that the food code and portion amount assigned during the PIPS processing step was appropriate, and also to assign food codes to any reported foods that were not auto-coded during the PIPS process. Lists of indigenous foods and methods for assigning food codes were provided to the dietary coders by EI in consultation with the CCT in order to accommodate the specific aims of the UCR Survey. Each batch of intakes was reviewed by a dietary coder, 10 percent of the intakes were re-coded by a verifier, and discrepancies between the two were adjudicated by a senior coder. These senior coders are very experienced in data collection for NHANES and are quite knowledgeable about foods. For this project, they were provided with the background information provided by the CCT and EI regarding traditional foods. The adjudication process identified errors in 3 percent of coded foods. All intakes were then edited by the coding supervisor to resolve any outstanding questions prior to analysis.
- Once the post-processing was complete, intakes were analyzed through the SurveyNet program. Reports generated by the analysis included an Individual Nutrients File, which provided the nutrient analysis for each food reported in an intake, and a Total Nutrients File, which provided the daily total of all nutrients for a given study participant and intake date.
- After all analysis files were prepared, outlier reports were generated to identify intakes with unusually high or low portions for certain food items, or high or low amounts of selected nutrients, as a means to identifying any coding errors and allow for corrections.
 - Portion outlier report: Intakes that included portions above or below identified limits were reviewed to ensure that no recording or coding errors had been made. Portion outlier reports were helpful in finding errors in coding the amounts of foods. In addition, they provided a check of cases where an incorrect form of the food was applied when specifying the amount. Some examples of incorrectly coding the food form were the following; coding the dry, uncooked volume of oatmeal rather than the cooked volume, coding ounces of ice cream consumed as weight in ounces rather than fluid ounces, or coding cups of unpopped popcorn.
 - Nutrient outlier reports: Values of several nutrients were used as another means to identify coding errors or anomalies: calories, total protein, total fat, total beta-carotene, and total vitamin C. By reviewing the data from a nutrient by nutrient perspective, any biases created from database errors, routine coding decisions, editing resolutions, or coding guidelines could be identified. The 5th and 95th percentiles of the intake for the nutrients of interest were, as determined for specified age and gender groups from the NHANES 2007-2008 data, and used to

assess intakes. Intakes with nutrient values below the 5th percentile or above the 95th percentile of intake were reviewed for coding errors.

- Corrections: Any corrections made were documented in the SurveyNet intake file notepad, and the analysis was re-run.

16.3 FQ Data

The Food Questionnaire (FQ) was a hard-copy Teleform questionnaire that collected information about the consumption of indigenous fish, animals, plants, and fruits by the survey population. The goal of the FQ was to provide additional information about infrequently consumed indigenous foods. For example, if an indigenous food was consumed infrequently, the chances of that food being captured by one of the 24-hour dietary recall interviews (AMPM interview) was low. The FQ offered the opportunity to capture the frequency of consumption of these infrequently consumed foods over the past 12 months. In addition, the FQ collected information on where the indigenous fish, animals, plants, and fruits were harvested.

Completed FQ's were sent to Westat for data preparation and processing. FQ data were linked to foods reported on the AMPM by assigning food codes from USDA's Food and Nutrient Database for Dietary Studies (FNDDS) to each line item in the FQ. As with a Food Frequency Questionnaire (FFQ), multiple food codes were assigned to each line item, as the line items on the FFQ are not usually as specific as food codes. For example, the line item for huckleberries was linked to food codes for raw huckleberries, frozen huckleberries, and cooked huckleberries. The line item for meat from domestic poultry was linked to food codes for chicken that was baked, fried, or stewed.

Because many of the indigenous foods of interest in the UCR survey do not exist in the FNDDS, specially modified food codes were created whenever a participant reported consuming one of these foods in the AMPM intake. These modified food codes were then linked to the indigenous foods listed on the FQ.

16.4 ReUP Data

The Resource Utilization and Practices (ReUP) questionnaire collected information about non-dietary uses of local UCR resources. The ReUP was a hard-copy Teleform document sent to Westat for data preparation and processing. Open-ended responses were reviewed and recoded to existing

responses, if possible; otherwise the final data set reflects the verbatim responses provided by the participant.

Summary of Problems Encountered and Solutions

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One of the main problems encountered in the data collection effort was the lack of adequate manpower resources/interviewers to complete the planned number of interviews with selected participants. The lack of adequate manpower resources refers to the ability of CCT staff to complete interviews. Although initial targets were set, interview rates fell short of what was planned. Interviews were completed at an average rate of about 7 per week per interviewer. As it became clear that the interview goals could not be met, the CCT, EI, EPA, and Westat adjusted by:

1. Retaining residents of the Colville reservation at the expense of residents outside the reservation boundaries.
2. Providing the necessary support to the CCT to hire and train additional and replacement interviewers by repeating the initial October 2009 interviewer training sessions with two additional sessions in February and May of 2010. Replacement interviewers were needed to fill positions due to resignation and/or termination of previously hired interviewers. Additional interviewers were hired in order to retain as many interviewers as possible.
3. Having EI conduct interviews to assist CCT interviewers.
4. Making it a priority to complete a minimum of 2 AMPMs per respondent at the expense of 3 or 4 AMPM interviews. It is important to note that from the start, the estimates depended on a statistical method developed by the National Cancer Institute, which require a minimum of 2 AMPMs. Estimates are improved with the addition of the FQ, which was also required to collect the locations of locally obtained food.
5. Having Westat and EI provide support to the CCT Field Supervisor and the interview team to prioritize interview schedules to maximize the number of respondents with the minimum number of interviews.

Due to the “limited period for data collection,³” and the ongoing issues of adequate manpower previously described, most survey participants completed only two AMPM interviews rather than the original planned four interviews. However, it was determined that two AMPMs would be sufficient to link to other food data and provide a reliable estimate of consumption. Therefore, a

³The EPA contract with Westat, the contractor firm that provided technical support for the survey, expired on July 31, 2011, following approximately 17 months of interviews consistent with the data quality objective to capture seasonal variability. Government regulations precluded EPA from extending its contract with Westat any further. Therefore, it was decided to focus the effort on information already collected. Because most of the study population completed a minimum of two AMPM recalls, an annual FQ, and a ReUP questionnaire, additional follow-up was not required.

minimum of two (rather than four) AMPMs was established as the requirement for a participant to be eligible for the FQ and ReUP interviews.

In addition, there were changes to the ReUP during data collection. The changes involved wording to a question designed to obtain information about possible restricted usage of UCR resources. After the ReUP was finalized and implemented in the field, interviewer feedback was that the question was not working well and needed to be modified. Modifications were made, resulting in two versions of the question, and some participants had both questions administered. EI contacted respondents who had answered the original version of the question and asked them the modified version, so some respondents have data from both questions. The vast majority of participants were asked the modified version of the question. However, there was no version of the question that was asked of all respondents. All responses to both versions of the question are included in the database. Based on the qualitative assessment of the interviewers, the second version of the question is preferred. Future analysis of responses given by participants who answered both versions of the question may elucidate the nature of any bias in responses caused by the different wording.

Changes to Procedures During Data Collection

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Original data collection procedures were documented in the Field Manuals developed by Westat (*Field Supervisor Manual of Procedures; Field Interviewer Manual of Procedures, Part I: Field Procedures; and Field Interviewer Manual of Procedures, Part II: Food Interviews*). Throughout the data collection period, a series of “Field Memos” were used to communicate clarifications or changes to survey procedures. There were two types of Field Memos:

- Supervisor Field Memos addressing procedures which were the responsibility of the CCT Field supervisor; and
- Interviewer Field Memos addressing procedures which were used by the field interviewers.

Below is a summary of the topics addressed by each memo that was issued. Appendix B contains copies of all memos.

18.1 Supervisor Field Memos

Supervisor Memo #1

Issue: One of the duties of the supervisor was to enter information gathered by interviewers during the household enumeration into an Enumeration grid into the Survey Management System (SMS). Entering this information was important for monitoring purposes and to allow the evaluation of sampling procedures.

Solution: This supervisor memo outlined the procedures that the supervisor should take to successfully transfer information about household members from the household screener into the enumeration grid.

Supervisor Memo #2

Issue: During the household screening process, a household member gave the interviewer the age of all household members. In some instances the age given at the time of screening was incorrect based on inaccurate information from the household reporter or interviewer error, and corrective action was required.

Solution: This field supervisor memo outlined the procedures that interviewers should take to update the age with the correct age in the IMS. In addition, a new form was created (the Age Discrepancy Form) and the memo provided instructions on how to complete this form.

Supervisor Memo #3

Issue: Over the course of the survey, the field interviewers and the field supervisor needed to replenish supplies.

Solution: This supervisor memo indicated which forms were available in an electronic format to be printed by the supervisor, and which supplies needed to be ordered from Westat. The memo documented the procedures the field supervisor should follow to place an order for supplies.

Supervisor Memo #4

Issue: As the survey progressed it was clear that the some additional final result codes were necessary to accurately reflect the final disposition of a case.

Solution: This supervisor memo notified the supervisor of three new final result codes that only the supervisor was allowed to assign to a case.

- R1 – Add a Dwelling Unit (DU) mistake: Occasionally an interviewer added a Dwelling Unit only to find out that the unit had already been listed in the segment being worked or another segment. This code allowed the supervisor to indicate the DU was added by mistake.
- R2 – Non Blaise[®] Max Contact: This code was added when a household screener could not be completed after five or more visits to the household.
- R3 – Duplicate: This code was used when the same DU had two unique household IDs. One household ID would be coded as an R3 – Duplicate while the other household ID would be worked as usual.

Supervisor Memo #5

Issue: The original verification form did not verify whether members of the household were CCT tribal members.

Solution: This supervisor memo noted that a new question had been added to the verification script to verify which household members were reported as CCT members.

Supervisor Memo #6

No Supervisor Memo #6 (accidentally skipped in sequence).

Supervisor Memo #7

Issue: The Final Questionnaire consisted of the Food Questionnaire (FQ) and the Resource Use and Practices Questionnaire (ReUP). After reviewing the initial batch of completed interviewers, several minor items were identified that required additional attention of the interviewers.

Solution: This supervisor memo outlined the identified issues. The supervisor was instructed to discuss these issues with the field interviewers.

18.2 Interviewer Field Memos

Field Interviewer Memo #1

Issue: During the household screening process a household member gave the interviewer the age of all household members. In some instances the age given at the time of screening was incorrect based on inaccurate information from the household reporter or interviewer error and corrective action was required.

Solution: This interviewer memo outlined the procedures to update the age with the correct age in the IMS. In addition a new form was created for this purpose, the Age Discrepancy Form, and the memo provided instructions on how to complete this form.

Field Interviewer Memo #2

Issue: To control the flow of work and the number of cases open at any one time, the sample for the study was released in two waves. Based on the experiences from Wave 1, there were some minor changes made to the Household Screener form and procedures for Wave 2.

Solution: This field memo outlined the changes to the Household Screener and procedures. These minor revisions included:

- Printing Wave 2 Household Screeners on green card stock to differentiate between Wave 1 cases, printed on white card stock.
- Two check boxes were added to indicate that no one in the household ate food from local sources or participated in traditional activities. Having these boxes checked by the

interviewer provided positive confirmation that no one in the household was selected based on these two factors. All respondents were asked during screening which household members were enrolled CCT members. The form that was changed was the form used when calling respondents to verify 10 percent of the cases.

- Informed the interviewer about 7 new sampling messages.
- Informed the interviewer that an interim disposition code (25: Call back) had been deleted and the interviewer should use another disposition code (60: Appointment) when a set time to return to the household had been established.

Field Interviewer Memo #3

Issue: There were some segments in Wave 2 with no listed dwelling units.

Solution: This memo instructed the interviewer to drive through the segment to either confirm that there were no dwelling units or if dwelling units were located within the segment, follow standard procedures for creating household screeners for “Missed Structures.”

Field Interviewer Memo #4

Issue: The questionnaires were not translated into Spanish or any other foreign language. In addition, no bilingual interviewers were hired and trained. The initial plan was that non-English speaking households were not to be interviewed. However, a larger number of Spanish-speaking households were identified than originally anticipated.

Solution: Procedures were modified to allow interviews to be conducted in another language through an interpreter who lived in the household, if that person was fluent in both English and the foreign language. This field memo outlined the steps the interviewer should take to follow this modification in procedures.

Many households that were skipped because of language barriers during the initial screening phase were re-screened using translators after Field Interviewer Memo #4 was issued. Table 10-1 shows a total of 21 households finalized as “Language Problem.”

Field Interviewer Memo #5

Issue: After administering the AMPM interview for a period of time, several minor issues arose that were addressed in one fix.

Solution: This field memo described the procedures for transmitting the fixes to each interviewer’s laptop. In addition, the memo provides background information for these changes, as follows.

- When launching AMPM interviews 2-4, the participant was read a brief reminder of their rights as a survey participant and asked if they had any questions before continuing with the interview.
- A question at the end of the AMPM interview was accessed by “mousing” over the question. This was changed to have the same question written out on a screen and not requiring this activity with the mouse.
- A new question was added at the end of the AMPM interview to determine if the food eaten the previous day was only eaten on special occasions of certain times of the year and, if yes, which foods.
- If the participant ate eel, an additional question was added as to whether it was the kind of eel known as burbot, lawyer, eelpout or lingcod.

Field Interviewer Memo #6

Issue: Some interviewers were concerned that questions about tap water, salt added to food and special diets were not showing up on the AMPM Interviews.

Solution: These questions were only intended to be asked once during AMPM1. The memo explained to interviewers to only expect these questions for the first AMPM interview and not for subsequent AMPM interviews.

Field Interviewer Memo #7

Issue: The final questions of the ReUP Questionnaire asked whether the participant refrained from consuming food or using materials for traditional uses from the Upper Columbia River or Lake Roosevelt area. Based on interviewer experience, there was evidence that the way the questions were worded and interpreted by participants failed to capture reduced usage of these resources.

Solution: These questions were revised to reduce confusion or misunderstanding on the part of the participant. The newly revised questions were printed on a continuation sheet to ensure that the responses from the original set of questions were not combined with the responses from the revised set of questions.

Major Findings Pertaining to Methods and Implications for Future Follow-Up Data Collection

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Methods employed for this survey appeared to work well. Contacts with participants were successful for the most part, and the rate of refusals was relatively low. The incentive amount of \$30 per interview appears to have been sufficient to obtain cooperation. Difficulties that were encountered were primarily related to the ability of CCT staff to complete interviews on a consistent basis to fully complete the suggested number of surveys within the survey period (i.e., 4 AMPMs plus FQ and ReUP, as appropriate). Although fewer interviews were completed than expected, 5469 interviews is significantly more than other fish ingestion surveys completed within Region 10 or the United States. Follow-up survey data collection is not currently planned for the UCR RI/FS. It is possible, however, that future evaluation of the UCR Tribal exposure survey results may inform future sampling efforts to analyze un-sampled exposure media.

Because of the lack of sufficient manpower resources/interviewers to complete the work, if future follow-up studies are conducted, it would be prudent to “over-hire” at the beginning of the survey to help ensure sufficient resources remain available over time. Over-hiring would also ensure that enough interviewers are available at the end of training in the event that some do not pass the training requirements. This would minimize the additional training sessions that may be needed as new interviewers are hired.

Part 2

Data Analysis

This report provides initial findings from the Upper Columbia River Tribal Consumption and Resource Use Survey. The survey was designed by EPA, Westat, and the CCT. Data collection was conducted by the CCT with assistance from its contractor, Environment International. Westat developed the data collection procedures, trained data collectors, created the data sets, and prepared these initial analyses.

Part 1 of this Final Report provided a detailed description of the data collection methodology. All data presented in Part 1 are unweighted because the focus was on the methods and procedures used to collect the data. All tables in Chapter 22 are weighted to reflect residents of the Colville Reservation.

To be included in these analyses, a sampled respondent must have completed at least two 24-hour recalls of all food consumed (referred to as an AMPM interview). For all respondents aged 2 years or older they must also have completed a FQ summarizing their eating habits for the preceding 12 months. Some respondents have completed three or four AMPMs, in which case the data from all of these are included in the report.

All respondents 14 years old or older were also asked a Resource Use and Practices (ReUP) Survey.

Survey weights for all respondents allow for all completes (with at least two AMPMs and, if at least 2 years old, a FQ) to represent all residents of the Colville Reservation.

Chapter 21 describes the analyses included in this report. It also explains the types of analyses not included, but expected to be conducted in the future. Chapter 22 provides these initial analyses. Finally, Chapter 23 provides some key limitations that should be considered in any use of the survey data.

21.1 Included in this Report

This report includes basic demographic descriptions of the eligible and sampled population on the Colville Reservation. Analyses are reported from each of the AMPM, FQ, and ReUP databases, but no data combining those files are included. Appendices E and F to this report are comprehensive accounts of responses to all questions in the FQ (Appendix E) and the ReUP (Appendix F).

21.2 To be Completed by EPA

The AMPM interview collected data on food consumption in a given day, including portion sizes consumed. The FQ provides less detail but covers foods of interest eaten any time during the preceding year. By combining the two datasets it is possible to gain better insight into what, and how much, is eaten.

Combining information from the two datasets is complicated because the level used for specifying the foods are different. Westat has provided a linking file that can be used by others to link the results. Expert judgment will be required for some possible linkages because the amount of a given food in a product may be quite small (e.g. milk in a candy bar).

Westat has already linked the AMPM database to EPA's latest pesticide database (see Section 22.2.1 for a description of this linkage) so that there are separate rows in the AMPM database showing each pesticide typically found at detectable levels for each food commodity. Analysis of pesticide levels are needed to support the relative risk objective of the study. Because eating is not without risk, it is informative to quantify the risks of eating locally derived foods relative to "supermarket" foods represented by commodity pesticide and metal levels. Nutritional information is also included on the AMPM database, although additional micronutrient information may still be linked by future users.

Combining the AMPM and FQ for analysis and examining pesticide and micronutrient information will all be done by EPA and its contractors in the future.

21.2.1 Food Preparation

The final question of the FQ dealt with materials used in food preparation that were not directly consumed (e.g., fuel used for smoking, or leaves used to wrap food in a pit roast). Response statistics for that question are reported in Appendix E.

21.2.2 Resource Avoidance

The final question of the ReUP dealt with respondents' potential avoidance of the use or consumption of local resources. (The wording of that question changed during the survey; see Section 17 for more information.) Responses to that question are reported in Appendix F and will be analyzed by EPA and its contractors in the future. This analysis may inform such issues as why resources are utilized from some areas and not others and will also inform a future exposure scenario in the risk assessment.

22.1 Response and Eligibility Rate

Sampling was conducted in two steps. First the CCT tried to contact every residential unit on the Reservation, then individuals within each home were sampled based on the age of the resident. In addition, one resident in each household who was a “heavy consumer” of local foods and/or regular user of traditional practices could also be included in the survey. The eligibility, response, and weighting were summarized in Part 1.

Table 10-1 shows that there were 3,710 potential residential housing units identified on the Reservation. Forty-five percent turned out to be ineligible (not a dwelling unit or vacant), 48 percent agreed to enumerate all residents, and the remaining 7 percent refused or were nonrespondents. This corresponds to an 88.7 percent response rate. Table 22-0 shows response rates by geographic region at the household, AMPM1, AMPM2, and FQ stages.

Table 22-0. Unweighted response rates by geographic region and data collection stage

GeoRegion	Data collection stage			
	Household	Person Consent/ AMPM1	Person AMPM2	Person FQ
1 = Northeast Ferry (Inchelium)	95.7%	80.0%	89.3%	93.3%
2 = Southeast Ferry	93.6%	40.3%	71.4%	90.0%
3 = West Ferry	92.1%	73.0%	78.6%	85.2%
4 = East Okanogan (Nespelem)	88.4%	44.4%	82.5%	89.2%
5 = North Okanogan	86.4%	51.3%	76.0%	68.4%
6 = Northeast Okanogan (Disautel)	98.3%	55.7%	100.0%	90.9%
7 = Northwest Okanogan (Omak)	82.1%	53.1%	90.1%	93.1%
8 = South Okanogan (Coulee Dam)	90.0%	64.9%	91.6%	87.4%
9 = Southwest Okanogan	82.9%	61.5%	96.9%	96.5%
Overall	88.7%	61.9%	88.5%	90.7%
Total eligible for that stage	3,710	2,645	1,583	1,325

The 1,783⁴ housing units that completed their enumeration include 4,783 residents. From this list we sampled (including those selected as “heavy consumers”) a total of 2,645 people. A total of 1,165 of them completed at least two AMPMs plus the FQ (if less than 2 years old a FQ was not collected) and are considered a survey complete.

As can be seen from Tables 22-1 through 22-5 we purposively oversampled (due to higher potential exposures) young children and “heavy consumers.” Females, people living near Inchelium, and CCT members were more likely to respond, while those living near Nespelem and Omak were less likely to respond. All of these differences were adjusted for in the weighting process (see Section 22.2 and Appendix C).

Table 22-1. Persons enumerated, sampled, and survey “complete” by age

Age	Enumerated		Sampled		Complete	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
0-6	592	12	409	15	174	15
7-17	739	15	437	17	185	16
18-55	2,141	45	1,009	38	429	37
55+	1,311	27	790	30	377	32
Total	4,783		2,645		1,165	

Table 22-2. Persons enumerated, sampled, and survey “complete” by gender

Gender	Enumerated		Sampled		Complete	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Female	2,419	51	1,362	51	640	55
Male	2,364	49	1,283	49	525	45
Total	4,783		2,645		1,165	

⁴Table 10-1 listed 1,790 housing units where enumeration was completed, but that included 7 where the neighbors provided enough information to determine no one of the ages being sampled lived there. These 7 do not have completed enumeration to be included in this computation.

Table 22-3. Persons enumerated, sampled, and survey “complete” by geographic region

GeoRegion	Enumerated		Sampled		Complete	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Northeast Ferry (Inchelium)	934	20	556	21	334	29
Southeast Ferry	106	2	72	3	18	2
West Ferry	376	8	217	8	86	7
East Okanogan (Nespelem)	547	11	328	12	91	8
North Okanogan	79	2	52	2	13	1
Northeast Okanogan (Disautel)	66	1	43	2	20	2
Northwest Okanogan (Omak)	1,212	25	652	25	258	22
South Okanogan (Coulee Dam)	1,168	24	564	21	263	23
Southwest Okanogan	295	6	161	6	82	7
Total	4,783		2,645		1,165	

Table 22-4. Person enumerated, sampled, and survey “complete” by CCT membership

CCTMember	Enumerated		Sampled		Complete	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
NO	2,437	51	1,260	48	531	46
YES	2,346	49	1,385	52	634	54
TOTAL	4,783		2,645		1,165	

Table 22-5. Persons enumerated, sampled, and survey “complete” by “heavy consumer” status

Heavy Consumer	Enumerated		Sampled		Complete	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
NO	2,324	49	929	35	376	32
YES	2,459	51	1,716	65	789	68
TOTAL	4,783		2,645		1,165	

22.2 Population Statistics

All remaining tables in this report use survey weights to represent the entire universe of Colville Reservation residents. In a few tables we have provided an unweighted count to provide a caution against over emphasizing results based on very few responses. These are clearly indicated as unweighted. In some instances, the weighted percentages may be less than the unweighted results. This occurs when the respondents who reported a particular use are members of a group (such as

heavy consumers or residents of Inchelium) that was overrepresented in the study population. The weighting is described in detail in Appendix C.

The weighting could not simultaneously control for all of the variables in the previous section. Weighting for dwelling units that were not successfully enumerated accounted for differential participation rates by geographic region. This weighting resulted in an estimated 6,037 people living on the Reservation. Table 22-6 shows their distribution by age, gender, geographic region, CCT membership, and “heavy consumer” status. Weighting for non-participating sampled people gave priority to differential response rates by age, geography, and “heavy consumer” status, so that weighted totals by these variables match the estimated total population living on the Reservation (not just those in the enumerated households shown in Section 22.1). The distribution for gender and CCT membership were not required to exactly match, but are very close.

Table 22-6. Weighted totals by age, gender, region, CCT membership, and “heavy consumer” status

Age group (with imputations for missing)			
Age		Frequency	Percent
	0-6	747	12
	7-17	929	15
	18-55	2,715	45
	55+	1,645	27
Gender			
	Female	3,054	51
	Male	2,982	49
Geographic Region			
	Northeast Ferry (Inchelium)	1,040	17
	Southeast Ferry	115	2
	West Ferry	454	8
	East Okanogan (Nespelem)	688	11
	North Okanogan	110	2
	Northeast Okanogan (Disautel)	96	2
	Northwest Okanogan (Omak)	1,695	28
	South Okanogan (Coulee Dam)	1,385	23
	Southwest Okanogan	454	8
CCT Member			
	NO	3,096	51
	YES	2,940	49
Heavy Consumer			
	NO	2,932	49
	YES	3,104	51
Total		6,037	

22.2.1 Types and Frequencies of Food Ingested (AMPM)

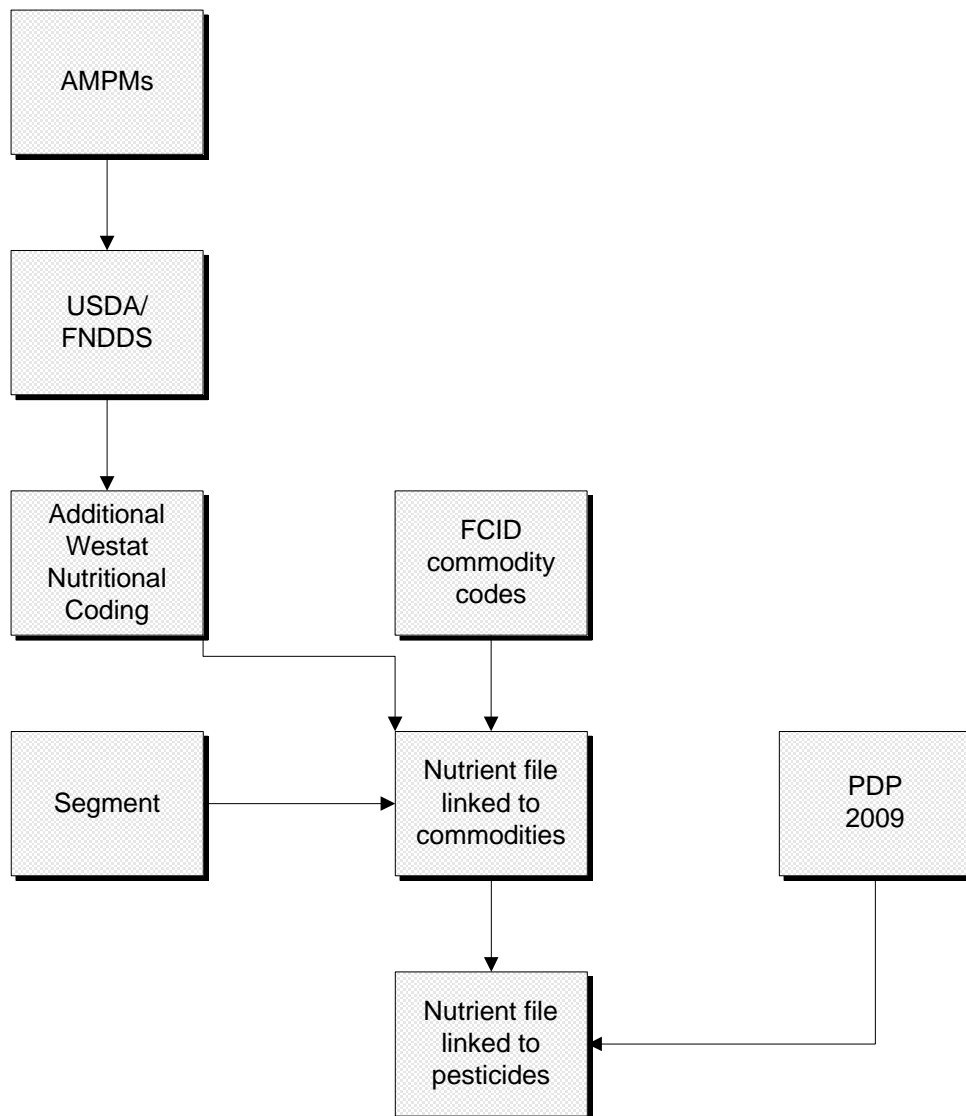
Figure 22-1 summarizes the sequence of steps in creating the AMPM data file used to produce the tables in this section. The data file includes all respondents who completed at least two AMPM interviews and an FQ (excepting those who were age-ineligible for an FQ). Sampled people who only completed a single AMPM do not have their data included in any of the analytic files nor were they used for this report. The participant data collected using the AMPM was sent through the USDA post-interview processing system (PIPS) to apply automated codes and to convert the data to an Access file; manual coding was completed by Westat using the USDA Survey Net coding system. This data file is referred to as the Participant Nutrient File.

EPA's Food Consumption Intake Database (FCID) was then used to determine the commodities that are part of each food code. The food code was used to merge the list of commodities onto each record of the Nutrient File. As a result some commodities might be on the file that were never explicitly mentioned by any respondents, but rather are ingredients in one or more foods they mentioned (e.g. sugar beets or seaweed, ingredients commonly used in processed foods). Obviously, for some food codes the FCID does not contain a list of commodities, this includes foods that are unique to the CCT area and were developed for this study.

We then used EPA's Pesticide Data Program (PDP) database to attach pesticide residue data to each commodity found on the nutrition file. Each year EPA samples a set of commodities for a wide range of pesticides. The PDP database contains the results of each test for each pesticide each year. A different set of 20-30 commodities is tested each year. Some commodities are in multiple years; EPA suggested in those cases to use the most recent data.

As a result, we only took the most recent year in which a given commodity was tested. For each commodity/pesticide combination we took the average pesticide loading across samples (values below detection levels were assumed to be one-half of the detection level). If that value is less than the average detection limit for that pesticide we have not included it in the database. If the value is equal to or greater than the average detection limit, then that value is reported. Removing average values that are lower than the detection limit prevents the presence of nondetectable levels from being erroneously interpreted as evidence of a pesticide residue.

Figure 22-1. Creation of data file



All AMPMs completed by the survey respondents are included in the following table, so some people have 2 AMPMs, some 3, and a few 4. Table 22-7 reports ingested food in two ways. The third column shows the percent of respondents who reported eating the food on at least one of their AMPMs, while the fourth column reports the percentage of all of the AMPMs where that food was mentioned. (Fourteen percent of all AMPMs contained at least one food without a matching FCID Code.) So, for example, while 51.8 percent of respondents mentioned eating carrots at least once in their 24-hour recalls, it only appears on 26.8 percent of all AMPMs. It is important to note that this table is reporting what people ate in the day preceding the interview, while the next section reports what people ate during the previous year.

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
101050000	Beet, garden, roots	3.7	1.5
101050001	Beet, garden, roots-babyfood	0.1	0.0
101052000	Beet, sugar	99.4	96.0
101052001	Beet, sugar-babyfood	0.9	0.5
101053000	Beet, sugar, molasses	29.5	14.0
101053001	Beet, sugar, molasses-babyfood	0.3	0.1
101078000	Carrot	51.3	26.8
101078001	Carrot-babyfood	0.5	0.3
101079000	Carrot, juice	2.5	1.1
101190000	Horseradish	1.7	0.7
101314000	Radish, roots	2.2	0.9
101327000	Rutabaga	0.6	0.2
101388000	Turnip, roots	0.3	0.1
103015000	Arrowroot, flour	1.6	0.7
103017000	Artichoke, Jerusalem	0.1	0.0
103082000	Cassava	82.6	55.4
103082001	Cassava-babyfood	0.3	0.1
103139000	Dasheen, corm	0.1	0.0
103166000	Ginger	18.9	8.0
103167000	Ginger, dried	70.7	41.6
103296000	Potato, chips	21.6	9.2
103297000	Potato, dry (granules/ flakes)	10.8	4.4
103298000	Potato, flour	83.2	56.4
103298001	Potato, flour-babyfood	0.3	0.1
103299000	Potato, tuber, w/peel	26.9	11.6
103300000	Potato, tuber, w/o peel	57.9	31.7
103300001	Potato, tuber, w/o peel-babyfood	0.3	0.1
103366000	Sweet potato	1.5	0.6
103366001	Sweet potato-babyfood	0.2	0.1
103387000	Turmeric	25.9	11.5
200101000	Chicory, tops	3.0	1.2
300237001	Onion, bulb-babyfood	0.1	0.0
300238001	Onion, bulb, dried-babyfood	0.2	0.1
300239000	Onion, green	8.0	3.1
301165000	Garlic, bulb	87.8	60.2
301165001	Garlic, bulb-babyfood	0.2	0.1
301237000	Onion, bulb	87.2	62.1
301238000	Onion, bulb, dried	88.0	60.3
302103000	Chive, fresh leaves	7.8	3.1
302198000	Leek	0.3	0.1
401150000	Endive	3.0	1.2
401204000	Lettuce, head	49.8	26.1
401205000	Lettuce, leaf	3.3	1.3
401248000	Parsley, leaves	11.5	4.8
401313000	Radicchio	3.0	1.2
401355000	Spinach	7.6	3.3

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
401355001	Spinach-babyfood	0.1	0.0
402085000	Celery	81.4	50.1
402085001	Celery-babyfood	0.1	0.0
402086000	Celery, juice	2.1	0.9
402322000	Rhubarb	1.0	0.4
501061000	Broccoli	10.0	4.3
501064000	Brussels sprouts	0.3	0.1
501069000	Cabbage	11.4	5.1
501071000	Cabbage, Chinese, napa	0.9	0.3
501072000	Cabbage, Chinese, mustard	0.9	0.3
501083000	Cauliflower	3.6	1.4
502070000	Cabbage, Chinese, bok choy	0.9	0.3
502117000	Collards	0.2	0.1
502194000	Kale	0.0	0.0
600347000	Soybean, seed	23.4	10.2
600349000	Soybean, soy milk	1.6	0.8
600350000	Soybean, oil	98.9	96.7
600350001	Soybean, oil-babyfood	1.9	1.3
601043000	Bean, snap, succulent	23.5	10.3
601043001	Bean, snap, succulent-babyfood	0.1	0.0
601257000	Pea, edible podded, succulent	2.5	1.0
602037000	Bean, lima, succulent	4.5	1.8
602255000	Pea, succulent	22.8	9.7
602255001	Pea, succulent-babyfood	0.4	0.2
603030000	Bean, black, seed	0.7	0.3
603035000	Bean, great northern, seed	7.1	2.9
603036000	Bean, kidney, seed	9.5	3.9
603038000	Bean, lima, seed	0.3	0.1
603039000	Bean, mung, seed	5.7	2.3
603040000	Bean, navy, seed	7.3	3.0
603041000	Bean, pink, seed	0.1	0.0
603042000	Bean, pinto, seed	13.3	5.7
603098000	Chickpea, seed	0.3	0.1
603182000	Guar, seed	64.2	35.2
603203000	Lentil, seed	0.1	0.0
603256000	Pea, dry	1.0	0.4
603348000	Soybean, flour	86.3	62.7
603348001	Soybean, flour-babyfood	0.3	0.1
800375000	Tomato	69.8	40.3
801374000	Tomatillo	1.3	0.5
801376000	Tomato, paste	28.2	12.7
801376001	Tomato, paste-babyfood	0.0	0.0
801377000	Tomato, puree	62.8	34.0
801377001	Tomato, puree-babyfood	0.1	0.0
801378000	Tomato, dried	2.8	1.1
801378001	Tomato, dried-babyfood	0.1	0.0

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
801379000	Tomato, juice	6.5	2.9
802148000	Eggplant	0.3	0.1
802234000	Okra	0.2	0.1
802270000	Pepper, bell	37.9	17.7
802271000	Pepper, bell, dried	24.3	10.4
802271001	Pepper, bell, dried-babyfood	0.1	0.0
802272000	Pepper, nonbell	80.9	51.5
802272001	Pepper, nonbell-babyfood	0.1	0.0
802273000	Pepper, nonbell, dried	42.7	21.5
901075000	Cantaloupe	5.8	2.4
901187000	Honeydew melon	0.6	0.2
901399000	Watermelon	7.8	3.1
902135000	Cucumber	42.9	19.7
902308000	Pumpkin	1.8	0.7
902309000	Pumpkin, seed	0.4	0.1
902356000	Squash, summer	4.0	1.6
902357000	Squash, winter	2.5	1.0
902357001	Squash, winter-babyfood	0.1	0.0
1000241001	Orange, juice-babyfood	0.1	0.1
1001240000	Orange	11.6	5.1
1001241000	Orange, juice	43.9	23.3
1001242000	Orange, peel	0.7	0.3
1001369000	Tangerine	2.8	1.2
1001370000	Tangerine, juice	20.8	9.7
1002199000	Lemon	5.4	2.6
1002200000	Lemon, juice	62.2	35.1
1002201000	Lemon, peel	2.0	0.9
1002207000	Lime, juice	22.4	10.3
1003180000	Grapefruit	1.7	0.7
1003181000	Grapefruit, juice	21.5	10.0
1100007000	Apple, fruit with peel	22.9	10.7
1100008000	Apple, peeled fruit	5.6	2.2
1100008001	Apple, peeled fruit-babyfood	0.1	0.0
1100009000	Apple, dried	12.1	5.1
1100009001	Apple, dried-babyfood	0.0	0.0
1100010000	Apple, juice	42.0	22.6
1100010001	Apple, juice-babyfood	0.3	0.1
1100011000	Apple, sauce	5.1	2.1
1100011001	Apple, sauce-babyfood	0.2	0.1
1100266000	Pear	11.3	4.7
1100266001	Pear-babyfood	0.5	0.2
1100267000	Pear, dried	0.6	0.3
1100268000	Pear, juice	25.7	11.8
1100268001	Pear, juice-babyfood	0.1	0.0
1201090000	Cherry	38.8	19.4
1201090001	Cherry-babyfood	0.1	0.0

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
1201091000	Cherry, juice	21.3	10.3
1202012000	Apricot	14.1	6.1
1202012001	Apricot-babyfood	0.1	0.0
1202013000	Apricot, dried	1.2	0.5
1202014000	Apricot, juice	19.8	9.2
1202014001	Apricot, juice-babyfood	0.1	0.0
1202230000	Nectarine	1.7	0.7
1202260000	Peach	57.5	32.2
1202260001	Peach-babyfood	0.2	0.1
1202261000	Peach, dried	8.0	3.4
1202262000	Peach, juice	0.1	0.0
1203285000	Plum	1.1	0.5
1203285001	Plum-babyfood	0.1	0.0
1203286000	Plum, prune, fresh	0.0	0.0
1203286001	Plum, prune, fresh-babyfood	0.1	0.0
1203287000	Plum, prune, dried	0.7	0.3
1203288000	Plum, prune, juice	0.4	0.2
1301055000	Blackberry	29.0	13.9
1301056000	Blackberry, juice	0.1	0.0
1301058000	Boysenberry	19.9	9.3
1301320000	Raspberry	43.0	22.3
1301320001	Raspberry-babyfood	0.1	0.0
1301321000	Raspberry, juice	19.9	9.3
1302057000	Blueberry	53.4	27.7
1302057001	Blueberry-babyfood	0.1	0.0
1302137000	Currant, dried	0.0	0.0
1302174000	Gooseberry	0.1	0.0
1302191000	Huckleberry	3.7	1.5
1304175000	Grape	24.5	11.5
1304176000	Grape, juice	32.6	16.1
1304176001	Grape, juice-babyfood	0.1	0.1
1304179000	Grape, wine and sherry	21.5	10.3
1304195000	Kiwifruit, fuzzy	0.8	0.3
1307130000	Cranberry	1.0	0.4
1307131000	Cranberry, dried	3.1	1.3
1307132000	Cranberry, juice	25.0	11.7
1307359000	Strawberry	45.4	23.7
1307360000	Strawberry, juice	27.7	13.4
1400003000	Almond	23.7	10.7
1400059000	Brazil nut	0.2	0.1
1400081000	Cashew	9.5	4.1
1400092000	Chestnut	0.3	0.1
1400155000	Hazelnut	7.0	3.0
1400213000	Macadamia nut	0.2	0.1
1400269000	Pecan	8.8	3.9
1400278000	Pine nut	0.3	0.1

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
1400282000	Pistachio	1.1	0.4
1400391000	Walnut	12.8	5.4
1500025000	Barley, pearled barley	3.3	1.4
1500026000	Barley, flour	59.3	34.4
1500026001	Barley, flour-babyfood	0.1	0.0
1500027000	Barley, bran	0.2	0.1
1500065000	Buckwheat	0.1	0.0
1500120000	Corn, field, flour	43.4	21.4
1500120001	Corn, field, flour-babyfood	0.7	0.4
1500121000	Corn, field, meal	40.1	19.4
1500122000	Corn, field, bran	1.5	0.8
1500123000	Corn, field, starch	92.2	69.2
1500123001	Corn, field, starch-babyfood	0.8	0.3
1500124000	Corn, field, syrup	99.0	96.1
1500124001	Corn, field, syrup-babyfood	0.6	0.3
1500125000	Corn, field, oil	98.4	87.5
1500126000	Corn, pop	18.4	8.1
1500127000	Corn, sweet	28.4	12.8
1500231000	Oat, bran	1.8	0.9
1500232000	Oat, flour	3.4	1.4
1500232001	Oat, flour-babyfood	0.6	0.2
1500233000	Oat, groats/rolled oats	47.8	25.6
1500323000	Rice, white	41.5	22.5
1500323001	Rice, white-babyfood	0.1	0.0
1500324000	Rice, brown	5.0	2.0
1500325000	Rice, flour	83.8	55.9
1500325001	Rice, flour-babyfood	0.6	0.3
1500326000	Rice, bran	0.3	0.2
1500328000	Rye, grain	9.9	4.4
1500381000	Triticale, flour	0.1	0.0
1500401000	Wheat, grain	57.0	33.6
1500402000	Wheat, flour	99.3	96.2
1500402001	Wheat, flour-babyfood	0.8	0.4
1500403000	Wheat, germ	9.6	4.0
1500404000	Wheat, bran	41.3	22.1
1500405000	Wild rice	0.6	0.2
1800002000	Alfalfa, seed	0.4	0.2
1901028000	Basil, fresh leaves	0.7	0.3
1901029000	Basil, dried leaves	51.1	25.9
1901029001	Basil, dried leaves-babyfood	0.1	0.0
1901118000	Cilantro, leaves	73.7	44.2
1901144000	Dillweed	20.0	8.7
1901184000	Herbs, other	81.8	52.7
1901184001	Herbs, other-babyfood	0.1	0.0
1901220000	Marjoram	65.9	36.2
1901249000	Parsley, dried leaves	7.8	3.1

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
1901249001	Parsley, dried leaves-babyfood	0.1	0.0
1901334000	Savory	50.6	25.6
1902105000	Cinnamon	46.1	23.5
1902105001	Cinnamon-babyfood	0.2	0.1
1902119000	Coriander, seed	70.0	41.0
1902143000	Dill, seed	20.0	8.7
1902274000	Pepper, black and white	81.3	52.6
1902274001	Pepper, black and white-babyfood	0.1	0.0
1902354000	Spices, other	92.3	69.8
1902354001	Spices, other-babyfood	0.2	0.1
2000128000	Cottonseed, oil	98.9	96.0
2001163000	Flax seed, oil	0.6	0.3
2001319000	Rapeseed, oil	98.6	89.6
2001336000	Sesame, seed	7.3	3.1
2001337000	Sesame, oil	65.3	34.3
2002330000	Safflower, oil	98.3	87.1
2002330001	Safflower, oil-babyfood	1.5	1.0
2002364000	Sunflower, seed	8.0	3.6
2002365000	Sunflower, oil	98.3	87.4
2002365001	Sunflower, oil-babyfood	0.5	0.2
2100228000	Mushroom	22.4	9.9
2500292000	Pork, meat byproducts	66.2	37.8
3100044000	Beef, meat	88.4	64.0
3100044001	Beef, meat-babyfood	0.2	0.1
3100045000	Beef, meat, dried	3.1	1.4
3100046000	Beef, meat byproducts	83.6	55.2
3100046001	Beef, meat byproducts-babyfood	0.0	0.0
3100047000	Beef, fat	90.4	67.6
3100047001	Beef, fat-babyfood	0.2	0.1
3100049000	Beef, liver	0.8	0.3
3200169000	Goat, meat	0.1	0.0
3200171000	Goat, fat	0.1	0.0
3400290000	Pork, meat	80.6	51.8
3400290001	Pork, meat-babyfood	0.1	0.0
3400291000	Pork, skin	44.8	22.8
3400292001	Pork, meat byproducts-babyfood	0.0	0.0
3400293000	Pork, fat	83.8	56.0
3400293001	Pork, fat-babyfood	0.1	0.0
3400295000	Pork, liver	0.4	0.1
3500339000	Sheep, meat	13.7	5.9
3500340000	Sheep, meat byproducts	12.5	5.4
3500341000	Sheep, fat	20.7	9.1
3600222000	Milk, fat	99.3	96.6
3600222001	Milk, fat - baby food/infant formula	0.7	0.3
3600223000	Milk, nonfat solids	99.3	96.9
3600223001	Milk, nonfat solids-baby food/infant formula	1.9	1.3

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
3600224000	Milk, water	99.3	96.6
3600224001	Milk, water-babyfood/infant formula	0.7	0.3
3600225001	Milk, sugar (lactose)-baby food/infant formula	1.6	1.1
3800221000	Meat, game	15.5	7.1
4000093000	Chicken, meat	70.3	39.7
4000093001	Chicken, meat-babyfood	0.3	0.1
4000094000	Chicken, liver	1.0	0.4
4000095000	Chicken, meat byproducts	40.6	19.3
4000095001	Chicken, meat byproducts-babyfood	0.3	0.1
4000096000	Chicken, fat	70.7	40.0
4000096001	Chicken, fat-babyfood	0.3	0.1
4000097000	Chicken, skin	39.3	17.4
4000097001	Chicken, skin-babyfood	0.3	0.1
5000382000	Turkey, meat	38.3	18.0
5000382001	Turkey, meat-babyfood	0.2	0.1
5000383000	Turkey, liver	0.7	0.3
5000384000	Turkey, meat byproducts	33.6	15.5
5000384001	Turkey, meat byproducts-babyfood	0.2	0.1
5000385000	Turkey, fat	38.4	18.1
5000385001	Turkey, fat-babyfood	0.2	0.1
5000386000	Turkey, skin	26.1	11.6
5000386001	Turkey, skin-babyfood	0.2	0.1
6000301000	Poultry, other, meat	0.1	0.0
6000302000	Poultry, other, liver	0.1	0.0
6000303000	Poultry, other, meat byproducts	0.1	0.0
6000304000	Poultry, other, fat	0.1	0.0
6000305000	Poultry, other, skin	0.0	0.0
7000145000	Egg, whole	90.1	64.2
7000145001	Egg, whole-babyfood	0.2	0.1
7000146000	Egg, white	66.2	37.0
7000147000	Egg, yolk	64.4	36.1
8000157000	Salmon	9.3	3.6
8000157000	Trout	1.3	0.5
8000157000	Whitefish	0.1	0.0
8000157000	Other Fresh Water Finfish	0.2	0.1
8000158000	Catfish	0.2	0.1
8000159000	Tuna	7.6	3.0
8000160000	Bass	0.1	0.0
8000160000	Cod	0.5	0.2
8000160000	Croaker	0.1	0.0
8000160000	Halibut	0.4	0.2
8000160000	Herring	0.1	0.0
8000160000	Perch	0.3	0.1
8000160000	Pollock	0.1	0.0
8000160000	Sardines	0.2	0.1
8000160000	Sea Bass	0.1	0.0

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
8000160000	Walleye	0.2	0.1
8000160000	Other Saltwater Finfish	2.8	1.1
8000161000	Crab	0.6	0.2
8000161000	Shrimp	4.4	1.7
8000161000	Other Shellfish, Crustacean	0.2	0.1
8000162000	Clam	3.9	1.5
8000162000	Oyster	0.6	0.3
8000162000	Other Shellfish, Mollusk	0.2	0.1
8601100000	Water, direct, tap	2.8	1.1
8602000000	Water, indirect, all sources	98.7	92.0
9500006000	Amaranth, grain	0.1	0.0
9500016000	Artichoke, globe	0.2	0.1
9500019000	Asparagus	1.8	0.7
9500020000	Avocado	3.6	1.5
9500022000	Bamboo, shoots	1.6	0.6
9500023000	Banana	59.8	33.2
9500023001	Banana-babyfood	0.6	0.2
9500024000	Banana, dried	2.3	1.0
9500054000	Belgium endive	3.0	1.2
9500073000	Cactus	0.5	0.2
9500109000	Cocoa bean, chocolate	37.0	17.7
9500110000	Cocoa bean, powder	48.3	25.3
9500111000	Coconut, meat	0.3	0.1
9500112000	Coconut, dried	7.9	3.4
9500113000	Coconut, milk	0.2	0.1
9500114000	Coconut, oil	47.5	24.4
9500114001	Coconut, oil-babyfood	1.6	1.2
9500115000	Coffee, roasted bean	51.9	41.8
9500116000	Coffee, instant	26.1	14.4
9500128001	Cottonseed, oil-babyfood	0.4	0.2
9500141000	Date	0.9	0.4
9500154000	Fig, dried	1.0	0.4
9500178000	Grape, raisin	27.7	13.4
9500183000	Guava	1.4	0.5
9500186000	Honey	73.9	44.7
9500188000	Hop	12.3	8.2
9500211000	Lychee	0.2	0.1
9500215000	Mango	0.4	0.1
9500217000	Mango, juice	19.8	9.3
9500218000	Maple, sugar	5.6	2.7
9500219000	Maple syrup	12.0	5.0
9500235000	Olive	16.7	6.9
9500236000	Olive, oil	65.7	34.6
9500244000	Palm, oil	12.8	5.3
9500244001	Palm, oil-babyfood	0.4	0.2
9500245000	Papaya	1.6	0.6

Table 22-7. Percent of Colville Reservation residents reporting eating each food in 24-hour period and percent of AMPMs mentioning each food (continued)

FCID_Code	FCID_Desc	% of Respondents who mentioned eating it on ANY AMPM (n=1,165)	% of AMPMs that mentioned eating it (n=3,000)
9500246000	Papaya, dried	0.5	0.2
9500253000	Passionfruit, juice	23.5	10.8
9500263000	Peanut	21.3	9.4
9500264000	Peanut, butter	26.6	12.5
9500265000	Peanut, oil	69.9	38.6
9500275000	Peppermint	14.8	7.9
9500279000	Pineapple	15.5	6.4
9500279001	Pineapple-babyfood	0.2	0.1
9500280000	Pineapple, dried	0.5	0.2
9500281000	Pineapple, juice	23.1	10.8
9500281001	Pineapple, juice-babyfood	0.3	0.1
9500283000	Plantain	0.1	0.0
9500289000	Pomegranate	0.5	0.2
9500306000	Psyllium, seed	0.1	0.0
9500335000	Seaweed	66.7	38.0
9500335001	Seaweed-babyfood	0.2	0.1
9500362000	Sugarcane, sugar	99.4	96.0
9500362001	Sugarcane, sugar-babyfood	0.9	0.5
9500363000	Sugarcane, molasses	29.4	13.9
9500363001	Sugarcane, molasses-babyfood	0.3	0.1
9500368000	Tamarind	12.8	5.3
9500372000	Tea, dried	26.5	14.2
9500373000	Tea, instant	10.7	4.9
9500390000	Vinegar	82.0	54.9
9500397000	Water chestnut	4.2	1.7
9500398000	Watercress	2.1	0.9

22.2.2 Source of Food Items Reported on the Food Questionnaire (FQ)

Table 22-8 reports the percent of the Colville Reservation residents who reported eating each type of fish sometime during the 12 months prior to completion of the FQ. The most common fish are salmon/kokanee and trout/steelhead, consumed by 72 percent and 46 percent, respectively. The 126 children under age 2 are excluded from this section since they were ineligible for the FQ. This analysis does not estimate how often people ate each type of fish, but rather only if they reported eating it at least once during the year. Full responses to questions about consumption frequency and source of food items can be found in Appendix E.

Table 22-8. Number and percent of Colville Reservation residents (2 years old and over) reporting eating each fish in the last year

Fish Type	Number	Percent
Salmon/Kokanee	4,247	72.1%
Trout/Steelhead	2,696	45.7%
Walleye/Pickrel	792	13.4%
Smallmouth Bass	666	11.3%
Crawfish	504	8.6%
Mussels/Clams	475	8.1%
Largemouth Bass	436	7.4%
Panfish	390	6.6%
Burbot/Lingcod	220	3.7%
Other fish/freshwater animals	174	3.0%
Sturgeon	166	2.8%
Lake Whitefish	107	1.8%
Mountain Whitefish	66	1.1%
Lamprey	55	0.9%
Turtles/Snakes/Frogs	42	0.7%
Northern Pikeminnow	36	0.6%
Sucker	13	0.2%
Unknown Fish	106	1.8%

Table 22-9 identifies where the fish were reported caught. Many species were predominantly caught in the UCR or Lake Roosevelt, the exceptions being mussels/clams, burbot/lingcod, and lamprey. The first three columns report purchased versus caught outside the local area versus caught locally. Some reported more than one of these for a given type of fish (e.g., both purchasing and catching salmon locally) so these three columns can add up to more than 100 percent. Locations within the local area are then broken down by river reaches. The “other” category includes upland sources of fish such as lakes and creeks. Reaches that account for less than 2 percent for every fish are excluded from the table.

Table 22-9. Percent of Colville Reservation residents (2 years old and over) who reported eating each fish by source/river reach

Fish Type	Purchased	Caught outside local area	Caught locally	Specific local river reach*									
				R4A	R4B	R5	R6	R7	R8	R9	R10	Other	DK
Salmon/Kokanee	21.4%	21.0%	72.9%	0.0%	0.4%	0.0%	0.2%	43.3%	4.6%	0.5%	0.8%	16.5%	11.4%
Trout/Steelhead	3.4%	4.9%	88.6%	0.6%	2.8%	0.9%	6.0%	20.0%	3.0%	2.3%	6.2%	60.1%	7.3%
Walleye/Pickereel	5.5%	3.8%	88.5%	2.3%	6.8%	0.3%	12.6%	21.3%	2.5%	11.0%	3.2%	29.7%	12.0%
Smallmouth Bass	4.0%	6.4%	91.6%	0.4%	6.6%	4.6%	15.6%	10.7%	11.9%	7.9%	5.3%	52.8%	8.1%
Crawfish	13.8%	2.6%	85.5%	0.0%	0.0%	0.0%	4.1%	0.0%	5.4%	0.0%	1.1%	72.8%	4.1%
Mussels/Clams	70.6%	33.8%	11.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.4%	2.9%
Largemouth Bass	3.6%	9.0%	80.3%	0.0%	2.9%	0.0%	7.8%	7.9%	8.2%	2.8%	3.0%	61.1%	7.5%
Panfish	11.8%	8.5%	77.5%	0.0%	7.7%	1.9%	4.6%	8.0%	4.7%	2.9%	0.0%	53.2%	7.7%
Burbot/Lingcod	44.2%	22.6%	29.6%	0.0%	2.9%	0.0%	0.0%	12.3%	0.0%	0.0%	0.0%	7.8%	6.7%
Other fish/freshwater animals	87.6%	1.8%	12.4%	0.0%	0.0%	0.0%	0.0%	4.8%	0.0%	0.0%	0.0%	7.7%	0.0%
Sturgeon	7.4%	29.7%	65.7%	0.0%	0.0%	2.9%	0.0%	17.7%	0.0%	0.0%	0.0%	23.0%	22.1%
Lake Whitefish	8.3%	0.0%	91.7%	0.0%	1.9%	8.5%	0.0%	7.8%	0.0%	0.0%	8.5%	66.8%	14.5%
Mountain Whitefish	8.2%	21.0%	70.7%	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	0.0%	0.0%	54.5%	16.2%
Lamprey	71.9%	19.6%	12.5%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	0.0%	4.2%	0.0%	0.0%
Turtles/Snakes/Frogs	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Northern Pikeminnow	0.0%	10.8%	89.2%	0.0%	0.0%	0.0%	11.1%	16.2%	0.0%	5.0%	5.0%	0.0%	68.1%
Sucker**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown Fish	4.2%	0.0%	18.6%	0.0%	2.1%	0.0%	0.0%	10.8%	0.0%	0.0%	0.0%	2.1%	3.5%

* River reaches are:

- R4A Lake Roosevelt between Kettle Falls and Inchelium
- R4B Lake Roosevelt between Inchelium and the Spokane River
- R-5 Lake Roosevelt between the Spokane River and the Sanpoil River
- R-6 Lake Roosevelt between the Sanpoil River and Grand Coulee Dam
- R-7 Lake Rufus Woods (Columbia River between Grand Coulee Dam and Chief Joseph Dam)
- R-8 Okanogan River
- R-9 Banks Lake
- R-10 Sanpoil River
- DK Don't know

** No respondents who ate sucker reported a source for the fish

Table 22-10 provides the number and percent of individuals who reported eating non-fish commodities and whether these were sourced locally or elsewhere (outside the local area or purchased). Respondents could report multiple sources for each food, so it is possible for the two percentages to add up to more than 100 percent. For example, while only 84 percent reported eating domestic poultry last year, 21 percent of them reported a local source and 88 percent reported obtaining some poultry elsewhere.

Table 22-10. Number and percent of Colville Reservation residents (2 years old and over) who reported eating non-fish commodities and location harvested

Commodity	Ate During Year		Of Those Eating Commodity		
	Number	Percent	Local Source	Elsewhere*	No Response
Fruits and Vegetables**	5,877	99.7%	59.8%	92.0%	3.0%
Farm Animal**	5,496	93.3%	29.5%	82.4%	6.3%
Any Dairy**	5,492	93.2%	9.7%	90.2%	7.0%
Domestic Poultry**	4,949	84.0%	21.2%	87.7%	4.7%
Deer	4,467	75.8%	89.2%	3.8%	9.2%
Huckleberries	4,414	74.9%	85.3%	9.0%	9.4%
Elk	2,725	46.2%	82.0%	9.9%	9.4%
Moose	1,632	27.7%	88.5%	5.2%	7.7%
Wild Strawberries	1,628	27.6%	87.2%	3.8%	10.4%
Camas	1,357	23.0%	69.4%	7.1%	23.7%
Wild Raspberries	1,292	21.9%	89.9%	7.0%	5.2%
Bitterroot	1,258	21.3%	82.3%	10.3%	11.4%
Upland Birds**	1,146	19.4%	80.1%	16.7%	5.1%
Wild Blackberries	1,139	19.3%	76.0%	20.8%	5.3%
Wild Mushrooms	988	16.8%	91.7%	2.6%	6.3%
Sarvisberries	952	16.2%	88.1%	1.8%	11.9%
Chokecherries	844	14.3%	86.2%	6.0%	9.5%
Lomatiums/Camas	835	14.2%	84.2%	11.6%	10.7%
Spring Beauty	828	14.1%	84.8%	10.6%	7.7%
Indian Carrot	736	12.5%	86.6%	8.9%	10.5%
Other Plants	668	11.3%	94.5%	3.2%	4.1%
Wild Thimbleberries	605	10.3%	88.6%	6.0%	5.4%
Wild Rose	584	9.9%	85.7%	7.9%	7.0%
Hazelnuts	575	9.8%	35.5%	45.6%	20.3%
Wild Plant	542	9.2%	95.4%	1.0%	4.6%
Pine Nuts	479	8.1%	35.2%	38.9%	25.9%
Soapberries	447	7.6%	83.4%	1.4%	16.6%
Blue Elderberries	417	7.1%	88.5%	8.4%	7.9%
Sage	408	6.9%	68.1%	17.9%	17.9%
Moss	396	6.7%	78.1%	3.3%	19.3%
Bear	263	4.5%	81.9%	1.3%	16.7%
Wild Waterfowl**	207	3.5%	65.9%	44.0%	5.0%
Oregon Grape	166	2.8%	93.2%	7.3%	1.3%
Red or Black Hawthorn	120	2.0%	94.1%	1.7%	5.9%
Smaller Animals**	113	1.9%	88.1%	0.0%	11.9%
Bighorn Sheep	91	1.5%	100.0%	0.0%	0.0%
Valerian	75	1.3%	81.9%	18.1%	0.0%

Table 22-10. Number and percent of Colville Reservation residents (2 years old and over) who reported eating non-fish commodities and location harvested (continued)

Commodity	Ate During Year		Of Those Eating Commodity		
	Number	Percent	Local Source	Elsewhere*	No Response
Cattail	72	1.2%	100.0%	0.0%	0.0%
Cougar/Bobcat/Lynx	59	1.0%	90.8%	9.2%	0.0%
Buckbrush	57	1.0%	85.2%	0.0%	14.8%
Other Wild Birds	39	0.7%	100.0%	0.0%	0.0%
Bunchberries	9	0.1%	63.6%	33.5%	36.4%
Other Wild Animal	1	0.0%	100.0%	0.0%	0.0%
Not Specified Berry	261	4.4%	0.0%	0.0%	100.0%
Not Specified Bird	129	2.2%	0.0%	38.3%	61.7%
Not Specified Plant	112	1.9%	0.0%	0.0%	100.0%
Not Specified Wild Animal	64	1.1%	8.6%	5.1%	86.3%

* Elsewhere includes food that was purchased or sourced outside the local area.

- **
- Fruits and vegetables – any fruits and vegetables, not including wild plants
 - Farm animal – meat or organs from beef, bison, pork, lamb, or goat
 - Dairy product – milk, cream, cheese, yogurt, or ice cream from cows, sheep, and goats
 - Domestic poultry – meat, organs, or eggs from chicken, turkey, duck, goose, or other bird raised on a farm
 - Upland bird – meat, organs, or eggs from wild turkey, pheasant, grouse, chukar, quail, or other upland bird
 - Wild waterfowl – meat, organs, or eggs from ducks, geese, or other wild waterfowl
 - Smaller animals – meat or organs from groundhog, squirrel, porcupine, rabbit, or other small animal

Note: The last three columns can add to more than 100% because some people obtained the food both locally and elsewhere.

22.3 Non-food Exposures Reported on the ReUP

The ReUP interview focused on the use of non-food resources and was only asked of people who were at least 14 years old, thus the results only represent the 4,728 in this age group on the Reservation. Full responses to questions about frequency of use and source of non-food resources can be found in Appendix F. Table 22-11 shows that 74 percent of Reservation residents took part in outdoor activities (root digging, hunting, gathering, hiking, gardening, camping) on land and 68 percent took part in the water (swimming, wading, gathering plants, hunting or fishing while standing or wading in streams, creeks, rivers, or lakes). All other activities involved less than half the population. Almost all of the water and land exposures were within the local area (on or near the UCR, Lake Roosevelt, and the Colville Reservation): 71 percent of outdoor land activities, 67 percent of in-water activities, and 34 percent of on-water activities (kayaking, canoeing, fishing from a boat).

Table 22-11. Percent of Colville Reservation residents (14 years old and over) reporting taking part in activities

Type of Activity	Frequency	Percent
Activities on the land (hunting, gathering)	3,480	74
Activities in the water (swimming)	3,195	68
Activities on the water (kayaking, fishing)	1,631	34
Medicinal activities	1,498	32
Construction activities	706	15
Sweat lodge activities	558	12
Weaving activities	341	7
Dying/coloring activities	100	2
Body painting activities	60	1
Other activities	341	7

Materials

Of particular interest are exposures through the mouth. Table 22-12 shows the number of people who reported using a material for a given purpose and the percent of them with an oral exposure. The table is broken down into different purposes for using materials. As an example, 67 people reported using cedar as a construction material and 31 percent of them used their mouth. Twelve percent also reported using cedar in tea.

Table 22-12. Number of Colville Reservation residents reporting use of materials and the reported incidence of oral exposure

Construction Material	Number Using	Percent of Users With Oral Exposure
Lodgepole Pine	296	12%
Red Willow	209	35%
Fir	177	8%
Tamarack	148	16%
Cedar	67	31%
Green Willow	55	34%
Pine Needles	54	13%
Wild Rose	53	7%
Cottonwood	49	4%
Tule	42	6%
Cedar Bark	42	13%
Animal Parts	39	8%
Indian Hemp	31	0%
Juniper	25	0%
Birch Bark	21	10%
Maple	15	14%
Gray Willow	8	54%
Cedar Root	7	66%
Sumac	4	0%
Cattails	4	100%
Ocean Spray	3	0%
Bunchgrass	2	100%
Reed Canary Grass	2	0%
Any other material	184	30%
Unknown material	86	0%

Dying/Coloring Material	Number Using	Percent of Users With Oral Exposure
Cedar Bark	18	8%
Oregon Grape	4	0%
River Birch	2	0%
Any other material	74	4%
Unknown material	4	0%

Weaving Material	Number Using	Percent of Users With Oral Exposure
Animal Parts	124	49%
Red Willow	120	22%
Birch Bark	78	8%
Tule	71	18%
Cedar Root	56	19%
Cedar Bark	51	18%
Maple	49	53%
Wild Rose	48	13%
Pine Needles	47	20%
Yew	46	0%
Green Willow	41	27%
Cattails	39	28%
Indian Hemp	35	63%
Gray Willow	32	0%
Fir	24	16%
Cottonwood	19	20%
Ocean Spray	16	0%
Sumac	16	0%
Bunchgrass	12	0%
Syringa	5	0%
Any other material	85	15%
Unknown material	53	0%

Medicinal/Spiritual Practices	Number Using	Taken By Mouth	Used In Tea
Sages	1,057	2%	6%
Cedar	658	0%	12%
Wild Rose	311	8%	62%
Kinnikinick	272	12%	12%
Juniper	247	2%	23%
Wild Mint/Bergamot	128	34%	34%
Red Willow	56	37%	34%
Mullen	45	8%	33%
Stinging Nettle	42	0%	27%
Sumac	31	49%	38%
Wild Onion	22	79%	20%
Arnica	18	0%	0%
Canby's Lovage	15	100%	54%
Wild Thistle	12	0%	100%
Frog Leaves	10	0%	0%
Rattlesnake Plantain	7	0%	0%
Skunk Cabbage	5	0%	0%
Any other material	253	6%	13%

Table 22-13 shows the number and percent of people who reported using various materials for different activities. The percentages are very small for many materials, so we have included the unweighted number of respondents who mentioned the material/activity as a caution. Appendix D (and Appendix F, the ReUP Data Report) shows the areas where these materials were collected.

Table 22-13. Unweighted number and percent of Colville Reservation residents using materials for different activities

Activity	Material	Percent Exposed	Unweighted Number	Activity	Material	Percent Exposed	Unweighted Number
Body Painting Materials	Minerals or Clay	0.6%	5	Materials For Sweat Lodges	Water	12.5%	102
	Plants	0.4%	2		Cedar	9.3%	83
	Any other material	0.1%	1		Sages	7.7%	71
Construction Material	Lodgepole Pine	8.4%	56		Fir	4.3%	37
	Fir	5.6%	35		Lavender	2.8%	23
	Tamarack	5.0%	30		Bunchgrass	2.8%	16
	Red Willow	4.7%	46		Any other material	6.7%	42
	Cedar	1.9%	28		Unknown Material	2.9%	21
	Wild Rose	1.3%	11		Weaving	Animal Parts	4.3%
	Green Willow	1.2%	11	Red Willow		2.6%	27
	Cottonwood	1.1%	12	Tule		1.9%	25
	Pine Needles	1.1%	7	Birch Bark		1.7%	13
	Animal Parts	1.1%	4	Cedar Root		1.2%	14
	Cedar Bark	1.0%	9	Pine Needles		1.1%	15
	Tule	0.8%	4	Cedar Bark		1.1%	13
	Indian Hemp	0.7%	3	Wild Rose		1.1%	12
	Juniper	0.5%	3	Yew		1.0%	6
	Cedar Root	0.3%	6	Maple		1.0%	5
	Maple	0.3%	3	Indian Hemp		0.9%	15
	Birch Bark	0.3%	3	Green Willow		0.9%	11
	Gray Willow	0.3%	3	Cattails		0.8%	7
	Cattails	0.2%	5	Gray Willow		0.7%	7
	Reed Canary Grass	0.1%	4	Fir		0.6%	5
Bunchgrass	0.1%	4	Cottonwood	0.4%		4	
Sumac	0.1%	1	Sumac	0.4%		3	
Ocean Spray	0.1%	1	Ocean Spray	0.3%		4	
Any other material	3.9%	17	Bunchgrass	0.3%	4		
Unknown Material	1.8%	18	Syringa	0.1%	1		
Dying/Coloring	Cedar Bark	0.4%	3	Any other material	2.0%	18	
	Oregon Grape	0.2%	5	Unknown Material	1.1%	13	
	River Birch	0.1%	1				
	Any other material	1.9%	20				
	Unknown Material	0.1%	1				

Tables 22-14 and 22-15 summarize the frequency and length of time for local exposures to other resources. For example, cedar bark is used for weaving by 17 percent of all 307 weavers, half of whom used it on less than 10 days during the past year. Cedar bark was also used by 25 percent of those doing dying or coloring and 7 percent of people using local materials for construction. When used for weaving, half the people usually spent 4 to 7 hours with it, while for dying and construction it was almost always from 1 to 3 hours. Residents who used face and body paint materials were not asked about hours per day, so they are not shown on Table 22-15.

Table 22-14. Reported frequency (days per year) of local resource use, by activity

Type	Number Exposed	Less						Not Reported
		None	than 10 Days	10-30 Days	31-60 Days	61-90 Days	More than 90 Days	
WEAVING								
Animal Parts	307	60%	16%	14%	8%	0%	3%	0%
Red Willow	307	61%	27%	10%	0%	1%	0%	1%
Birch Bark	307	75%	11%	13%	0%	1%	0%	0%
Tule	307	77%	16%	5%	1%	0%	0%	1%
Cedar Root	307	82%	9%	7%	0%	3%	0%	0%
Cedar Bark	307	83%	8%	3%	4%	1%	0%	0%
Maple	307	84%	3%	11%	0%	1%	0%	0%
Wild Rose	307	84%	9%	5%	0%	1%	0%	0%
Pine Needles	307	85%	9%	3%	0%	1%	2%	0%
Yew	307	85%	8%	3%	4%	0%	0%	0%
Green Willow	307	87%	10%	2%	0%	1%	0%	0%
Cattails	307	87%	8%	3%	0%	0%	0%	1%
Indian Hemp	307	89%	4%	2%	1%	1%	4%	0%
Gray Willow	307	90%	5%	4%	0%	0%	0%	1%
Fir	307	92%	4%	1%	1%	1%	0%	0%
Cottonwood	307	94%	1%	4%	0%	1%	0%	0%
Ocean Spray	307	95%	5%	0%	0%	0%	0%	0%
Sumac	307	95%	4%	1%	0%	0%	0%	0%
Bunchgrass	307	96%	3%	1%	0%	0%	0%	0%
Syringa	307	98%	2%	0%	0%	0%	0%	0%
Any other material	307	72%	5%	17%	2%	0%	4%	0%
No Response	307	83%	0%	0%	0%	0%	0%	17%
DYING/COLORING								
Cedar Bark	75	75%	25%	0%	0%	0%	0%	0%
Oregon Grape	75	95%	5%	0%	0%	0%	0%	0%
River Birch	75	97%	3%	0%	0%	0%	0%	0%
Any other material	75	1%	75%	20%	5%	0%	0%	0%
No response	75	95%	0%	0%	0%	0%	0%	5%
CONSTRUCTION MAT.								
Lodgepole Pine	602	51%	30%	19%	1%	0%	0%	0%
Red Willow	602	67%	23%	8%	0%	2%	0%	0%
Fir	602	71%	12%	15%	0%	1%	0%	0%
Tamarack	602	75%	13%	10%	1%	0%	1%	0%
Cedar	602	89%	5%	4%	1%	1%	0%	0%
Pine Needles	602	91%	4%	5%	0%	1%	0%	0%
Wild Rose	602	91%	8%	0%	0%	1%	0%	0%
Green Willow	602	92%	3%	5%	0%	1%	0%	0%
Cottonwood	602	92%	7%	0%	1%	0%	0%	0%
Cedar Bark	602	93%	7%	0%	0%	0%	0%	0%
Animal Parts	602	93%	4%	0%	0%	0%	0%	2%
Tule	602	94%	2%	5%	0%	0%	0%	0%
Indian Hemp	602	95%	1%	5%	0%	0%	0%	0%

Table 22-14. Reported frequency (days per year) of local resource use, by activity (continued)

Type	Number Exposed	Less than 10 Days						More than 90 Days	Not Reported
		None	Less than 10 Days	10-30 Days	31-60 Days	61-90 Days	More than 90 Days		
Juniper	602	96%	4%	0%	0%	0%	0%	0%	0%
Birch Bark	602	98%	2%	0%	0%	0%	0%	0%	0%
Maple	602	98%	2%	0%	0%	0%	0%	0%	0%
Gray Willow	602	99%	1%	0%	0%	0%	0%	0%	0%
Cedar Root	602	99%	1%	0%	0%	0%	0%	0%	0%
Sumac	602	99%	1%	0%	0%	0%	0%	0%	0%
Cattails	602	99%	0%	0%	0%	0%	0%	0%	0%
Ocean Spray	602	100%	0%	0%	0%	0%	0%	0%	0%
Bunchgrass	602	100%	0%	0%	0%	0%	0%	0%	0%
Reed Canary Grass	602	100%	0%	0%	0%	0%	0%	0%	0%
Any other material	602	70%	25%	2%	1%	0%	2%	0%	0%
No response	602	86%	0%	0%	0%	0%	0%	0%	14%
SWEAT LODGE									
Water	518	5%	53%	30%	4%	2%	6%	0%	0%
Cedar	518	18%	32%	27%	3%	8%	4%	7%	0%
Sages	518	35%	31%	21%	4%	2%	7%	0%	0%
Fir	518	62%	12%	18%	3%	1%	3%	0%	0%
Lavender	518	75%	13%	4%	2%	5%	0%	1%	0%
Bunchgrass	518	76%	16%	0%	0%	1%	7%	0%	0%
Any other material	518	49%	13%	14%	0%	17%	6%	1%	0%
No Response	518	73%	0%	0%	0%	0%	0%	0%	27%
FACE/BODY PAINT									
Minerals or Clay	32	11%	89%	0%	0%	0%	0%	0%	0%
Plants	32	37%	63%	0%	0%	0%	0%	0%	0%
Any other material	32	89%	11%	0%	0%	0%	0%	0%	0%

Table 22-15. Reported duration (average number of hours per day for each day on which the activity is performed) of local material use, by activity

Type	Number Exposed	Less than 1 Hour	1-3 Hours	4-7 Hours	8 or More	Not Reported
WEAVING						
Animal Parts	124	5%	49%	43%	3%	0%
Red Willow	120	7%	53%	32%	8%	0%
Birch Bark	78	5%	69%	22%	5%	0%
Tule	71	8%	35%	42%	9%	5%
Cedar Root	56	19%	22%	45%	14%	0%
Cedar Bark	51	7%	29%	48%	15%	0%
Maple	49	0%	67%	26%	8%	0%
Wild Rose	48	5%	10%	29%	56%	0%
Pine Needles	47	9%	62%	12%	17%	0%
Yew	46	0%	42%	58%	0%	0%
Green Willow	41	21%	37%	33%	9%	0%
Cattails	39	9%	65%	16%	0%	10%
Indian Hemp	35	4%	74%	6%	16%	0%
Gray Willow	32	19%	28%	40%	0%	12%
Fir	24	13%	71%	0%	16%	0%
Cottonwood	19	0%	13%	67%	20%	0%
Ocean Spray	16	0%	66%	34%	0%	0%
Sumac	16	0%	100%	0%	0%	0%
Bunchgrass	12	0%	100%	0%	0%	0%
Syringa	5	100%	0%	0%	0%	0%
Any other material	85	13%	48%	37%	2%	0%
No Response	53	0%	0%	0%	0%	100%
DYING/COLORING						
Cedar Bark	18	0%	100%	0%	0%	0%
Oregon Grape	4	42%	0%	58%	0%	0%
River Birch	2	100%	0%	0%	0%	0%
Any other material	74	6%	5%	71%	18%	0%
No Response	4	0%	0%	0%	0%	100%
CONSTRUCTION MAT.						
Lodgepole Pine	296	12%	30%	32%	22%	4%
Red Willow	201	7%	20%	63%	4%	6%
Fir	176	9%	46%	17%	21%	7%
Tamarack	148	8%	46%	5%	32%	10%
Cedar	67	12%	35%	21%	12%	19%
Pine Needles	54	8%	28%	57%	7%	0%
Wild Rose	53	25%	5%	39%	7%	24%
Green Willow	50	18%	20%	55%	8%	0%
Cottonwood	49	8%	47%	19%	0%	26%
Cedar Bark	41	0%	92%	8%	0%	0%
Animal Parts	39	8%	57%	0%	0%	35%
Tule	37	0%	7%	93%	0%	0%
Indian Hemp	31	0%	12%	88%	0%	0%
Juniper	25	0%	50%	0%	0%	50%
Birch Bark	15	14%	0%	0%	0%	86%
Maple	15	0%	14%	0%	0%	86%
Gray Willow	8	0%	100%	0%	0%	0%

Table 22-15. Reported duration (average number of hours per day for each day on which the activity is performed) of local material use, by activity (continued)

Type	Number Exposed	Less than 1 Hour	1-3 Hours	4-7 Hours	8 or More	Not Reported
Cedar Root	7	21%	0%	79%	0%	0%
Sumac	4	0%	100%	0%	0%	0%
Cattails	4	42%	0%	58%	0%	0%
Ocean Spray	2	0%	0%	100%	0%	0%
Bunchgrass	1	100%	0%	0%	0%	0%
Reed Canary Grass	1	0%	100%	0%	0%	0%
Any other material	184	2%	27%	39%	24%	7%
No Response	86	0%	0%	0%	0%	100%
SWEAT LODGE						
Water	492	6%	58%	34%	1%	1%
Cedar	423	5%	57%	29%	6%	3%
Sages	335	4%	55%	36%	3%	1%
Fir	195	3%	77%	13%	7%	0%
Lavender	127	4%	27%	66%	0%	3%
Bunchgrass	126	5%	34%	57%	3%	0%
Any other material	262	0%	34%	58%	7%	2%
No Response	138	0%	0%	0%	0%	100%

Seasonality

Table 22-16 shows the seasonal exposures in the water, on the water, and on land for those people reporting any of that type of exposure. The number with each type of exposure (regardless of season) is shown, as well as the percent of residents exposed each season. For example, 3,166 people reported going in the water in the last year, but only 8 percent of them went in during winter. Almost everyone going in the water (e.g., swimming) reported doing it during the summer, with a third going in the spring and in the summer. Doing activities on the water (e.g., boating or fishing) is somewhat more common in the winter and spring compared to in the water. Land exposures (e.g., hunting, digging or gathering materials, hiking, gardening, or camping) are more consistent across seasons, although most prevalent in the summer and less so in the winter, although a third did report winter exposures. It is also worth noting that only half as many people reported on water exposures compared to either in the water and on land.

Table 22-16. Number and percent of Colville Reservation residents reporting taking part in local outdoor activities by type of exposure and season

Exposure	Season	Number With That Type of Exposure	Percent
In Water	Winter	3,166	8%
In Water	Spring	3,166	33%
In Water	Summer	3,166	97%
In Water	Fall	3,166	32%
On Land	Winter	3,382	36%
On Land	Spring	3,382	70%
On Land	Summer	3,382	88%
On Land	Fall	3,382	67%
On Water	Winter	1,585	19%
On Water	Spring	1,585	48%
On Water	Summer	1,585	91%
On Water	Fall	1,585	32%

Colville Reservation residents engage in local outdoor activities much more frequently during the summer months, with lesser levels in spring and fall, and still lower levels in winter. In the summer and fall, exposures on the water are less frequent than those in the water or on land. These are described in Table 22-17.

Table 22-17. Number of Colville Reservation residents who reported taking part in local water/land activities with percent distribution of number of days exposed by season

Type	Season	Total Exposed	None	1-7 Days	8-30 Days	31-60 Days	61-90 Days	Every Day	Not Reported
In Water	Winter	3,166	92%	5%	2%	0%	0%	0%	0%
In Water	Spring	3,166	66%	22%	7%	2%	1%	0%	1%
In Water	Summer	3,166	2%	30%	37%	19%	7%	4%	1%
In Water	Fall	3,166	66%	20%	10%	2%	0%	0%	2%
On Land	Winter	3,382	63%	18%	11%	2%	1%	3%	1%
On Land	Spring	3,382	29%	32%	20%	7%	4%	6%	1%
On Land	Summer	3,382	11%	26%	27%	13%	11%	11%	1%
On Land	Fall	3,382	32%	25%	26%	8%	4%	4%	2%
On Water	Winter	1,585	80%	16%	2%	0%	0%	0%	1%
On Water	Spring	1,585	50%	32%	12%	3%	1%	0%	2%
On Water	Summer	1,585	7%	48%	28%	8%	5%	2%	2%
On Water	Fall	1,585	58%	25%	6%	1%	0%	0%	11%

Note that rows may not add to 100% due to rounding.

Table 22-18 shows that exposures on land and on water are shorter in winter and longer in summer. In the water, this pattern is not repeated, the very few respondents with winter exposures report them as longer than in other seasons. In water activities include swimming, wading, gathering plants, hunting, or fishing (when standing or wading in streams, creeks, rivers, or lakes). The third column

shows the total number reporting at least one day of exposure of that type and season in Table 22-17.

Table 22-18. Number of Colville Reservation residents who reported engaging in local water/land activities in each season and percent distribution of number of hours per exposure

Type	Season	Number Exposed	Less Than				8 or More	Not Reported
			1 Hour	1-3 Hours	4-7 Hours			
In Water	Winter	256	6%	35%	18%	38%	4%	
In Water	Spring	1,071	24%	40%	21%	13%	3%	
In Water	Summer	3,093	16%	46%	23%	13%	1%	
In Water	Fall	1,082	21%	43%	17%	12%	7%	
On Land	Winter	1,248	12%	34%	33%	15%	6%	
On Land	Spring	2,394	7%	44%	30%	17%	2%	
On Land	Summer	3,015	4%	35%	29%	30%	1%	
On Land	Fall	2,309	6%	43%	28%	20%	4%	
On Water	Winter	315	16%	22%	54%	3%	4%	
On Water	Spring	787	6%	51%	31%	9%	3%	
On Water	Summer	1,477	3%	41%	36%	15%	4%	
On Water	Fall	673	4%	38%	27%	4%	27%	

Table 22-19 reports the locations of the water exposures for all river reaches and for other geographic areas mentioned at least 5 percent of the time for one activity season. Almost all of the river exposures were in reaches R4 through R10. There were an additional 14 areas where repeated exposure was reported. In particular, areas 170, 231, 291, 300, 311, and 431 were each the reported location of over 10 percent of exposures for a given activity season. The boundaries of these are defined on the map used by interviewers during administration of the ReUP. 170 is across the Okanogan River from the reservation, near Omak, while 231 is the area around Omak Lake. The three areas 291, 300, and 311 are in the center of the reservation from just north of Nespelem down to Elmer City. Finally, 431 is Twin Lakes near Inchelium.

Table 22-20 reports the locations of the land exposures for geographic areas mentioned at least 5 percent of the time for one activity season. The most frequented areas were 180, 300, 311, 382, and 432. 180 is the western most part of the reservation, 300 and 311 are east of Nespelem and north of Elmer City, 382 includes both shores of the lower Sanpoil River, and 432 is east of Twin Lakes.

Table 22-19. Number of Colville Reservation residents (14 years old and over) who reported taking part in water activities in each season and percent distribution by river reach and geographic region

Activity/ Season	Number Exposed	R1	R2	R3	R4A	R4B	R5	R6	R7	R8	R9	R10	R11	R12	R13	110	160	170	180	223	231	291	300	311	320	382	422	431	432	Not Reported
In Water - Winter	246	1%	0%	0%	1%	2%	0%	9%	17%	11%	0%	4%	0%	0%	0%	8%	8%	1%	0%	2%	1%	10%	36%	2%	0%	0%	1%	7%	2%	15%
In Water - Spring	1,032	0%	0%	1%	1%	4%	2%	14%	11%	7%	3%	4%	1%	0%	0%	5%	2%	5%	7%	4%	17%	11%	13%	12%	1%	1%	1%	8%	2%	10%
In Water - Summer	3,063	0%	0%	0%	1%	10%	1%	21%	9%	3%	5%	6%	0%	0%	1%	5%	0%	4%	4%	2%	23%	9%	9%	14%	3%	4%	3%	16%	3%	3%
In Water - Fall	1,022	0%	0%	1%	1%	7%	3%	16%	19%	6%	6%	7%	1%	0%	0%	6%	0%	2%	5%	6%	13%	8%	12%	11%	6%	5%	4%	9%	4%	7%
On Water - Winter	301	0%	0%	0%	4%	23%	4%	12%	35%	2%	0%	0%	0%	0%	0%	1%	0%	10%	0%	0%	0%	5%	15%	3%	1%	1%	5%	7%	5%	0%
On Water - Spring	763	0%	0%	0%	2%	13%	3%	17%	26%	6%	7%	4%	0%	0%	0%	9%	2%	13%	7%	0%	7%	2%	6%	12%	1%	1%	2%	14%	3%	2%
On Water - Summer	1,445	0%	0%	1%	4%	14%	5%	17%	21%	4%	11%	5%	1%	0%	1%	5%	0%	5%	4%	0%	9%	2%	6%	8%	1%	2%	1%	19%	2%	4%
On Water - Fall	500	0%	0%	1%	6%	17%	5%	23%	24%	10%	10%	3%	0%	0%	0%	4%	0%	7%	0%	0%	9%	1%	1%	6%	3%	1%	1%	14%	4%	3%

* River reaches are:

R1	Northport Reach	R7	Rufus Woods
R2	Northport – Marcus	R8	Okanogan River
R3	Marcus – Kettle Falls	R9	Banks Lake
R4A	Kettle Falls – Inchelium	R10	Sanpoil River
R4B	Inchelium – Spokane River	R11	Spokane River
R5	Spokane River – Sanpoil River	R12	Colville River
R6	Sanpoil - Grand Coulee	R13	Kettle River

01

Table 22-20. Number of Colville Reservation residents who reported taking part in activities on land locally in each season and percent distribution by geographic region

Season	Number Exposed	110	130	170	180	250	291	300	311	330	371	373	381	382	421	422	423	431	432	441	442	452	453	Not Reported
On Land - Winter	1,211	2%	1%	1%	16%	1%	9%	11%	12%	0%	5%	2%	7%	9%	5%	4%	5%	7%	9%	6%	6%	5%	5%	16%
On Land - Spring	2,363	6%	4%	10%	16%	6%	5%	8%	13%	5%	1%	2%	5%	6%	1%	4%	1%	3%	6%	2%	2%	1%	1%	8%
On Land - Summer	2,980	7%	5%	8%	13%	4%	7%	7%	13%	1%	1%	2%	5%	8%	4%	5%	3%	8%	7%	4%	2%	2%	2%	9%
On Land - Fall	2,255	5%	5%	4%	16%	2%	8%	8%	15%	0%	1%	5%	6%	8%	3%	5%	2%	5%	8%	5%	5%	2%	3%	9%

The data collected as part of the UCR Tribal Exposure Survey provide an in-depth description of the many sources of exposure for residents of the Colville Reservation. More than one-fifth of all residents of the Reservation completed the multiple AMPMs and FQ required for inclusion in the study findings. Sampling errors can be computed for all estimates using the weights provided on each database. There are four databases. One for each of the three survey instruments, and a fourth for the revised resource avoidance question from the ReUP:

1. Automated Multipass Dietary Recall
2. Food Questionnaire
3. Resource Use and Practices Questionnaire
4. Revised “Final Question” from ReUP

The response rate for enumerating household membership was quite high, 88.7 percent. Thus there is likely to be little bias introduced by the missed dwelling units, even if these hard-to-reach homes are somewhat different from those who cooperated. Within household response rates were lower, 48.3 percent. This reflects the fact that to be considered a respondent a person had to participate in three different data collections, two AMPMs and the FQ. Potential bias from this nonresponse is minimized by our use of the enumeration data in weighting, so differential response by age, geography, and heavy consumer status were accounted for, as described in Appendix C.

In addition, there are some sources of non-sampling errors worth considering when interpreting the results. Some of the most important are mentioned here.

Food consumption surveys rely on recall. Studies have shown that 24-hour recalls such as used in the AMPM are quite accurate. The trade-off is that two to four days of recall cannot capture all foods typically eaten. This is balanced by the FQ that tries to capture all typical foods eaten over the past year. Twelve-month recall can miss some foods. The FQ used for this study focused on traditional foods and those likely to be source of exposure, so it is hoped that recall errors will be minimized.

Recall bias can also enter into respondents' attempts to remember where food was obtained or materials gathered. The hope is that these locations are often repeatedly visited so that describing them on the map is not difficult.

By necessity, many similar foods had to be grouped into single questions. The exposures associated with these foods may not all be the same. The coding schemes used for this study have tried to maintain the important differences to allow for unbiased interpretation.

Appendix

A

Training Agendas

Upper Columbia River Resources Survey

Field Supervisor Training Topics

DAY ONE: Monday, October 19, 2009

Overview of Field Supervisor responsibilities

- Manning the office
- Responding to respondent calls
- Making assignments
- Shipping supplies to interviewers as needed
- Receipting screeners, consent forms
- Maintaining security of the office

Considerations for making assignments

- Location of interviewer
- Availability of interviewer
- Interviewer's skills – urban vs. rural
- Segments that require two or more interviewers

Managing the fieldwork

- Routine report calls
- Managing the flow of work
- Need for transferring work
- Refusals
- Locating and tracing
- Movers

Creating cases – Hidden DUs, Missed DUs, Splits

Reviewing documents, processing Incentive Forms

Conducting verification calls

Study Timeline

Generating RISs

Monitoring the AMPM windows

SMS TRAINING – using the training load

Upper Columbia River Resources Survey Field Supervisor Training Topics

DAY ONE: Monday, October 19, 2009 (continued)

Functions of the SMS

- Assigning cases
- Transferring cases
- Force transfers
- Creating cases Hidden DU Missed DU Splits
- Assigning status codes
- Creating comments
- Verification function
- Running reports
- Generating RISs

DAY TWO: Tuesday, October 20, 2009

How to read reports

- Production Reports
- Verification Eligibility Reports
- Verification disposition Reports
- AMPM window report

Making real assignments in the production load

Assembling assignments to take to training

Assembling bulk supplies if not done already.

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Wednesday, October 21, 2009



Day 1

10:00-10:30	Welcome and Introduction to Survey Data Collection
10:30-12:00	Asking Questions and Recording Answers
12:00-12:45	Lunch
12:45-1:30	Gaining Cooperation – Part I
1:30-2:30	Gaining Cooperation – Part II
2:30-3:00	BREAK
	Hand Out Laptops
3:00-3:45	Gaining Cooperation – Part III
3:45-4:30	Standards and Ethics
4:30-5:30	Laptop Basics
5:30-6:30	CAPI Training
6:30	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Thursday, October 22, 2009



Day 2

9:00-9:45	Background and Introduction
9:45-10:30	Interviewer Responsibilities and Study Materials
10:30-10:45	Break
10:45-11:45	On Reservation Making Contact
11:45-12:45	Lunch
12:45-2:45	Screening and Selecting Participants
2:45-3:00	Break
3:00-4:30	Linking to the Interviewer Management System (IMS)
4:30-5:00	Wrap-up/Questions and Answers
5:00	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Friday, October 23, 2009



Day 3

9:00-9:45	Participant Folder
9:45-10:30	Off-Reservation Materials and Activities
10:30-10:45	Break
10:45-12:00	Enrolling Selected Participants and Consent
12:00-1:00	Lunch
1:00-1:45	Quality Control of Listing
1:45-2:45	Field Issues
2:45-3:00	Break
3:00-4:00	Administrative and Forms
4:00-5:00	Wrapping Up: Questions and Answers
5:00	Dismiss

**UPPER COLUMBIA RIVER RESOURCES SURVEY
FOOD INTERVIEW TRAINING AGENDA**

DAY 1	9:00 AM – 4:00 PM	Monday, October 26, 2009
9:00	Welcome and introductions	
9:15 #1	Introduction to the FOOD interview (1 hour, 15 minutes): A PowerPoint presentation on the overview of the dietary interview, a demonstration of the dietary recall section, and a discussion about the dietary recall features. <u>Objective:</u> To develop a basic understanding of the contents and flow of the interview. [Lisa Sands, 25]	
10:15 #2	Application Features (15 minutes): A PowerPoint presentation of the features of the dietary interview. The session includes a discussion of function and navigation keys, and screen layouts. <u>Objective:</u> To recognize the function and navigation keys used in the interview.	
10:30 #3	Introduction to the Food Measuring Guides (15 minutes): A PowerPoint presentation on the overview of the food measuring guides used to conduct the interview. <u>Objective:</u> To recognize the guides and understand how to use them.	
10:45	Break (15 minutes)	
11:00 #4	Introduction to the Main Food List (1 hour): A PowerPoint presentation with an orientation to the keyboard and location of function and navigation keys, an interactive session with a brief introduction to launching the AMPM, practicing the keystrokes used in the interview, and providing an overview of the MFL, including a review of tri-gram searching. <u>Objective:</u> To gain a basic understanding of how to launch the AMPM and search the MFL. [Norman Fontana, 60]	
12:00 #5	Exercise 1 (30 minutes): An exercise using the MFL. <u>Objective:</u> To understand the tri-gram search concept and to become familiar with the foods on the MFL. [Mary James, 20; Mario Harris, 25]	
12:30	Lunch (1 hour)	
1:30 #6	Interactive 1 (30 minutes): An exercise using navigation and function keys. <u>Objective:</u> To understand the navigation and function keys used in the interview. [Eugenia Fontana, 25]	
2:00 #7	Interactive 2 (1 hour, 30 minutes): A presentation that interactively steps through the procedures for launching the AMPM, the dietary recall interview, and the post-AMPM data collection script. <u>Objective:</u> To familiarize the interviewer with a basic dietary recall interview and the post-AMPM questions. [Jim Jameson, 57]	

3:30 #8 Exercise 2 (30 minutes): A paper-and-pencil exercise on recording quantity units using the food measuring guides. Objective: To gain experience using the FMB and the correct way to record reported quantities in the automated system.
[Mark Cowan, 50]

**UPPER COLUMBIA RIVER RESOURCES SURVEY
FOOD INTERVIEW TRAINING AGENDA**

DAY 2	9:00 AM - 4:00 PM	Tuesday, October 27, 2009
9:00	#9	Interactive 3 (1.5 hours): A presentation that introduces remembered foods, CATA responses, misreported additions, and complex foods. <u>Objective:</u> To familiarize the interviewer with a more complex dietary interview. [Freddie Fontana, 16]
10:30	#10	Exercise 3 (30 minutes): An exercise on recording additions, complex foods, and linking to new categories. <u>Objective:</u> To recognize when the system links to a new food category. [Sam Cooper, 35]
10:30		Break (15 minutes)
10:45	#11	Interactive 4 (1.5 hours): A presentation that introduces unknown meals and UCR foods, and includes an exercise in recording UCR data. <u>Objective:</u> To familiarize the interviewer with conducting a complex interview and collecting data needed for UCR. [Joey Jameson, 5; Molly Jameson, 25 – NOTE: session with Molly is paper-and-pencil exercise]
12:15		Lunch (1 hour)
1:15	#12	Dyad Role-Play 1 (1 hour): A scripted role-play with paired interviewers. <u>Objective:</u> To conduct an interview that includes remembered foods, additions, exposure to new food categories, and issues specific to UCR. [Amber King, 51]
2:15	#13	Dyad Role-Play 2 (1 hour): A scripted role-play with paired interviewers. <u>Objective:</u> To conduct an interview that includes remembered foods, additions, exposure to new food categories, and issues specific to UCR. [Megan Roberts, 28]
3:15	#14	Exercise 4 (30 minutes): An exercise using the MFL. <u>Objective:</u> To expose the interviewers to specific food items on the MFL and to help them recognize the advantages of entering specific rather than general terms in relation to prefills. [Jimmy Jones, 35]

**UPPER COLUMBIA RIVER RESOURCES SURVEY
FOOD INTERVIEW TRAINING AGENDA**

DAY 3	9:00 AM – 4:00 PM	Wednesday, October 28, 2009
9:00	#15	Interactive 5 (1 hour): A presentation that introduces interviewing infants, the procedures to follow when a category cannot be accessed, and referencing another food. <u>Objective:</u> To familiarize the interviewer with the various procedures. [Bibi Baker, 10 months]
10:00	#16	Exercise 5 (30 minutes): An exercise using food categories. <u>Objective:</u> To practice using complex, ethnic, and unusual food categories. [Cher Fox, 28]
10:30		Break (15 minutes)
10:45	#17	Dyad Role-Play 3 (1 hour): A scripted role-play with paired interviewers. <u>Objective:</u> To conduct an interview that includes complex food categories and procedures. [Kelly Thomas, 47]
11:45	#18	Dyad Role-Play 4 (45 minutes): A scripted role-play with paired interviewers. <u>Objective:</u> To conduct an interview that includes complex food categories and procedures. [Allison Parker, 63]
12:30		Lunch (1 hour)
1:30	#19	Exercise 6 (30 minutes): An exercise using the MFL. <u>Objective:</u> To practice entering local or unusual foods on the MFL. [Alice Smith, 32]
2:00	#20	Interactive 6 (45 minutes): A presentation that introduces how to record more complicated foods such as salads and sandwiches and provides practice on CATA screens. <u>Objective:</u> To expose the interviewers to more complex food categories. [Victor Vip, 17]
2:45	#21	Exercise 7 (60 minutes): An exercise on complicated food categories and interview flow, including collecting ethnic and unknown foods, linking between categories, remembered foods, and misreported foods. <u>Objective:</u> To practice entering a complex interview. [Janet Jameson, 52]

**UPPER COLUMBIA RIVER RESOURCES SURVEY
FOOD INTERVIEW TRAINING AGENDA**

DAY 4	9:00 AM – 4:00 PM	Thursday, October 29, 2009
9:00	#22	Practice Interviews (1 hour): Scripted Quick Lists with paired interviewers. <u>Objective:</u> To practice collecting complicated foods and using complex food categories. [Ann Scott, 53; Robin Warren, 23]
10:00	#23	Interactive 8 (45 minutes): A presentation that provides further discussion on proxy/assisted interviews and collecting missing meal information. <u>Objective:</u> To review procedures for conducting proxy interviews and complex foods. [Michelle Johnson, 8]
10:45		Break (15 minutes)
11:00	#24	Dyad Role Play 5 (1 hour): A scripted role-play with paired interviewers. <u>Objective:</u> To practice more complicated navigation procedures. [Kate Smith, 32]
12:00		Lunch (1 hour)
1:00	#25	Exercise 8 (1 hour): An exercise using the MFL. <u>Objective:</u> To practice recording unusual foods on the MFL. [Mike Fontana, 17]
2:00	#26	Dyad Role Play 6 (1 hour): A scripted role-play with paired interviewers. <u>Objective:</u> To practice proxy interviews, back-to-back interviews, collecting missing meal information, and the criteria for conducting data retrieval. [Molly Smith, 4]
3:00	#27	Practice Interviews (1 hour): Continuation of exposure to interview settings. [Ruth Robinson, 21; Harvey Brown, 68]]

**UPPER COLUMBIA RIVER RESOURCES SURVEY
FOOD INTERVIEW TRAINING AGENDA**

DAY 5	9:00 AM – 4:00 PM	Friday, October 30, 2009
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9:00 #28 Exercise 9 (1 hour): An exercise on the MFL and recording Remarks. Objective: to practice using the MFL and correctly recording remarks.
[Sally Peterson, 55; Rufus Robinson, 27]

10:00 #29 Practice Interviews: Practice interviews with trainee pairs.

11:00 #30 Question and Answer Session (30 minutes): Free-flowing session providing opportunities for trainees to ask questions.

11:30 Lunch (1 hour)

12:30 #31 Practice Interviews: Practice interviews with actual respondents.

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Tuesday, February 23, 2010



Day 1

9:30-10:30	Study Welcome and Introduction
10:30-10:45	Welcome and Introduction to Survey Data Collection
10:45-11:00	Break
11:00-12:00	Asking Questions and Recording Answers
12:00-1:00	Lunch
1:00-2:00	Gaining Cooperation
2:00-2:45	Standards and Ethics
2:45-3:00	Break
	Hand Out Laptops
3:00-4:00	Laptop Basics
4:00-5:00	CAPI Training
5:00	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Wednesday, February 24, 2010



Day 2

9:00-9:45	Study Welcome by CCT/EPA
9:45-10:30	Interviewer Responsibilities and Study Materials
10:30-10:45	Break
10:45-11:45	On-Reservation Making Contact
11:45-12:45	Lunch
12:45-2:45	Screening and Selecting Participants
2:45-3:00	Break
3:00-3:45	On-Reservation Participant Folder
3:45-4:45	Informed Consent
4:45-5:00	Wrap-up/Questions and Answers
5:00	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Thursday, February 25, 2010



Day 3

9:00-10:30	Advanced Field Issues
10:30-10:45	Break
10:45-12:00	Practice Sampling Exercises
12:00-1:00	Lunch
1:00-1:45	Quality Control of Listing
1:45-2:30	Field Issues
2:30-2:45	Break
2:45-3:30	Administrative and Forms
3:30-4:30	Wrapping Up: Questions and Answers
4:30	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Wednesday, May 12, 2010



Day 1

8:30-9:30	Study Welcome and Introduction (CCT/EI)
9:30-10:30	Welcome and Introduction to Survey Data Collection (Lareissa)
10:30-10:45	Break
10:45-11:45	Asking Questions and Recording Answers (Lareissa)
11:45-12:45	Lunch
12:45-1:45	Gaining Cooperation (Lareissa)
1:45-2:30	Standards and Ethics (Lareissa)
2:30-2:45	Break
	Hand Out Laptops
2:45-3:30	Laptop Basics (Marcus)
3:30-4:15	Interviewer Responsibilities and Study Materials (Lareissa)
4:15-5:15	CAPI Training (Lareissa & Marcus)
5:15	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Thursday, May 13, 2010



Day 2

9:00-10:00	On-Reservation Making Contact (Lareissa)
10:00-10:15	On-Reservation Participant Folder (Lareissa)
10:15-10:30	Break
10:30-11:30	Informed Consent (Lareissa)
11:30-12:30	Advanced Field Issues (Lareissa)
12:30-1:30	Lunch
1:30-2:15	Field Issues (Lareissa)
2:15-2:30	Break
2:30-3:30	Administrative and Forms (Lareissa)
3:30-4:45	Wrapping-up: Questions and Answers (Lareissa)
4:45	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Friday, May 14, 2010



Day 3

9:00-10:15	Introduction to the FOOD interview (Thea)
10:15-10:30	Application Features (Thea)
10:30-10:45	Introduction to the Food Measuring Guides (Thea)
10:45-11:00	Break
11:00-12:00	Introduction to the Main Food List (Thea)
12:00-12:30	Exercise 1 (Thea)
12:30-1:30	Lunch
1:30-2:00	Interactive 1 (Thea)
2:00-3:30	Interactive 2 (Thea)
3:30-4:00	Exercise 2 (Thea)
4:00-4:30	FOS Mail (Marcus)
4:30	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Saturday, May 15, 2010



Day 4

9:00-10:30	Interactive 3 (TBD)
10:30-11:00	Exercise 3 (TBD)
11:00-11:15	Break
11:15-12:45	Interactive 4 (TBD)
12:45-1:45	Lunch
1:45-2:45	Dyad Role-Play 1 (TBD)
2:45-3:00	Break
3:00-4:00	Dyad Role-Play 2 (TBD)
4:00-4:30	Exercise 4 (TBD)
4:30	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Monday, May 17, 2010



Day 5

9:00-10:00	Interactive 5 (TBD)
10:00-10:30	Exercise 5 (TBD)
10:30-10:45	Break
10:45-11:45	Dyad Role-Play 3 (TBD)
11:45-12:30	Dyad Role-Play 4 (TBD)
12:30-1:30	Lunch
1:30-2:00	Exercise 6 (TBD)
2:00-2:15	Break
2:15-3:00	Interactive 6 (TBD)
3:00-4:00	Exercise 7 (TBD)
4:00-4:30	Transmission (Marcus)
4:30	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Tuesday, May 18, 2010



Day 6

9:00-10:00	Practice Interviews (TBD)
10:00-10:45	Interactive 8 (TBD)
10:45-11:00	Break
11:00-12:00	Dyad Role Play 5 (TBD)
12:00-1:00	Lunch
1:00-2:00	Exercise 8 (TBD)
2:00-3:00	Dyad Role Play 6 (TBD)
3:00-3:15	Break
3:15-4:15	Practice Interviews (TBD)
4:15	Dismiss

Upper Columbia River Resources Survey

Field Interviewer Training Agenda

Wednesday, May 19, 2010



Day 7

9:00-10:00	Exercise 9 (TBD)
10:00-11:00	Practice Interviews (TBD)
11:00-11:30	Question and Answer Session (TBD)
11:30-12:30	Lunch
12:30-2:30	Practice Interviews with Actual Respondents (TBD)
2:30	Dismiss



Upper Columbia River Resources Survey



Confederated Tribes of the Colville Reservation Field Data Collector Training

Food Questionnaire // Resource Use and Practices Questionnaire

Wingate by Wyndham Hotel
2726 South Flint Road, Spokane, WA
November 29 – December 1, 2010

Monday, November 29

Review and discuss Resource Identification Guide and map

9:30 am: Introductions

10:00 am: Review Resource Identification Guide – Food Questionnaire section

Noon: Lunch served in hotel

1:00 pm: Review Resource Identification Guide – ReUP Questionnaire section

3:00 pm: Break

3:15 pm: Review map and mapping procedures

5:00 pm: Finish

Tuesday, November 30

Review and discuss Food Questionnaire

9:00 am: Introduce Westat instructors

9:30 am: Review questionnaire format

10:00 – 10:15 am: Break

Noon: Lunch served in hotel

1:00 pm: Practice with questionnaire

3:00 – 3:15 pm: Break

5:00 pm: Finish

Wednesday, December 1

Review and discuss Resource Use and Practices Questionnaire

9:00 am: Review questionnaire format

10:00 – 10:15 am: Break

Noon: Lunch served in hotel

1:00 pm: Practice with questionnaire

5:00 pm: Finish

TRAINING AGENDA
FQ AND REUP INTERVIEWS

Tuesday: November 30

MODULE 1: Introduction and Interviewing Techniques	45 minutes
MODULE 2: Background on Conducting Interviews	15 minutes
MODULE 3: Use of Show Cards/Resource Identification Guide	5 minutes
MODULE 4: Understanding Using the Maps	45 minutes
MODULE 5: Food Questionnaire Interactive	120 minutes
MODULE 6: Food Role Play #1	60 minutes
MODULE 7: Food Role Play #2	<u>60 minutes</u>
	350 minutes or 6 hours
BREAKS AND LUNCH	<u>90 minutes</u>
	410 minutes or 7.5 hours

Wednesday: December 1

MODULE 8: ReUP Questionnaire Interactive	90 minutes
MODULE 9: ReUP Role Play #1	60 minutes
MODULE 10: ReUP Role Play #2	60 minutes
MODULE 11: Editing/EROCS/Shipping Cases	30 minutes
MODULE 12: Preparing Cases for Shipping	<u>20 minutes</u>
	260 minutes or 4 hours, 20 mins
BREAKS AND LUNCH	<u>90 minutes</u>
	350 minutes or 6 hours

IF TIME ALLOWS HAVE INTERVIEWERS DO MORE PRACTICE ON ROLE PLAYS WITH EACH OTHER.

Appendix

B

Field Memos



FIELD MEMORANDUM

Date: November 10, 2009
To: Cindy Marchand
From: Karla Eisen
Subject: Field Supervisor Memo #1: Screener Data Entry Instructions

The purpose of this memo is to provide detail on the requirements to enter the screening enumeration grid into the Supervisor Management System (SMS). Entering this information on a timely basis is important for monitoring purposes and to allow an evaluation of sampling procedures. The Field Supervisor Manual of Procedures (MOP) discusses the UCRRS Field Supervisor's responsibility for keying the screener enumeration grid (referred to as screener data entry); however the screen shots of the enumeration grid were not included in the manual. You can refer to page 5.3 and 5.4 of the MOP for a description of the screener, receipting screeners, checking for sampling errors, and keying the screener enumeration grid.⁵

The screener data entry program is accessed from the dwelling unit (DU) detail screen in the Supervisor Management System (SMS), as indicated in Exhibit 1. To access the data entry, you click on the **Edit/View Screener** button on the right. The screener data entry screen layout is shown in Exhibit 2. This screen has space for 20 rows of data. There are also no required fields, so fields can be left blank.

The fields to input into the screener data entry program match the enumeration grid on the screener. You should enter the data exactly how it is written in the enumeration grid. The fields are as follows:

- Circled (check this box if this line is circled indicated the person is a Selected Participant)
- First Name
- Age (enter 2 digits)
- DOB (month/year)
- Gender (M/F)
- CCT Member (check if CCT member)
- Local Sources (check if checked on grid)

⁵Note that the first bullet, *Receipting Screeners and Keying Screener Enumeration Grid*, on page 5-4 has a reference to the bar code reader which is in error. The bar code reader is described in section 5.3 on the following page, 5-5.

- Traditions (check if checked on grid)

All the data from the screener data entry grid is saved when you select the **“Submit Screener”** button on the bottom of the grid.

Exhibit 1. Dwelling Unit Detail Screen

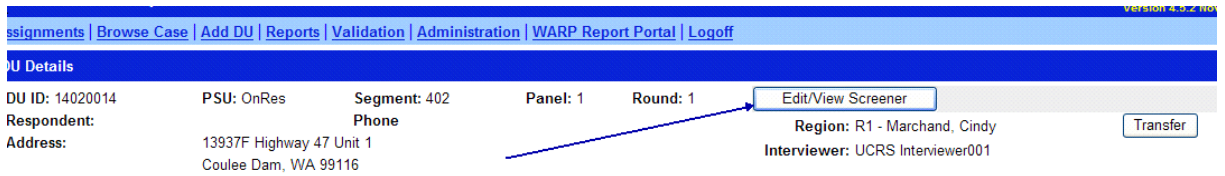


Exhibit 2. Data Entry Screen

Edit/View Screener - Windows Internet Explorer

Edit/View Screener- DU - 31018018 - Region R1

Line Number	Circled	First Name	Age	DOB (mm/yyyy)	Gender	CCT Member	Local Sources	Traditions
1	<input checked="" type="checkbox"/>	Sara	46	11/1963	F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input checked="" type="checkbox"/>	John	68	09/1942	M	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Submit Screener



FIELD MEMORANDUM

DATE: November 18, 2009

MEMO #: Field Supervisor Memo #2

TO: Cindy Marchand

FROM: Karla Eisen

SUBJECT: Procedures for Correcting Age Discrepancies

The purpose of this memo is to outline the newly created procedures for correcting age discrepancies after screening and entering selected participants into the SP grid of the Interviewer Management System (IMS). A copy of the new Age Discrepancy form is attached to this memo and a supply of these forms will be sent to you.

The field procedures for sampling, selecting participants, and entering them into the Interviewer Management System (IMS) are as follows:

- Complete the enumeration grid, compare entries to sampling label messages, ask questions concerning local food intake as well as traditional practices, circle enumeration grid line numbers for selected persons (SP).
- Access the case in the Interviewer Management System.
- Click on "Add SP."
- Enter the full name, gender, and age as provided during screening.

Even though we are asking the screener respondent to provide the age of each person in the household, it will be necessary for the interviewer to confirm each selected SP's age with him or her. In many cases the screener respondent will have provided the accurate ages. When inaccurate age information has been provided, the interviewer will have to make a correction in the IMS. To do so, the interviewer must follow these steps:

1. While preparing the Participant Folder, the interviewer must confirm the SP's age with him or her. If there is any difference between the SP's self-reported age and the age reported by the screener respondent, a correction in the IMS will be necessary before consenting the SP and proceeding to the AMPM.
2. The interviewer cannot overwrite an entry in the IMS once it is saved. Therefore, to make a correction to the SP's age have the interviewer do the following:

- a. Click on “Add SP.” This allows the interviewer to input new information.
 - b. Enter the SP’s name, gender, correct age, and original enumeration line number.
 - c. A confirmation box will appear which will remind the interviewer that the same enumeration line number has been used before. Click “Yes” to add the corrected SP.
3. There should now be two entries in the IMS SP grid for the same person – one with an incorrect age, and one with the corrected age. Have the interviewer use this new entry to launch the AMPM.
4. The interviewer can complete the AMPM immediately after the corrected SP entry has been made.
5. Have the interviewer complete an *AGE DISCREPANCY FORM* and mail or deliver it to the Field Office. After reviewing the form, you will select the SP entry with the incorrect age and code it an SE – sampling error. This action will finalize the SP incorrect entry and not allow you to access the entry again. A discussion on sampling errors can be found in your Supervisor Manual of Procedures on page 5-3. Remind the interviewer that the Age Discrepancy Form can be sent to the Field Office after the interview is complete. He or she does not need to wait to start the interview until after the form has been completed and mailed.
6. The interviewer will notice that he or she will have a break in the PID (Participant Identification) extension numbering. For example, if there are three selected participants and their original PID extension numbers are 01, 02, and 03 **and** the age for 02 was in error, 02 will be finalized as a sampling error and 04 will be created for the correction. Therefore, throughout the study the interviewer will have three SPs attached to this case but their PID extension numbers will be 01, 03, and 04.
7. To complete all interviewing with the SP, the interviewer will access the newest entry that displays the corrected age.

The following correction needs to be made:

Case number _____

Case Control Code _____

Name of SP _____

SP original PID Extension _____

Incorrect age _____

Confirmed Corrected age _____

Entry made in IMS on _____

(date)

New SP PID Extension _____

Interviewer: _____ Interviewer ID: _____

For Office Use Only

_____ Date sampling error – SE assigned to _____ in SMS
(PID)

Top copy: Supervisor

Bottom copy: Participant Folder



Upper Columbia Resources Survey

FIELD MEMORANDUM

TO: Cindy Marchand

DATE: November 18, 2009

FROM: WESTAT

SUPERVISOR MEMO # 3

SUBJECT: Study Forms

The purpose of this memo is to provide details on procedures for obtaining copies of study forms. Ten of the study forms are single page and available as a pdf file. Westat will send you an electronic copy of these forms so that they can be reproduced by the Field Office. The remaining forms are either on colored cardboard stock, special paper, or two ply and can be requested from Westat to reproduce and send out to you. Please note that you are not required to have Westat reproduce materials if you have the capabilities to produce these forms yourself. Conversely if need Westat's assistance to reproduce any of the forms that are available electronically, we can arrange that.

In order to request any of these forms, please send an email to Karla Eisen, explaining what you need reproduced, the date you need it by, and the quantity.

The list of forms including those available in pdf format are listed in the Field Supervisor Manual of Procedures (MOP) on pages 2-3 and 2-4 and are also listed in the table on the following page. Please note that a new form (Age Discrepancy) has been added.

UCRRS Forms	PDF to send to CCT Field Sup.	Reproduce at Westat	Explanation
HH Screener		✓	11x17 cardstock
On-Res. Participant Folder		✓	11x17 colored cardstock
Off-Res. Participant Folder		✓	11x17 colored cardstock
Adult Consent Form		✓	2-ply
Parental Permission and Assent Form		✓	2-ply
Information Sheet (18+)	✓		
Information Sheet (9-13)	✓		
Information Sheet (14-17)	✓		
"Sorry I Missed You" Card		✓	colored cardstock
Reminder Card		✓	colored cardstock
Non_Interview Report Form	✓		
Transmittal Form		✓	2-ply
Incentive Form		✓	✓
Missed Structure Sheet	✓		
Validation Form	✓		
Enumeration Grid Continuation Form	✓		
ROC Continuation Form	✓		
Neighbor Report Form	✓		
In-Person Observation Form	✓		
Age Discrepancy Form		✓	✓



FIELD MEMORANDUM

TO: Cindy Marchand
DATE: May 17, 2010
FROM: WESTAT
SUPERVISOR MEMO # 4
SUBJECT: New Disposition Codes in the SMS

This memo is to notify you of three new disposition codes in the Supervisor Management System (SMS). The three codes are as follows:

R1- Add DU mistake
R2- Non Blaise® Max Contact
R3- Duplicate

A description of each code is provided below.

R1- Add DU Mistake This code is used when you have entered a new dwelling unit (DU) (referred to as a missed structure) into the SMS and later found that you entered part or all of the information by mistake, such as recording the wrong segment. Once added to the SMS, a missed structure cannot be deleted, so instead, you code the missed structure that is in error as an R1- Add DU Mistake.

R2- Non Blaise® Max Contact. This code is used when screening cannot be finalized after five or more visits have been made to a DU. The visits should occur at different times of the day, in the evening, and on weekends.

R3- Duplicate. This code is used to indicate a duplicate DU. While there may be a few true duplicate DUs, that is one DU with two different IDs in the sample, most of the duplicate DUs are more likely to be DUs that were added during Wave 1 as a missed structure and then later found in Wave 2 as an actual DU with an assigned ID in a bordering segment. For cases that were added as missed structures from Wave 1 *that have already been worked*, code the duplicate DU in Wave 2 as a R3- Duplicate. For cases that were added as missed structures from Wave 1 *that have not been worked*, it is preferable that you code the Wave 1 added DU/missed structure as a R3- Duplicate and work the DU case as it appears in the Wave 2 sample.



FIELD MEMORANDUM

TO: Cindy Marchand

DATE: May 26, 2010

FROM: WESTAT

SUPERVISOR MEMO # 5

SUBJECT: Verification Form Addition

This field memo is to inform you of an addition to the verification form. A question to verify the Tribal Status of respondents will be added to the verification form for Screener Verification for Completed Screeners. An electronic copy of the new verification form will also be sent out. The additional question will appear on the form as shown below.

- 7a. You told the interviewer that (NUMBER FROM ENUMERATION GRID) persons living in the household are CCT tribal members.
IF 1 OR MORE REPORTED: That would be (NAMES OF TRIBAL MEMBERS). Is this correct?

YES..... 1 (SKIP TO Q8)
NO..... 2*

Case ID: _____

Interviewer: _____

Interviewer ID: _____

Contact Record

Attempt	Date	Time	Disposition	Respondent
1				
2				
3				
4				
5				

Verification Results:

- Acceptable 1
- Potential Problem..... 2
- Failed Verification 3
- Unable to Contact 4
- Incomplete Verification.... 5
- Other..... 6 (specify) _____

SCREENER VERIFICATION SECTION A
(ENTER INFORMATION FROM SCREENER:)

Screener Respondent: _____
Telephone Number: _____
Date of Screening: _____

AMPM VERIFICATION SECTION B
(ENTER INFORMATION FROM POST-AMPM SCREEN:)

AMPM Respondent: _____
If Child, Name of Child: _____
Telephone Number: _____
Date of AMPM being Verified: _____

SECTION A

SCREENER VERIFICATION FOR COMPLETED SCREENER (CO or NE)

INTRODUCTION FOR RESPONDENT / PROXY: Hello, I'm _____ with the Upper Columbia River Resources Survey being conducted for the Colville Confederated Tribes. May I please speak with (SCREENER RESPONDENT). IF SCREENER RESPONDENT NOT AVAILABLE, MAKE APPOINTMENT TO CALL BACK AND END CALL.
Recently one of our interviewers came to your home to talk to you about the survey.

1. Do you recall the visit?

YES 1 (SKIP TO Q3)
NO 2

2a. Do you live at (ADDRESS ON LABEL)?

YES 1
NO 2 (END)

2b. The interviewer would have asked you questions about who lives in your house. Do you recall that conversation?

YES 1 (SKIP TO Q3)
NO 2

END

Okay, I need to check my records. Thank you for your time.
(END CALL- POTENTIAL PROBLEM. DISCUSS WITH INTERVIEWER)

3. First, I want to thank you for participating in this important study. On all of our surveys, we routinely recontact some people who were interviewed to make sure our interviewers are following procedures correctly. I have just a few additional questions. According to my information, our interviewer visited you on (DATE OF SCREENING). Is that correct?

YES 1 (SKIP TO Q5)
NO 2

4. What was the date of the visit? _____ *

CAN'T RECALL 1

5. At the time of the visit, you told the interviewer that (NUMBER OF PERSONS ON ENUMERATION GRID) lived in the household. Is that correct?

YES 1 (SKIP TO Q7a)

NO 2*

6. How many persons were living in the household on (DATE OF SCREENING)? _____

7a. You told the interviewer that (NUMBER FROM ENUMERATION GRID) persons living in the household are CCT tribal members.

IF 1 OR MORE REPORTED: That would be (NAMES OF TRIBAL MEMBERS). Is this correct?

YES 1 (SKIP TO Q8)

NO 2*

7b. IF NO: What are the first names of persons living in the household who are CCT tribal members?

8. Now I'd like to ask you about the interviewer who visited you. Did you think the interviewer was:

Very courteous,..... 1

Fairly courteous, or 2

Not courteous?..... 3*

9. Those are all the questions I have today. Thank you for taking the time to speak with me.

SCREENER VERIFICATION FOR NEIGHBOR – NN

1. For the Upper Columbia River Resources Survey, our records indicate that an interviewer spoke with you about your neighbors; specifically, about the ages of everyone that lives in the household. Do you recall this conversation?

YES 1
NO 2

SCREENER VERIFICATION FOR VACANT DWELLING UNITS / BUSINESSES

REVIEW THE NIR FOR DETAILS ON HOW THE INTERVIEWER CONFIRMED THE VACANCY. IF A TELEPHONE NUMBER FOR A NEIGHBOR OR A REALTOR IS PROVIDED, CALL THAT PERSON AND CONFIRM THE VACANCY.

THE INTERVIEWER SHOULD HAVE PROVIDED A TELEPHONE NUMBER FOR A REPORTED BUSINESS OR COMMERCIAL BUILDING. CALL THAT NUMBER TO CONFIRM THE USAGE FOR THE BUILDING OR STRUCTURE.

IF UNABLE TO VERIFY BY TELEPHONE, CODE “UNABLE TO CONTACT” AND SELECT THE NEXT SCREENER ON THE PRINTOUT (RECEIPTED SCREENERS BY INTERVIEWER) FOR A VERIFICATION CALL.



FIELD MEMORANDUM

TO: Cindy Marchand **DATE:** January 17, 2011
FROM: WESTAT **SUPERVISOR MEMO # 7**
SUBJECT: Observations on Final
Questionnaire (FQ and ReUP)

This memo is to provide feedback from the first batches of questionnaires to help inform the interviewers and you on how to reduce errors, mistakes and omissions. Overall, the quality of the interviews appears good. The following is a list of specific issues that require some further attention.

- 1. The quality of the printing.** The printing of the questionnaires was done through the GPO. You had observed that some questionnaires were missing pages. We have observed some questionnaires which have pages where the print appears faint on selected pages. For the interviewer this doesn't present a problem, but it is a problem for our scanning process. The pages that are faded are not read by the scanner and it requires a manual process to enter information from the faded pages. It would be helpful if you or the interviewers could conduct a quick scan of the survey booklet prior to conducting the interview and set aside any booklets where one or more pages are faded. The faint pages appear sporadically throughout some of the questionnaires. If there are a number of survey booklets with this problem we will want to discuss this further with EPA.
- 2. The front cover.** There are several items to address regarding the front page of the survey booklets.
 - We have noticed that the majority of survey booklets do not have the subject ID label affixed to the bottom left-hand corner. In most instances the subject ID is being handwritten. For most subjects (except for those DUs added to the sample which start with a 4), the interviewer should have the label with the barcode and they should be using them. Once they affix the label, all they need to do is add the PID number to the end. It is easier and less prone to error if the labels are used.
 - In a few cases the interviewer has failed to add the PID for the participant and that makes it difficult for us to know which participant answered the

questions. To help us, we request that the interviewers write the age of the participant, in the box that asks “Is subject 2/14 or older?” They should write the age next to the word (CONTINUE) for the “Yes” response. If we know the age and the first 8 digits of the ID we can determine the PID in most cases. In other cases, we will be returning the questionnaires to you for resolution.

- The staff ID should be the interviewer’s 4 digit number. Each interviewer should know their number and use it. This was an issue for the first batch of interviews, but I believe it has been reduced greatly.
3. **Print neatly.** The scanner has a hard time translating writing that is hard to read. Please remind the interviewers that for all (SPECIFY) responses as well as the last page of the ReUP booklet that they should print neatly in block letters. Cursive or letters with extra strokes make it difficult for the scanner to read. This also applies to the numbers that are entered for the areas on the map.
 4. **Map Areas.** For the most part this is being done properly which is great news because this was an area of concern prior to the training. The one thing we have noticed, however, is that when an interviewer records multiple numbers for one area, those numbers need to represent areas that border each other. If the areas do not border each other, then the interviewer should record the numbers as separate areas.
 5. **Other (Specify).** Before recording “Other” and writing in the response the interviewers should make sure that the response is not one of the responses given. One example we noticed was “White Sage” was coded as “Other” when “Sage” was one of the available responses.
 6. **Domestic poultry.** For the questions on Birds in the Food Questionnaire, the interviewers were trained to circle the types of domestic poultry (chicken, turkey, etc.) as the fill for the word (BIRD) in the questions. However, they only should ask the series of questions once for all domestic poultry combined rather than for each type of poultry separately.

These are the main observations we have during our data reviews. Shortly we will be running frequencies on the first 100 of each survey. I am sure we will have more feedback to give you after a review of those results.

Please pass this information on to the interviewers and let them know we appreciate their efforts and are offering suggestions to help make the data cleaner and the results more reliable.

Appendix

C

Weighting Methodology

Weighting Methodology for the Upper Columbia River Study

1. Introduction

Sample weights were developed for use in constructing estimates and undertaking analyses with the survey data. Since sampling rates and response propensities differed across the sample, failure to incorporate the weights in estimates and analyses can increase the potential for bias. For the Upper Columbia River (UCR) Study, weights were developed for the responding units to properly represent the target population – households or persons on the Colville Confederated Tribes (CCT) Reservation. Both household level weights and person level weights were created.

As all dwelling units were included in the screener enumeration of the household members, the household base-weight was a constant of one and the final household level weights only varies due to differential response propensities.

At the person level, different sampling rates were applied to persons in different age groups and the status of Heavy Consumers (HC) - consuming local foods or using local resources, to meet the various analytic objectives. We calculated the within-household base weights for each sampled person within the selected households. After that, weights were adjusted to compensate for nonresponse and calibrated to estimated population totals. The final person weight is calculated by multiplying the household level weight and the within-household person weight. We shall discuss in detail the procedures underlying each of these scenarios in the sections that follow.

2. Household Weight

Because the UCR study screened all dwelling units on the CCT Reservation when enumerating persons within the household, the household level base weight is unity. That is,

$$HHBW_i = 1$$

for all households, where i is an index of all households.

The household-level base weight was adjusted to compensate for the eligibility unknown cases and non-respondents. All households were categorized to four response status categories, 1) eligible respondents, 2) eligible non-respondents, 3) ineligible, and 4) eligibility unknowns. All private residential households are considered eligible for the survey. Any households completing the person

enumeration in the screener survey are treated as household respondents. Table C-1 shows the distribution of household level response status.

Table C-1. Unweighted counts by household level response status

Household Response Status	Count	Percent
Respondent	1,783	48.1%
Nonrespondent	195	5.3%
Ineligible	1,674	45.1%
Eligibility Unknown	58	1.6%
Total	3710	

Differences between this table and Table 10-1 of Appendix A are the treatment of 7 housing units where we depended on neighbor reports and 4 “other nonrespondents.”

During the adjustment for eligibility unknown cases (category 4), base weights for the cases with known eligibility status (categories 1-3) were inflated to represent all households. In other words, the adjustment factor on the base weight of the cases with known eligibility status is equal to the ratio of the number of all dwelling units to the number of dwelling units with known eligibility status. The adjustment was conducted by geographic regions, which has 9 categories.⁶

$$HHELF_g = \begin{cases} \frac{\sum_g HHBW_i}{\sum_{g \text{ and } i \in \text{eligibility_known}} HHBW_i} & \text{for Eligibility Known households and} \\ 0 & \text{for Eligibility Unknowns households} \end{cases}$$

$$HHELW_{gi} = HHELF_g \times HHBW_{gi},$$

Where g represents the geographic regions, $HHELF_g$ is the adjustment factor for eligibility known cases and $HHELW_{gi}$ is the weight after eligibility unknown adjustment.

⁶The geographic regions are defined as Northeast Ferry (Inchelium)/ Southeast Ferry/ West Ferry/ East Okanogan (Nespelem)/ North Okanogan/ Northeast Okanogan (Disautel)/ Northwest Okanogan (Omak)/ South Okanogan (Coulee Dam)/ Southwest Okanogan.

After that, the weight for respondents (category 1) was inflated to represent the non-respondents (category 2), so that the weighted number of respondents represent all the (expected) eligible households in the population. Likewise, geographic regions were used as adjustment classes.

$$HHNRF_g = \begin{cases} \frac{\sum_{i \in \text{respondent}} HHELW_{gi}}{\sum_{i \in \text{eligible}} HHELW_{gi}} & \text{for responding households} \\ 0 & \text{else} \end{cases} \quad \text{and}$$

$$HH_NRWT_{gi} = HHNRF_g \times HHELW_{gi},$$

Where $HHNRF_g$ is the adjustment factor for responding cases and HH_NRWT_{gi} is the weight after non-response adjustment, and g represents the geographic regions.

3. Person Weight

The person level sample weight was created as the product of two terms, the household level weight and the person level weight within a household. To create a within-household person weight, a base weight was first calculated, followed by nonresponse adjustment and raking. To take advantage of the known control totals from the enumerated persons in the responding household, within-household weight was benchmarked to the known totals first, and then multiplied by the household weight to obtain the final person weight. Note that geographic regions that were used at the household level weight adjustment were used in each step of person level adjustment as well.

3.1 Within-household Person Base Weight

The within-household person base weight can be calculated in three steps. First, we computed the probability of selecting each age category within a household. The person from a specified age group was selected as a group with fixed known probability for each household. The inverse of the probability represents those persons from this age category in other households where no one of this age category was selected. Note that, the sample selection was conducted in two waves. After reviewing the response rate of about one third of the overall sample in Wave 1, the sampling rates for Wave 2 were adjusted to gain the target number of respondents. Let P_AGE_m represent the

probability of selection of the age group by waves. Table C-2 shows the sampling rates at both waves.

Table C-2. Sampling rates by waves

Age Group	Wave 1	Wave 2
0-6	1.0	1.0
7-17	0.8	0.8
18-54*	0.2	0.2
18-54	0.33	0.39
55+	0.52	0.61

* With children in both age categories

Second, we calculated the probability of selecting one person from those of the same age group in the household. This study follows the take-one rule within each selected age category of a household. That is, if there are multiple persons in the selected age category in the household, only one person is randomly selected. Let $P_TAKE1_{ag,i}$ denote the probability of selecting one person within the selected age group,

$$P_TAKE1_{ag,i} = \frac{1}{N_{ag,i}},$$

where $N_{ag,i}$ is the number of persons within the selected age group.

The inverse of the product of the probabilities from the first two steps is the within-household person-level base weight for the sample selected using the regular sampling process, $WHPBW_i$.

$$WHPBW_i = \frac{1}{P_AGE_w * P_TAKE1_{ag,i}}$$

In addition to the regular sampling process, we oversampled Heavy Consumers, who eat food from local sources on a regular basis or take part in traditional practices using local natural resources on a regular basis (at least three times a week). If a Heavy Consumer was not selected in the regular sampling process, the person had a second chance of being selected – one person from the non-sampled Heavy Consumers was selected per household, without considering the age category. We call these persons Selected as Heavy Consumers (SHCs). Although one can calculate the unconditional probability of selection for Heavy Consumers according to the probability of selection in the regular process and the conditional probability when selecting SHC, it is not feasible to

exhaust all possible combinations of the two factors based on the age composition of each family in the weighting process. Thus, in the third step, to simplify the weighting process of accounting for SHC cases, we treated SHC persons as if they were selected as certainties within a household, $WHPBW_i=1$.⁷ Combining this procedure and the raking process (see Section 3.3 of this Appendix) should minimize any potential bias from including a higher percentage of Heavy Consumers in the sample.

3.2 Nonresponse Adjustment

After calculating the within-household person level base weight, we adjusted the weight to compensate for eligibility unknowns and non-respondents at the person level.

Persons were classified to four categories as in Table C-3. The respondents at the person level were defined as the persons 1) who completed at least two AM/PM interviews and 2) completed the food questionnaire or was under 2 years old. The ineligible persons could be the persons who are deceased or moved out of the survey area. The unweighted count by person response status is shown in Table C-3.

Table C-3. The unweighted count by person response status

Person Response Status	Count	Percent
Respondent	1,165	44.0%
Nonrespondent	951	36.0%
Ineligible	203	7.7%
Eligibility Unknown	326	12.3%
Total	2645	

Eligibility unknown adjustment and nonresponse adjustment were both implemented within adjustment cells, which were constructed using the categorical search algorithm CHAID (Chi-Squared Automatic Interaction Detector). Variables on the enumeration file were evaluated to identify the most effective grouping of persons in differentiating between response (eligibility known

⁷Sixty nine persons were not supposed to be sampled, but were interviewed by mistake. To utilize the collected information and minimize the potential bias caused by these cases, they were also treated as certainties.

status) propensities. The candidate variables included geographic region, heavy consumer status, CCT member status, age group, and gender.⁸ Let

$$WHP ELF_{c_{EU}} = \begin{cases} \frac{\sum_{c_{EU}} WHP BW_i}{\sum_{c_{EU}, i \in \text{eligibility_known}} WHP BW_i} & \text{for Eligibility Known persons} \\ 0 & \text{for Eligibility Unknown persons} \end{cases} \quad \text{and}$$

$$WHP ELW_i = WHP ELF_{c_{EU}} \times WHP BW_i,$$

where $WHP ELF_{c_{EU}}$ is the adjustment factor for within-household person-level eligibility known cases within the weight adjustment cells and $WHP ELW_i$ is the weight after the eligibility unknown adjustment, and c_{EU} represents the weight adjustment cells developed for the eligibility unknown adjustment.

Nonresponse adjustment cells were also formed based on the CHAID analyses. Let

$$WHP RF_{c_{NR}} = \begin{cases} \frac{\sum_{c_{NR}, i \in \text{eligible}} WHP ELW_i}{\sum_{c_{NR}, i \in \text{respondent}} WHP ELW_i} & \text{for responding persons} \\ 0 & \text{else} \end{cases}$$

and

$$WHP RW_i = WHP RF_{c_{NR}} \times WHP ELW_i$$

where $WHP RF_{c_{NR}}$ is the adjustment factor for within-household person-level respondents within the weight adjustment cells and $WHP RW_i$ is the weight after the nonresponse adjustment, and c_{NR} represents the weight adjustment cells developed for the nonresponse adjustment.

⁸For the purpose of nonresponse adjustment and raking, missing age groups and gender were imputed. Age groups were imputed using hot deck method among plausible categories for 21 persons. Gender was imputed using hot deck imputation for 17 persons.

The weights of responding (eligibility known) persons in the cell were adjusted to compensate for nonrespondents (eligibility unknowns) within cell. Such adjustments can reduce potential bias due to nonresponse (eligibility unknowns) to the extent that the persons within a cell tend to provide similar answers to survey questions.

3.3 Raking

By taking advantage of the enumeration of persons in responding households in the screening process, the within-household weight is benchmarked to the enumeration counts – the known control totals. The raking ratio estimation procedure is based on an iterative benchmarking procedure and involves ratio adjustments to two or more marginal distributions of the population counts. The purpose of the raking procedure in this survey is to improve the reliability of the survey estimates, and to correct for potential bias for the domains included in the raking dimensions.

The person-level control totals were created using the person counts at the enumeration process (N=4,783). In this case, the persons who became ineligible and eligibility unknown between the time of the screener and the survey interview were counted in the control total. Namely, the control total represents the population at the time of screener enumeration.

The raking procedure was carried out in a sequence of adjustments. First, the nonresponse adjusted weights were adjusted to one marginal distribution and then to the second marginal distribution, and so on. One sequence of adjustments to the marginal distributions is known as a cycle or iteration. The procedure was repeated until convergence is achieved for all dimensions simultaneously. The raked weight, $WHPRKW_i$, can be expressed as

$$WHPRKW_i = WHPRW_i \times \prod_{k=1}^K RAKEF_{k_l}$$

where $RAKEF_{k_l}$ shows the raking factor for dimension k , level l that respondent i is in.

For example, for the first dimension ($k=2$) - age categories ($l=1$ for 0-6, $l=2$ for 7-17, $l=3$ for 18-54, and $l=4$ for over 55), the raking factor for this dimension is $RAKEF_{k_l}$ for the persons between 0 and 6. The raking factors were calculated as below so the following relationship holds for every raking dimension k , and level l ,

$$CNT_{k_l} = \sum_i [\delta(k_l)_i \times WHPRKW_i],$$

where CNT_{k_l} is the control total, and $\delta(k_l)_i = 1$ if the person i is in level l of dimension k and zero otherwise.

We used a three-dimensional raking procedure for within-household person weights. The first dimension was Heavy Consumer status (SHC, HC selected in regular sampling process, non-HC). The second dimension was the four age categories (0-6, 7-17, 18-54, over 55). The third dimension was the nine geographic regions: Northeast Ferry (Inchelium)/ Southeast Ferry/ West Ferry/ East Okanogan (Nespelem)/ North Okanogan/ Northeast Okanogan (Disautel)/ Northwest Okanogan (Omak)/ South Okanogan (Coulee Dam)/ Southwest Okanogan. The above variables were chosen as the raking variables due to expected strong relationship to the outcome variables, and hence maximum bias reduction would be achieved. Heavy Consumers have by definition different exposures than other residents, foods consumed and activities were described by the CCT as age related, and it was anticipated (again by the CCT) that locations where you might fish, hunt, gather, etc. would be a function of where you live.

3.4 Final Person Weight

The final person weights ($FinalWeight_i$) were the product of the household level weight (HH_NRWT_{gi}) and the within-household person weight ($WHPRKW_i$).

$$FinalWeight_i = HH_NRWT_{gi} \times WHPRKW_i$$

The first weight compensates for the eligible households which don't cooperate in the screener – the enumeration process. The second weight compensates for nonsampled household members and for sampled people who do not complete at least 2 AMPMs plus FQ, if age eligible.

Appendix

D

Locations Where Media Are Gathered

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
BODY PAINTING MATERIALS	Any other material	DK	0.07%	0	0	0	WEAVING	Animal Parts	110	0.04%	0	0	0	
		250	0.07%	0	0	0			180	0.41%	0	0	0	
	Minerals or Clay	311	0.37%	0	0	0			222	0.11%	0	0	0	
		382	0.10%	0	0	0			231	0.05%	0.05%	0	0	
		R4B	0.09%	0	0	0			282	0	0	0.31%	0	
		Plants	271	0.07%	0	0			0	291	0.05%	0	0	0
			311	0.37%	0	0			0	292	0.05%	0	0	0
	CONSTRUCTION MATERIAL	Animal Parts	120	0.41%	0	0			0	300	0.05%	0.05%	0	0
			422	0	0	0			0.32%	372	0	0	0.31%	0
			431	0	0	0			0.32%	382	0.56%	0	0	0
DK			0.07%	0	0	0		421	0.08%	0	0	0		
Any other material		120	0.83%	0	0	0		422	0.09%	0	0	0		
		170	0.09%	0	0	0		423	0.05%	0	0	0		
		222	0.12%	0	0	0		431	0.25%	0	0.05%	0		
		311	1.35%	0	0	0		432	0.25%	0	0	0		
		374	0.21%	0	0	0		441	0.08%	0.09%	0	0		
		382	1.07%	0	0	0		442	0.08%	0	0.31%	0		
		422	0.10%	0	0	0		451	0	0.09%	0	0		
		DK	0.05%	0	0	0		452	0	0.09%	0	0		
		Birch Bark	382	0.27%	0	0		0	453	0.08%	0	0	0	
			422	0.05%	0	0	0	R4A	0	0.09%	0	0		
Bunchgrass		421	0.03%	0	0	0	R4B	0.17%	0.09%	0.08%	0			
		423	0.03%	0	0	0	DK	0.09%	0	0	0			
		431	0.03%	0	0	0	Any other material	180	0.22%	0	0	0		
		442	0.03%	0	0	0		222	0.05%	0	0	0		
Cattails		421	0.03%	0	0	0		223	0	0	0	0.13%		
		422	0.05%	0	0	0		231	0.05%	0	0	0		

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
CONSTRUCTION MATERIAL (cont'd)	Cattails (cont'd)	423	0.03%	0	0	0	WEAVING (cont'd)	Any other material (cont'd)	311	0.09%	0	0	0	
		431	0.03%	0	0	0			382	0.50%	0	0	0	
		442	0.03%	0	0	0			413	0.23%	0	0	0	
	Cedar	291	0.08%	0	0	0			422	0.05%	0	0	0	
		292	0.09%	0	0	0			431	0.10%	0	0	0	
		382	0.27%	0	0	0			542	0.07%	0	0	0	
		421	0.20%	0	0	0			R6	0.18%	0	0	0	
		422	0.34%	0	0	0			R7	0	0	0.18%	0	
		423	0.10%	0	0	0			DK	0.17%	0	0	0	
		431	0.06%	0	0	0			Birch Bark	180	0.41%	0	0	0
		432	0.15%	0	0	0				282	0	0.05%	0	0
		441	0.05%	0	0	0				382	0.27%	0	0	0
		442	0.03%	0	0	0		413		0.23%	0	0	0	
		451	0.05%	0	0	0		422		0.03%	0	0	0	
		DK	0.37%	0	0	0.10%		431		0.21%	0	0	0	
	Cedar Bark	170	0.65%	0	0	0		432		0	0.05%	0	0	
		281	0.09%	0	0	0		482		0.06%	0	0	0	
		421	0.05%	0	0	0		DK	0.35%	0	0	0		
		422	0.15%	0	0	0		Bunch-grass	222	0.05%	0	0	0	
		DK	0.07%	0	0	0			231	0.05%	0	0	0	
	Cedar Root	421	0.03%	0	0	0		432	0.20%	0	0	0		
		423	0.03%	0	0	0		Cattails	422	0.12%	0	0	0	
		431	0.09%	0	0	0			432	0.03%	0	0	0	
		442	0.03%	0	0	0			442	0.06%	0	0	0	
		DK	0.07%	0	0	0			R6	0.37%	0	0	0	
	Cottonwood	170	0.12%	0	0	0			R8	0.07%	0	0	0	
		291	0.08%	0	0	0			DK	0.10%	0	0	0.08%	

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
CONSTRUCTION MATERIAL (cont'd)	Cottonwood (cont'd)	300	0.42%	0	0	0	WEAVING (cont'd)	Cedar Bark	233	0.08%	0	0	0	
		382	0.27%	0	0	0			382	0.06%	0	0	0	
		421	0.03%	0	0	0			422	0.09%	0	0	0	
		422	0.05%	0	0	0			423	0.54%	0	0	0	
		423	0.03%	0	0	0			431	0.03%	0	0	0	
		431	0.03%	0	0	0			432	0	0.05%	0	0	
		442	0.03%	0	0	0			482	0	0.05%	0	0	
		DK	0.05%	0	0	0			511	0.12%	0	0	0	
	Fir	120	0.09%	0	0	0			DK	0.14%	0	0	0	
		223	0.09%	0	0	0			Cedar Root	233	0.08%	0	0	0
		233	0.06%	0	0	0		423		0.54%	0	0	0	
		273	0.80%	0	0	0		431		0.30%	0	0	0	
		281	0.41%	0	0	0		432		0	0.05%	0	0	
		282	0	0	0.80%	0		482		0	0.05%	0	0	
		291	0.70%	0.80%	0	0		DK		0.21%	0	0	0.05%	
		292	0.06%	0	0	0		Cottonwood		382	0.27%	0	0	0
		300	0.52%	0	0	0				431	0.05%	0	0	0
		382	0.49%	0	0	0			DK	0.08%	0	0	0	
		421	0.08%	0	0	0		Fir	222	0.05%	0	0	0	
		422	0.09%	0	0	0			231	0.05%	0	0	0	
		428	0.03%	0	0	0			431	0.10%	0	0	0	
		431	0.03%	0	0	0			DK	0.35%	0	0	0	
		432	0.05%	0	0	0		Gray Willow	180	0.04%	0	0	0	
		442	0.07%	0	0	0			233	0.08%	0	0	0	
		DK	0.33%	0	0	0.10%			382	0.27%	0	0	0	
		Gray Willow	291	0.10%	0	0.08%			0	432	0.20%	0	0	0
			300	0.08%	0	0			0	DK	0	0	0	0.08%

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
CONSTRUCTION MATERIAL (cont'd)	Green Willow	180	0.10%	0	0	0	WEAVING (cont'd)	Green Willow	180	0.04%	0	0	0	
		223	0.07%	0	0	0			233	0.08%	0	0	0	
		233	0.06%	0	0	0			311	0.27%	0	0	0	
		273	0.50%	0	0	0			382	0.06%	0	0	0	
		291	0.24%	0	0	0			422	0.05%	0	0	0	
		292	0.06%	0	0	0			431	0.13%	0	0	0	
		300	0.06%	0	0	0			R4A	0.06%	0	0	0	
		452	0.05%	0	0	0			DK	0.18%	0	0	0	
		DK	0.08%	0	0	0			Indian Hemp	222	0.05%	0	0	0
		Indian Hemp	291	0.56%	0	0				0	231	0.29%	0	0
	DK		0.08%	0	0	0		291		0.05%	0	0	0	
	Juniper	300	0.27%	0	0	0		292		0.05%	0	0	0	
		382	0.27%	0	0	0		300		0.05%	0	0	0	
	Lodgepole Pine	120	0.41%	0	0	0		312		0.05%	0	0	0	
		130	0	0.37%	0	0		320		0	0.05%	0	0	
		223	0.27%	0	0	0		382		0.23%	0	0	0	
		231	0.06%	0	0	0		DK		0.12%	0	0	0	
		232	0.06%	0	0	0		Maple		180	0.41%	0	0	0
		233	0.06%	0	0	0			382	0.27%	0	0	0	
		273	0	0.80%	0	0			413	0.23%	0	0	0	
		281	0.14%	0	0	0			DK	0.08%	0	0	0	
		282	0	0	0.80%	0		Ocean Spray	431	0.09%	0	0	0	
		291	1.31%	0	0	0			432	0.03%	0	0	0	
		292	0.24%	0	0	0			R6	0.23%	0	0	0	
		300	0.35%	0	0	0			Pine Needles	180	0.04%	0	0	0
		311	0.56%	0	0	0		222		0.05%	0	0	0	
		362	0.11%	0	0	0		231		0.14%	0	0	0	

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
CONSTRUCTION MATERIAL (cont'd)	Lodgepole Pine (cont'd)	382	0.34%	0	0	0	WEAVING (cont'd)	Pine Needles (cont'd)	291	0.05%	0	0	0	
		412	0.35%	0	0	0			292	0.05%	0	0	0	
		413	0.05%	0	0	0			300	0.17%	0	0	0	
		421	0.08%	0.05%	0	0			382	0.13%	0	0	0	
		422	0.19%	0	0	0			432	0.05%	0	0	0	
		423	0.09%	0.09%	0	0			442	0.03%	0	0	0	
		431	0.03%	0.05%	0	0			DK	0.35%	0	0	0.07%	
		432	0.13%	0	0	0			Red Willow	180	0.04%	0	0	0
		441	0.11%	0	0	0		223		0.13%	0	0	0	
		442	0.03%	0	0	0		231		0	0.05%	0	0	
		DK	1.23%	0	0	0		233		0.39%	0	0	0	
		Maple	382	0.27%	0	0		0		282	0.08%	0	0	0
			422	0.05%	0	0		0		291	0.27%	0	0	0
		Ocean Spray	431	0.05%	0	0		0		300	0.23%	0	0.05%	0
	Pine Needles		223	0.09%	0	0	0	382		0.27%	0	0	0	
		291	0.56%	0	0	0	421	0.03%	0	0	0			
		300	0.27%	0	0	0	422	0.17%	0	0	0			
		382	0.06%	0	0	0	423	0.05%	0	0	0			
		DK	0.15%	0	0	0	431	0.13%	0	0	0			
	Red Willow	222	0.05%	0	0	0	432	0.20%	0	0	0			
		223	0.70%	0	0	0	R1	0	0.06%	0	0			
		233	0.41%	0	0	0	R10	0.05%	0	0	0			
		281	0.40%	0	0	0	R4A	0	0.06%	0	0			
		291	0.18%	0	0.08%	0	DK	0.18%	0	0	0.26%			
		300	0.46%	0	0	0	Sumac	222	0	0	0	0.05%		
		311	0.07%	0	0	0		231	0	0	0	0.05%		
		382	0.61%	0	0	0		DK	0.27%	0	0	0		

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
CONSTRUCTION MATERIAL (cont'd)	Red Willow (cont'd)	421	0.25%	0	0	0	WEAVING (cont'd)	Syringa	R4A	0.12%	0	0	0	
		422	0.28%	0	0	0			Tule	170	0.05%	0	0	0
		423	0.08%	0	0	0		180		0.05%	0	0	0	
		431	0.07%	0	0	0		223		0	0.13%	0	0	
		432	0.18%	0	0	0		231		0	0.13%	0	0	
		442	0.07%	0	0	0		233		0.08%	0	0	0	
		452	0.05%	0	0	0		291		0.17%	0	0	0	
		R10	0.40%	0	0	0		311		0.17%	0	0	0	
		DK	0.22%	0	0	0.07%		413		0	0	0	0.06%	
		Reed Canary Grass	421	0.03%	0	0		0		422	0.05%	0	0.05%	0
	423		0.03%	0	0	0		431		0.12%	0	0	0	
	431		0.03%	0	0	0		432		0.03%	0	0.05%	0.06%	
	442		0.03%	0	0	0		481		0.05%	0	0	0.06%	
	DK		0.08%	0	0	0		DK		0.49%	0	0	0.13%	
	Sumac	DK	0.08%	0	0	0		Wild Rose		180	0.04%	0	0	0
	Tamarack	120	0.41%	0	0	0				291	0.05%	0	0	0
		223	0.09%	0	0	0				292	0.05%	0	0	0
		273	0	0.80%	0	0				300	0.05%	0	0	0
		281	0.20%	0	0	0				300	0.05%	0	0	0
		282	0	0	0.80%	0			382	0.33%	0	0	0	
		291	0.88%	0	0	0			432	0.46%	0	0	0	
		300	0.35%	0	0	0			R4B	0.09%	0	0	0	
		382	0.71%	0	0	0			DK	0.08%	0	0	0	
		421	0.11%	0	0	0			Yew	300	0.23%	0	0	0
		422	0.14%	0	0	0		381		0.31%	0	0	0	
		423	0.05%	0	0	0		382		0.06%	0	0	0	
		431	0.05%	0.05%	0	0		432		0.20%	0	0	0	
	432	0.05%	0	0	0	DK		0		0	0	0.21%		

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Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area			
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained
CONSTRUCTION MATERIAL (cont'd)	Tamarack (cont'd)	441	0	0.05%	0	0	WEAVING (cont'd)	No Response	NR	0	0	0	1.13%
		DK	0.28%	0	0	0							
	Tule	231	0.13%	0	0	0							
		291	0.56%	0	0	0							
		422	0.05%	0	0	0							
	Wild Rose	232	0.41%	0	0	0							
		233	0.06%	0	0	0							
		291	0.14%	0	0	0							
		292	0.06%	0	0	0							
		300	0.17%	0	0	0							
		382	0.27%	0	0	0							
		R8	0.09%	0	0	0							
	DK	0.08%	0	0	0								
	No Response	NR	0	0	0	1.83%							
DYING/COLORING	Any other material	180	0.04%	0	0	0							
		190	0.04%	0	0	0							
		282	0.13%	0	0	0							
		291	0.82%	0	0	0							
		421	0.07%	0	0	0							
		423	0.07%	0	0	0							
		431	0.11%	0	0	0							
		432	0.08%	0	0	0							
		583	0.07%	0	0	0							
		592	0.07%	0	0	0							
		DK	0.34%	0	0	0							
	Cedar Bark	311	0.37%	0	0	0							
		432	0.03%	0	0	0							

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area			
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained
DYING/COLORING (cont'd)	Cedar Bark (cont'd)	442	0.03%	0	0	0							
	Oregon Grape	421	0.03%	0	0	0							
		422	0.03%	0	0	0							
		423	0.03%	0	0	0							
		431	0.03%	0	0	0							
		432	0.05%	0	0	0							
	River Birch	R5	0.05%	0	0	0							
	No Response	NR	0	0	0	0.07%							
MATERIALS FOR SWEAT LODGES	Any other material	170	0.56%	0	0	0							
		211	1.17%	0	0	0							
		223	0.13%	0	0	0							
		233	0.21%	0	0	0							
		291	0.17%	0	0	0							
		292	0.17%	0	0	0							
		300	0.36%	0	0	0.09%							
		364	0.05%	0	0	0							
		382	0.95%	0	0	0							
		421	0.17%	0	0	0							
		422	0.05%	0	0	0							
		431	0.05%	0	0	0							
		432	0.09%	0	0	0							
		442	0.07%	0	0	0							
		623	0	0.59%	0	0							
		630	0	0.59%	0	0							
		DK	1.05%	0	0	0.05%							
	Bunchgrass	170	0.56%	0	0	0							
		180	0.08%	0	0	0							

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area			
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained
MATERIALS FOR SWEAT LODGES (cont'd)	Bunchgrass (cont'd)	223	0.20%	0	0	0							
		233	0.07%	0	0	0							
		291	0.61%	0	0	0							
		300	0.15%	0	0	0							
		382	0.23%	0	0.15%	0							
		DK	0.75%	0	0	0							
	Cedar	170	0.56%	0	0	0							
		180	0.11%	0	0	0							
		222	0.07%	0	0	0							
		223	0.96%	0	0	0							
		233	0.12%	0	0	0							
		243	0.06%	0	0	0							
		291	0.61%	0	0	0							
		300	0.13%	0	0	0							
		311	0.06%	0	0	0							
		371	0.59%	0	0	0							
		374	0.08%	0	0	0							
		382	0.90%	0	0	0							
		421	0.21%	0	0	0							
		422	0.54%	0	0	0							
		423	0.52%	0	0	0							
		431	0.79%	0	0.07%	0							
		432	0.42%	0	0	0							
		442	0.12%	0	0	0							
		R8	0.05	0	0	0							
		DK	2.09%	0	0	0.31%							
		Fir	170	0.11%	0	0	0						
	180		0.12%	0	0	0							

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area			
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained
MATERIALS FOR SWEAT LODGES (cont'd)	Fir (cont'd)	222	0.07%	0	0	0							
		223	0.98%	0	0	0							
		233	0.17%	0	0	0							
		291	0.67%	0	0	0							
		292	0.06%	0	0	0							
		300	0.10%	0	0	0							
		382	0.34%	0	0	0							
		421	0.05%	0	0	0							
		422	0.10%	0	0	0							
		431	0.05%	0	0	0							
		432	0.08%	0	0	0							
		442	0.03%	0	0	0							
		R8	0.05%	0	0	0							
		DK	1.16%	0	0	0.12%							
	Lavender	160	0.15%	0	0	0							
		170	1.15%	0	0	0							
		291	0.13%	0	0	0							
		292	0.05%	0	0	0							
		300	0.05%	0	0	0							
		382	0.38%	0	0	0							
		421	0.05%	0	0	0							
		422	0.05%	0	0	0							
		423	0.07%	0	0	0							
		432	0.03%	0	0	0							
		442	0.03%	0	0	0							
		DK	0.62%	0	0	0.07%							
	Sages	170	0.56%	0	0	0							
		180	0.17%	0	0.03%	0							

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area				
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained	
MATERIALS FOR SWEAT LODGES (cont'd)	Sages (cont'd)	221	0	0	0.03%	0								
		222	0.15%	0	0	0								
		223	1.22%	0.05%	0	0								
		231	0	0.05%	0	0								
		233	0.71%	0.05%	0	0								
		271	0.13%	0	0	0								
		291	0.18%	0.05%	0.03%	0								
		292	0.10%	0	0	0								
		300	0.25%	0	0.15%	0								
		311	0.07%	0	0	0								
		372	0.16%	0	0	0								
		382	0.90%	0	0	0								
		421	0.05%	0	0	0								
		422	0.05%	0	0	0								
		423	0.03%	0	0	0								
		431	0.05%	0	0	0								
		432	0.05%	0	0	0								
		442	0.03%	0	0	0								
		461	0.08%	0	0	0								
		R8	0.05%	0	0	0								
	DK	1.87%	0	0.06%	0.34%									
		Water	170	0.48%	0	0	0							
			180	1.00%	0	0	0							
			222	0.33%	0	0	0							
			223	0.56%	0	0	0							
			232	0.16%	0	0	0							
			233	1.19%	0	0	0							
			291	1.87%	0	0	0							

Table D-1. For each type of material for each activity, what percent of all residents gathered the materials locally (continued)

Activity by Material by Area			How much gathered in area				Activity by Material by Area			How much gathered in area			
			ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained				ALL/ MOST	HALF	SOME/ LITTLE	Not Ascertained
MATERIALS FOR SWEAT LODGES (cont'd)	Water (cont'd)	292	0.74%	0	0	0							
		300	0.89%	0	0.15%	0							
		311	0.91%	0	0	0							
		371	0.08%	0	0	0							
		382	0.55%	0	0	0							
		421	0.05%	0	0	0							
		422	0.18%	0	0	0							
		423	0.03%	0	0	0							
		431	0.09%	0	0	0							
		432	0.51%	0	0.07%	0							
		442	0.07%	0	0	0							
		R10	0.15%	0	0	0							
		R4B	0.64%	0	0	0							
		R5	0.30%	0	0	0							
		R8	0.61%	0	0	0							
	DK	0.75%	0	0	0	0.25%							
	No Response	NR	0	0	0	2.91%							

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FOOD QUESTIONNAIRE DATA REPORT

Upper Columbia River Resources Survey

June 12, 2012

Prepared for:



CONFEDERATED TRIBES OF THE COLVILLE RESERVATION

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Upper Columbia River Resources Survey Food Questionnaire Data Report

Background

This report provides data collected from the Upper Columbia River Resources Survey (UCRRS) “Food Questionnaire,” (FQ) a paper survey administered to each UCRRS respondent over the age of 2 in person by a trained interviewer. This questionnaire is part of a larger survey effort which also included at least two 24-hour diet recall interviews and for respondents over the age of 14, a “Resource Use and Practices Questionnaire” regarding non-food uses of local resources.

The FQ asked Colville Reservation residents for information regarding consumption over the preceding 12 months of specific foods in several categories: fish, birds, wild animals, farm animals, dairy, fruits and vegetables, and wild plants. For each food, data was collected regarding frequency of consumption and the amount sourced locally; for the amount sourced locally, the respondent was asked to indicate specific areas on a map.

The UCRRS is part of a data collection effort being coordinated by the US Environmental Protection Agency (EPA) in order to perform a Human Health Risk Assessment for the Upper Columbia River Site. As the Colville Reservation includes parts of and is bordered by the Upper Columbia River and Lake Roosevelt and residents of the Reservation are known to use local resources for subsistence lifestyles, the EPA required information regarding what resources are being consumed and from what areas and partnered with the Colville Confederated Tribes (CCT) in order to obtain that information.

Methodology – FQ

The Colville Tribe with the support of their contractor, EI worked together to administer the full FQ to as many UCRRS respondents as possible. These efforts resulted in responses from 1139 people.

The FQ was designed by a tribal team including staff and tribal members, and professional scientists and statisticians at EI, in cooperation with the US Environmental Protection Agency and Westat, Inc. Specific types of fish, birds, wild animals, farm animals, dairy, fruits and vegetables, and wild plants were identified through interviews with local experts. Each category of food included the opportunity for respondents to identify other foods not specifically called out in the FQ.

Maps used for identifying the source of local food had a red outline around the areas considered local. Within this local area were numerous zones, each of which was assigned a three-character alphanumeric code. The zones represented locations and river reaches within the local area. Respondents were shown a map of the entire local area and were asked to indicate where they sourced their food. Respondents could draw up to five sourcing regions (which had the potential to encompass multiple zones) per locally sourced food. If the food was gathered from a very large area, or if the

respondent knew the food was locally sourced but did not know the exact location, the interviewer coded the zone as “999.”

When asking respondents questions about fish consumption, respondents were queried regarding the amount of fish they had obtained from each of three sources. For each source, respondents could indicate that: all, most, half, some, little or none of their fish was obtained from that source (see Table 2 for numerical correlations with these categories). The responses to each of these questions were independent and the translated percentages were not required to add up to 100%. While interviewers could guide respondents to provide more accurate answers (for example, reminding respondents that it does not make sense to choose “most” for more than one answer), the only absolute rule interviewers followed was to not record “all” for more than one source. Therefore, for each respondent, fish-source answers may add up to more than or less than 100%. For example, “a little” plus “a little” plus “most” would equal $10\% + 10\% + 75\% = 95\%$. Upon inspection of the data, most percentage sums appear to be close to 100% and this issue is not expected to create a large source of uncertainty.

Methodology – Reporting

The total number of people living on the Colville Reservation estimated for this study is 6,037. The total over the age of 2 (the pool responding to the FQ) is 5,893. 1,139 people responded to the FQ.

For this analysis, each of the 1,139 people’s responses was multiplied by an individual respondent weighting factor, which was calculated by Westat, Inc. and is documented in their final report. The respondent weightings allow for the calculation of the percentage of reservation residents represented by each respondent’s answers. These respondent weightings are used to more accurately account for variance in response rate across demographic categories such as residence location and age. The respondent weightings vary from 1.3 to 39.2 (with a precision to 10 decimal places), and depend on a variety of factors. Therefore, the percentages and numbers of consumers provided in this report will always vary from the percentage of individual respondents reporting each answer.

Using respondent weightings allowed EI to calculate numbers and percentages of residents that one can use for the whole population of the Colville Reservation over the age of 2, not just the FQ respondents.

For example, Section 1.1 of this report states 11% (649 people) answered “yes” to the question, “*Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from smallmouth bass?*”

This means that out of the 5,893 Colville Reservations residents over 2 years old, 649, or 11%, ate meat, organs or eggs from the smallmouth bass.

This does not mean 649 respondents answered yes to the question during the FQ.

After the percentages were calculated for all sections of this report, Westat was directed to make a small change to the way that the total reservation population and respondent weights were calculated, and they released new data with different weights for each respondent. Because the relative weights changed very little, the overall numbers of people represented by each answer were updated but the

percentages **were not recalculated**, but were rounded to the nearest whole percentage and should be considered accurate to within plus or minus 2%. Any inconsistencies between reported percentages and numbers of people can be attributed to this rounding. If these data are being used for a purpose which requires greater precision, ensure that the updated weights, released in April 2012, are used.

When percentages are translated into numbers of people or a consumption frequency, the numbers are rounded up to the next whole number. When responses to questions are documented in a list of percentages of the population giving each response, whole number rounding may result in the percentages not adding up to precisely 100%.

Each FQ respondent received a participant ID. Using the participant ID, the FQ can provide additional data about reservation residents collected during the screening process. Though not presented in this report, analysts can break down responses to individual questions by demographic categories such as residence location or district; age and gender; tribal enrollment status; and whether or not a respondent self-reported being a “heavy user” of local resources. Likewise, correlations to determine groups of foods consumed by similar groups of people; specific locations that are most heavily used to fish, hunt, or gather multiple types of food; and correspondences between these data and the data regarding non-food use of resources or portion sizes as calculated from 24-hour diet recalls are not analyzed here but are left for future analysis. Notably, an average or 95th percentile “fish consumption rate” is not presented in this report. A local fish consumption rate may be possible to calculate once data from this report are combined with portion size information gathered from the 24-hour diet recall interviews.

Many questions required respondents to indicate ordinal categories rather than exact numbers. For example, possible responses to the question, “How much of the (FISH) was caught inside the local area by (you/SUBJECT) or someone else?” are: All, Most, Half, Some, Little, or None. In addition, questions about frequency of consumption provided categories rather than precise rates. Tables 1 and 2 below list the numbers chosen to translate these semi-quantitative categories into numerical data. These assumptions are based on common sense and professional judgment but are transparently applied to allow other analysts to test the impact of varying them.

Table 1: Translation of worded answers into comparable numbers for questions regarding frequency.

Frequency	
Response	Assumed Numerical Equivalent
Every day	365 times per year
More than once a week, but not every day	208 times per year (4 times per week)
Once a week	52 times per year
More than once a month, but not every week	24 times per year (2 times per month)
Once a month	12 times per year
Less than once a month	6 times per year

Table 2: Translation of worded answers into comparable numbers for questions regarding amounts allocated to different sources.

Amount	
Response	Assumed Numerical Equivalent
All	100%
Most	75%
Half	50%
Some	25%
Little	10%

In the following sections of this report, when a question is printed in italics, it is written in the report as it was asked in the FQ. In many cases, for questions addressed to a subset of respondents, percentages of that subset rather than an overall reservation population percentage are reported.

For example, once we know the percentage of the reservation population that eats a particular fish, data regarding people’s habits related to that fish (frequency of consumption, source, etc.) are reported relative to the subset of people who answered affirmatively to the lead-in question. When percentages are reported of a population subset, the context will be clear from the text preceding the results. A sub-population of interest for each food is the percentage of reservation residents we termed “local-sourcers.” These are people who both reported consuming a resource sourced wholly or partly from within the local area and provided interpretable location data, including the 999 code, about where the food came from.

To determine the principal locations contributing to local food consumed by reservation residents, we applied an algorithm taking into account a respondent’s frequency of resource consumption, how much of the food he or she consumed was from the local area, how many sourcing regions he or she drew onto the local area map, how many zones per sourcing region were included, and the percentage of the food gathered from each area. To determine the principal locations contributing local source areas of resources used, we applied an algorithm taking into account a respondent’s frequency of resource use, the amount of local resource he or she used, the number of sourcing areas he or she drew onto the local area map, the number of zones per sourcing area included, and the percentage of the resource sourced from each area. A more detailed description is given below.

To determine the principal locations contributing to locally sourced resources, we did the following for each resource.

1. From the entire population of survey respondents, we sorted out those who used a given resource and obtained the resource locally.
2. For these local sourcers, we converted their days per year and hours per day of use answers into single numbers as described in Table 1.
3. We then multiplied each local sourcer’s respondent weighting (how many reservation residents that respondent represents) by their frequency of use answers (hours per day and days per

year). The product is each respondent's "Super Weight". The sum of all these super weights equals the total number of hours spent using the specific resource by all local sourcers.

$$\mathbf{Super\ Weight}_{respondent} = \left(\mathbf{respondent\ weighting} \times \frac{\mathbf{hours}}{\mathbf{day}} \times \frac{\mathbf{days}}{\mathbf{year}} \right)$$

4. To determine the zones from which the resources came, we summed the respondents' super weights for each zone. "Areas" are defined to be the locations drawn on a map by the survey respondents corresponding to their resource use. "Zones" are defined to be the predetermined locations listed in Figures 1 and 2. If a respondent reported using more than one area and/or their area(s) consisted of multiple zones, the super weight was divided first by the number of areas and second by the number of zones used. The result of this division was then distributed among the different zones. When respondents indicated using different zones for different amounts of time, we used Table 2 to calculate the percentage of the super weight for each zone. This percentage of the super weight assigned to each zone is the "Weight Allocation" or **WA**. This was done for each respondent. For example, if a respondent indicated spending time in the following way: half of the time in area 1 (zones 100, 200, and 300) and half of the time in area 2 (zones 381 and 382), the calculation of weight allocation per zone would be as follows:

- a. $WA_{Zone\ 100} = Super\ Weight_{respondent} \times 1/3 \times 1/2$
- b. $WA_{Zone\ 200} = Super\ Weight_{respondent} \times 1/3 \times 1/2$
- c. $WA_{Zone\ 300} = Super\ Weight_{respondent} \times 1/3 \times 1/2$
- d. $WA_{Zone\ 381} = Super\ Weight_{respondent} \times 1/2 \times 1/2$
- e. $WA_{Zone\ 382} = Super\ Weight_{respondent} \times 1/2 \times 1/2$

We then summed the weight allocations for each zone and divided by the total number of hours spent using the resource. This provided the percentage of total use that each zone contributed. These percentages are presented at the end of each resource description in the following sections of the report. Qualitative descriptions are given of the local source zones for reference in each section; the actual boundaries of each zone are shown in Figure 1 below. River reaches are depicted in Figure 2.

Figure 1: Zone identifiers.

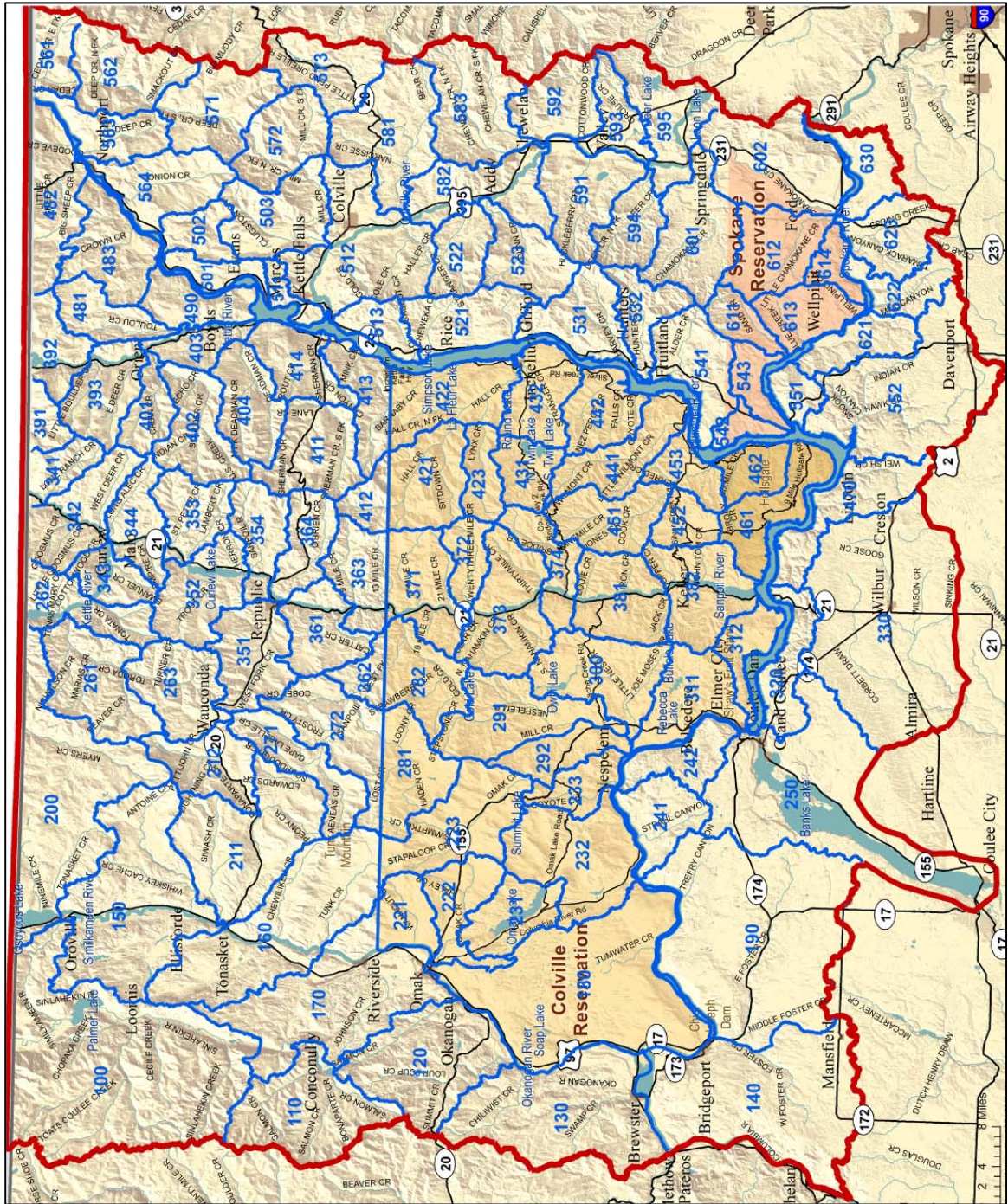
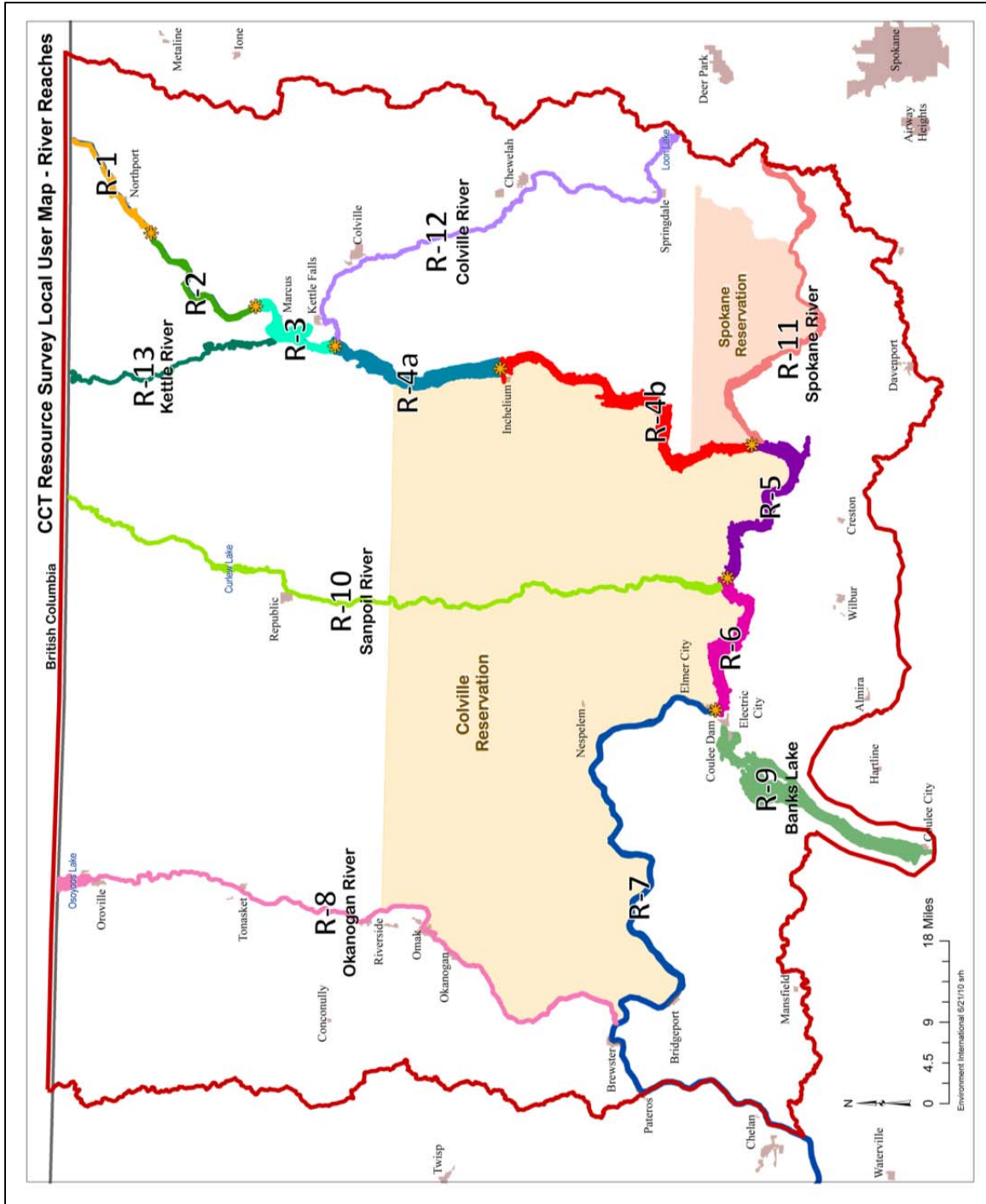


Figure 2: River Reach identifiers.



Definitions

For the purpose of this report, the following definitions apply.

Local Area: Region within and surrounding the Colville Reservation as delineated by the red line in Figures 1 and 2.

Local-sourcers: People obtaining some or all of a specific food resource from within the local area.

Average: The mean of a set of numbers.

Mean: The sum of responses divided by the number of people in the population of interest.

Section 1: Fish

Question: *Let's start off by talking about what fish or other freshwater animals, such as clams, crawfish, or turtles (you/SUBJECT) may have eaten in the past 12 months. In the past 12 months, did (you/SUBJECT) eat any fish or seafood at all? Please include fish or seafood bought at a store, ordered at a restaurant, or caught by (you/SUBJECT) or someone (you/SUBJECT) know.*

Percentage of reservation population who ate fish at all in the last year:

- Yes: 83%
- No: 17%
- Don't know: < 1%

The next questions to the participants assessed consumption of 16 specific types of fish and freshwater animals and also allowed the respondents to specify other species of freshwater fish or animals eaten from the local area that were not otherwise identified.

The mean number of types of fish consumed was 3, and the maximum number of different types of fish eaten (13) was reported by <1% of people who eat fish (28 people). 1% only reported eating fish or seafood from saltwater sources.

A summary of pertinent fish consumption statistics by species is given in Table 3 below.

Table 3: Fish consumption summary sorted by percentage of reservation residents who consume each fish type.

Fish Type	Percentage of Population Consuming	Average Meat Consumption Frequency (times per year)	Consumers Sourcing from Local Area
Salmon	73%	15	74%
Trout	46%	13	92%
Walleye	13%	9	91%
Smallmouth Bass	11%	21	93%
Crawfish	9%	13	85%
Mussels	8%	9	12%
Largemouth Bass	7%	22	85%
Panfish	6%	25	79%
Burbot	4%	9	30%
Sturgeon	3%	40	68%
Lake Whitefish	2%	9	91%
Mountain Whitefish	1%	8	69%
Lamprey	1%	12	13%
Aquatic Animals (Turtles, Snakes, Frogs)	1%	18	100%
Northern Pikeminnow	1%	7	87%
Any other type of local fish or aquatic animal	< 1%	6	100%
Sucker ¹	< 1%	6 (meat) 52 (head/skin/organs/eggs)	0% ²

¹ Sucker was the only fish for which the head/skin/organs/eggs were reported to be consumed more frequently than the meat. A very low number of respondents reported eating sucker, making these data less reliable to compare with the other fish that were more frequently consumed.

² All consumers were unsure of the source of their sucker.

Section 1.1: Smallmouth Bass

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from smallmouth bass?*

Percentage of reservation population who ate smallmouth bass last year:

- Yes: 11% (657 people)
 - Includes 25 people who answered no but provided smallmouth bass information
 - Excludes 19 people who answered yes but provided no smallmouth bass information
- Don't know/no answer recorded: 1%
- No: 88%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the smallmouth bass?*

Of the 657 smallmouth bass consumers:

- 71% ate it less than once a month
- 8% ate it once a month
- 15% ate it more than once a month, but not every week
- 2% ate it once a week
- 4% ate it more than once a week, but not every day
- < 1% ate it every day

On average, each smallmouth bass consumer ate the fish 21 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the smallmouth bass?*

Of the 657 smallmouth bass consumers:

- 71% never ate the head, skin, organs, or eggs
- 22% ate the head, skin, organs, or eggs less than once a month
- < 1% ate the head, skin, organs, or eggs once a month
- 1% ate the head, skin, organs, or eggs more than once a month, but not every week
- 2% ate the head, skin, organs, or eggs once a week
- 4% did not provide an answer to this question

On average, each smallmouth bass consumer ate the fish head, skin, organs, or eggs 3 times per year.

Of the 165 people who ate the smallmouth bass head, skin, organs, or eggs at all, on average they ate them 11 times per year.

Questions:

Thinking about the smallmouth bass (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the smallmouth bass was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the smallmouth bass was caught inside the local area by (you/SUBJECT) or someone else?

Of the 657 smallmouth bass consumers:

- 88% said all of the smallmouth bass that they ate was caught within the local area
 - 5% said most of the smallmouth bass that they ate was caught within the local area
- 3% said “some” smallmouth bass was caught outside the local area and “a little” or none was bought from a store or restaurant. 2% said “a little” was bought from a store or restaurant and none was fished outside the local area.
- 1% said half of the smallmouth bass that they ate was caught within the local area and half was caught outside the local area, not sourced from a store or restaurant.
 - 4% were unsure whether any of the fish they had eaten was caught inside the local area.
- 2% had no idea about the source, and 2% were sure it was not from the store, but did not know if it was caught inside or outside the local area.
- 3% only ate fish caught outside the local area, and not from a store or restaurant.

Taking the source of fish into account, we answered the question: how often did people who sourced their smallmouth bass from the local area eat the fish?

After removing from further analysis the 46 people who exclusively ate smallmouth bass from outside the local area, were unsure about where their smallmouth bass came from, or did not provide answers to these questions, there are 611 people who ate smallmouth bass fished from within the local area last year. The average number of times these local-sourcers ate smallmouth bass last year was 22.

Question: *Please look at this map and mark the areas where the smallmouth bass came from the local area.*

Zones or river reaches contributing more than 10% of the reservation’s local smallmouth bass and sources within the Upper Columbia River are listed in Table 4 below.

Table 4: Principal local sources of smallmouth bass.

Zone or River Reach	Description	Percentage of Smallmouth Bass
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	19%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	18%
431	Twin Lakes or nearby	18%
R8	Okanogan River between the Canadian Border and the Columbia River	12%
130	Lake(s) or creeks to the north of and near Brewster	10%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 5%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 1%

Other zones or river reaches accounting for 1-5% of local smallmouth bass consumed are, in descending order, R7 (Columbia River downstream of the Grand Coulee Dam), R11 (Spokane River), 311 (Rebecca Lake, Buffalo Lake, or nearby), 110 (lakes or creeks west of Conconully), and R10 (San Poil River between the Canadian Border and Lake Roosevelt). The zones or river reaches each accounting for 0.02 – 1% of local smallmouth bass consumed are, in descending order, 212, R9, 382, 300, 374, 422, 513, 250, 140, 231, 120, 532, 232, 170, and 180. 7% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 2% of overall local smallmouth bass consumption.

Section 1.2: Largemouth Bass

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from largemouth bass?*

Percentage of reservation population who ate largemouth bass last year:

- Yes: 7% (416 people)
 - Excludes 16 people who answered yes but subsequently provided no largemouth bass information
- Don't know/no answer recorded: 2%
- No: 91%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the largemouth bass?*

Of the 416 largemouth bass consumers:

- 70% ate it less than once a month
- 14% ate it once a month
- 7% ate it more than once a month, but not every week
- 1% ate it once a week
- 7% ate it more than once a week, but not every day
- 1% did not provide frequency information

On average, each largemouth bass consumer ate the fish 22 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the largemouth bass?*

Of the 416 largemouth bass consumers:

- 83% never ate the head, skin, organs, or eggs
- 13% ate the head, skin, organs, or eggs less than once a month
- No one ate the head, skin, organs, or eggs once a month
- 4% ate the head, skin, organs, or eggs more than once a month, but not every week

On average, each largemouth bass consumer ate the fish head, skin, organs, or eggs 2 times per year.

Of the 71 people who ate the largemouth bass head, skin, organs, or eggs at all, on average they ate them 11 times per year.

Questions:

Thinking about the largemouth bass (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the largemouth bass was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the largemouth bass was caught inside the local area by (you/SUBJECT) or someone else?

Of the 416 largemouth bass consumers:

- 81% said all of the largemouth bass that they ate was caught within the local area
- 2% said most of the largemouth bass that they ate was caught within the local area

1% also said “most” largemouth bass was caught outside the local area and “a little” was bought from a store or restaurant. 1% said “a little” was bought from a store or restaurant and “a little” was fished outside the local area.
- 1% said half of the largemouth bass that they ate was caught within the local area and half was caught outside the local area, not sourced from a store or restaurant.
- 1% said some of the largemouth bass that they ate was caught within the local area and some was caught outside the local area, not sourced from a store or restaurant.
- 3% only ate fish caught outside the local area, and not from a store or restaurant.
- 11% were unsure where the fish they had eaten was from, or did not provide further information.

Taking the source of fish into account, we answered the question: how often did people who sourced their largemouth bass from the local area eat the fish?

After removing from further analysis the 59 people who exclusively ate largemouth bass from outside the local area, were unsure about where their largemouth bass came from, or did not provide answers to these questions, there are 357 people who ate largemouth bass fished from within the local area last year. The average number of times these local-sourcers ate largemouth bass last year was 9.

Question: *Please look at this map and mark the areas where the largemouth bass came from the local area.*

Zones or river reaches contributing about 10% or more of the reservation’s local largemouth bass and sources within the Upper Columbia River are listed in Table 5 below.

Table 5: Principal local sources of largemouth bass.

Zone or River Reach	Description	Percentage of Largemouth Bass
431	Twin Lakes or nearby	25%
R8	Okanogan River between the Canadian Border and the Columbia River	17%
110	Lakes or creeks west of Conconully	11%
311	Rebecca Lake, Buffalo Lake, or nearby	10%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	Up to 7%
R4/R4B	Lake Roosevelt between Kettle Falls and the mouth of the Spokane River	Up to 7%

Zones or river reaches each accounting for 2-7% of local largemouth bass consumed are, in descending order, 250/R9 (Banks Lake or nearby), R7 (Columbia River downstream of the Grand Coulee Dam), and 120 (lakes or creeks west of Okanogan). The zones or river reaches each accounting for 0.2 – 2% of local largemouth bass consumed are, in descending order, 170, R10, 422, 232, 231, and 180. 6% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 5% of local largemouth bass consumption.

Section 1.3: Burbot

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from burbot also known as Lingcod? Other names include Lawyer, Eelpout, or Eel.*

Percentage of reservation population who ate burbot last year:

- Yes: 4% (223 people)
- Don't know/no answer recorded: 2%
- No: 95%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the burbot?*

Of the 223 burbot consumers:

- 59% ate it less than once a month
- 32% ate it once a month
- 3% ate it more than once a month, but not every week
- 1% ate it once a week
- 5% did not provide frequency information

On average, each burbot consumer ate the fish 9 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the burbot?*

Of the 223 burbot consumers:

- 75% never ate the head, skin, organs, or eggs
- 15% ate the head, skin, organs, or eggs less than once a month
- 10% were not sure how often they ate the head, skin, organs, or eggs

On average, each burbot consumer ate the fish head, skin, organs, or eggs 1 time per year.

Of the 56 people who ate the burbot head, skin, organs, or eggs at all, on average they ate them 6 times per year.

Questions:

Thinking about the burbot (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the burbot was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the burbot was caught inside the local area by (you/SUBJECT) or someone else?

Of the 223 burbot consumers:

- 28% said all of the burbot that they ate was caught within the local area
- 2% said half of the burbot that they ate was caught within the local area, half was caught outside the local area, and “a little” from a store or restaurant.
- 17% said all of the burbot they ate was caught outside the local area
- 37% said all of the burbot they ate was from a store or restaurant
- 3% said most of the burbot that they ate was caught outside the local area and “a little” was from a store or restaurant.
- 2% said half of the burbot that they ate was caught outside the local area and half was from a store or restaurant.
- 12% did not provide source information.

Taking the source of fish into account, we answered the question: how often did people who sourced their burbot from the local area eat the fish?

After removing from further analysis the 156 people who exclusively ate burbot from outside the local area, from a store or restaurant, or did not provide answers to these questions, there are 67 people who ate burbot fished from within the local area last year. The average number of times these local-sourcers ate burbot last year was 7.

Question: *Please look at this map and mark the areas where the burbot came from the local area.*

All zones or river reaches contributing to the reservation’s local burbot are listed in Table 6 below.

Table 6: Local sources of burbot.

Zone or River Reach	Description	Percentage of Burbot
R7	Columbia River downstream of the Grand Coulee Dam	43%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	25%
382	Mouth of the San Poil River or nearby creeks	17%
100	Lakes or creeks west of Loomis	15%

No local-sourcers recorded “999” for the area where their fish was caught.

Section 1.4: Lamprey

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from lamprey, also known as Eel?*

Percentage of reservation population who ate lamprey last year:

- Yes: 1% (56 people)
- Don't know/no answer recorded: 2%
- No: 97%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the lamprey?*

Of the 56 lamprey consumers:

- 33% ate it less than once a month
- 66% ate it once a month
- 1% ate it once a week

On average, each lamprey consumer ate the fish 12 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the lamprey?*

Of the 56 lamprey consumers:

- 87% never ate the head, skin, organs, or eggs
- 13% ate the head, skin, organs, or eggs less than once a month

On average, each lamprey consumer ate the fish head, skin, organs, or eggs 1 time per year.

Of the 8 people who ate the lamprey head, skin, organs, or eggs at all, on average they ate them 6 times per year.

Questions:

Thinking about the lamprey (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the lamprey was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the lamprey was caught inside the local area by (you/SUBJECT) or someone else?

Of the 56 lamprey consumers:

- 4% said all of the lamprey that they ate was caught within the local area.
- 9% said half of the lamprey that they ate was caught within the local area and half was caught outside the local area, not sourced from a store or restaurant.
- 12% said all of the lamprey that they ate was caught outside the local area.
- 70% only ate lamprey bought from a store or restaurant.
- 5% provided no source information.

Taking the source of fish into account, we answered the question: how often did people who sourced their lamprey from the local area eat the fish?

After removing from further analysis the 48 people who exclusively ate lamprey from outside the local area or from a store or restaurant, or who did not provide source information, there are 8 people who ate lamprey fished from within the local area last year. The average number of times these local-sourcers ate lamprey last year was 20.

Question: *Please look at this map and mark the areas where the lamprey came from the local area.*

All zones or river reaches contributing to the reservation’s local lamprey are listed in Table 7 below.

Table 7: Local sources of lamprey

Zone or River Reach	Description	Percentage of Lamprey
R7	Columbia River downstream of the Grand Coulee Dam	60%
R10	San Poil River	40%

No local-sourcers recorded “999” for the area where their fish was caught.

Section 1.5: Northern Pikeminnow

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from northern pikeminnow, also known as Squawfish?*

Percentage of reservation population who ate northern pikeminnow last year:

- Yes: 1% (36 people)
 - Don't know/no answer recorded: 2%
 - No: 97%
- Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the northern pikeminnow?*

Of the 36 northern pikeminnow consumers:

- 94% ate it less than once a month
- 6% ate it once a month

On average, each northern pikeminnow consumer ate the fish 7 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the northern pikeminnow?*

Of the 36 northern pikeminnow consumers:

- 88% never ate the head, skin, organs, or eggs
- 12% ate the head, skin, organs, or eggs less than once a month

On average, each northern pikeminnow consumer ate the head, skin, organs, or eggs 2 times per year.

Of the 5 people who ate the northern pikeminnow head, skin, organs, or eggs at all, on average they ate them 6 times per year.

Questions:

Thinking about the northern pikeminnow (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the northern pikeminnow was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the northern pikeminnow was caught inside the local area by (you/SUBJECT) or someone else?

Of the 36 northern pikeminnow consumers:

- 88% said all of the northern pikeminnow that they ate was caught within the local area
- 12% said all of the northern pikeminnow that they ate was caught outside the local area

Taking the source of fish into account, we answered the question: how often did people who sourced their northern pikeminnow from the local area eat the fish?

After removing from further analysis the 5 people who exclusively ate northern pikeminnow from outside the local area, were unsure about where their northern pikeminnow came from, or did not provide answers to these questions, there are 31 people who ate northern pikeminnow fished from within the local area last year. The average number of times these local-sourcers ate northern pikeminnow last year was 7.

Question: *Please look at this map and mark the areas where the northern pikeminnow came from the local area.*

All zones or river reaches contributing to the reservation’s local northern pikeminnow are listed in Table 8 below.

Table 8: Local sources of northern pikeminnow

Zone or River Reach	Description	Percentage of Northern Pikeminnow
R9	Banks Lake or nearby	11%
R7	Columbia River downstream of the Grand Coulee Dam	7%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	6%
R10	San Poil River	4%

75% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 72% of local northern pikeminnow consumption.

Section 1.6: Panfish

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any type of small fish known as Panfish, which includes Crappie, Sunfish, Perch, and Bluegill?*

Percentage of reservation population who ate panfish last year:

- Yes: 6% (379 people)
 - Includes 3 people who answered no but subsequently provided panfish information
- Don't know/no answer recorded: 2%
- No: 92%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the panfish?*

Of the 379 panfish consumers:

- 63% ate it less than once a month
- 16% ate it once a month
- 12% ate it more than once a month, but not every week
- 2% ate it once a week
- 7% ate it more than once a week, but not every day

On average, each panfish consumer ate the fish 25 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the panfish?*

Of the 379 panfish consumers:

- 63% never ate the head, skin, organs, or eggs
- 21% ate the head, skin, organs, or eggs less than once a month
- 8% ate the head, skin, organs, or eggs once a month
- 9% ate the head, skin, organs, or eggs more than once a month, but not every week

On average, each panfish consumer ate the fish head, skin, organs, or eggs 5 times per year.

Of the 141 people who ate the panfish head, skin, organs, or eggs at all, on average they ate them 12 times per year.

Questions:

Thinking about the panfish (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the panfish was caught outside the local area by (you/SUBJECT) or someone else?

How much of the panfish was caught inside the local area by (you/SUBJECT) or someone else?

Of the 379 panfish consumers:

- 76% said all of the panfish that they ate was caught within the local area
- 2% said most of the panfish that they ate was caught within the local area, “a little” was caught outside the local area, and “a little” was from a store or restaurant.
- 1% said half of the panfish that they ate was caught within the local area and half was from a store or restaurant.
- 7% said all of the panfish that they ate was caught outside the local area.
- 8 % said all of the panfish that they ate was from a store or restaurant.
- 5% were unsure where the fish was from, or did not provide further information.

Taking the source of fish into account, we answered the question: how often did people who sourced their panfish from the local area eat the fish?

After removing from further analysis the 79 people who exclusively ate panfish from outside the local area, were unsure about where their panfish came from, or did not provide answers to these questions, there are 300 people who ate panfish fished from within the local area last year. The average number of times these local-sourcers ate panfish last year was 29.

Question: *Please look at this map and mark the areas where the panfish came from the local area.*

Zones or river reaches contributing more than 4% of the reservation’s local panfish and sources within the Upper Columbia River are listed in Table 9.

Table 9: Principal local sources of panfish

Zone or River Reach	Description	Percentage of Panfish
231	Omak Lake or nearby	60%
300	Owhi Lake or nearby	5%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	5%
120	Lakes or creeks west of Okanogan	4%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	Up to 4%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 4%

Zones or river reaches each accounting for 0.07 – 4% of local panfish consumed are, in descending order, 373, R7, 180, R8, R9, 382, 110, 311, 431, 261, 262, 232, 442, 421, 422, and 250. 10% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 7% of local panfish consumption.

Section 1.7: Salmon

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from salmon, including Kokanee, Sockeye, and Chinook?*

Percentage of reservation population who ate salmon last year:

- Yes: 73% (4247 people)
 - Includes 17 people who answered no but subsequently provided salmon information, and excludes 31 people who answered yes but provided no salmon information
- No answer recorded: < 1%
- No: 27%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the salmon?*

Of the 4247 salmon consumers:

- 54% ate it less than once a month
- 24% ate it once a month
- 14% ate it more than once a month, but not every week
- 6% ate it once a week
- 1% ate it more than once a week, but not every day
- < 1% did not provide frequency information

On average, each salmon consumer ate the fish 15 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the salmon?*

Of the 4247 salmon consumers:

- 82% never ate the head, skin, organs, or eggs
- 11% ate the head, skin, organs, or eggs less than once a month
- 3% ate the head, skin, organs, or eggs once a month
- 2% ate the head, skin, organs, or eggs more than once a month, but not every week
- 1% ate the head, skin, organs, or eggs once a week
- < 1% ate the head, skin, organs, or eggs more than once a week, but not every day
- 1% did not know or did not provide frequency information

On average, each salmon consumer ate the fish head, skin, organs, or eggs 3 times per year.

Of the 765 people who ate the salmon head, skin, organs, or eggs at all, on average they ate them 13 times per year.

Questions:

Thinking about the salmon (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the salmon was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the salmon was caught inside the local area by (you/SUBJECT) or someone else?

Of the 4247 salmon consumers:

- 61% said all of the salmon that they ate was caught within the local area
- 4% said most of the salmon that they ate was caught within the local area
 - 1% said “a little” was bought from a store or restaurant and 2% said “some” or “a little” was fished outside the local area. < 1% obtained “some” from outside the local area and “some” or “a little” from a store or restaurant.
- 3% said half of the salmon that they ate was caught within the local area
 - 2% said the other half of their salmon was caught outside the local area, and 1% obtained their other half from a store or restaurant.
- 3% said some of the salmon that they ate was caught within the local area
 - < 1% sourced the remainder exclusively from a store or restaurant, 2% sourced the remainder exclusively from outside the local area, and 1% sourced from a combination of store/restaurant and outside the local area.
- 2% said a little of the salmon that they ate was caught within the local area
 - 1% sourced the remainder exclusively from a store or restaurant, < 1% sourced the remainder exclusively from outside the local area, and 1% sourced from a combination of store/restaurant and outside the local area.
- 9% said all of the salmon they ate was caught outside the local area
- 5% did not report getting any salmon from a store or restaurant, but were unsure whether their salmon came from inside or outside the local area.
- 1% sourced “some” or “a little” salmon from a store or restaurant, but were unsure whether the remainder of their salmon came from inside or outside the local area.
- 8% said all of the salmon they ate was bought from a store or restaurant
- 1% sourced their salmon from a combination of store/restaurant and outside the local area.
- 2% were unsure where the fish they had eaten was from, or did not provide further information.

Taking the source of fish into account, we answered the question: how often did people who sourced their salmon from the local area eat the fish?

After removing from further analysis the 1147 people who exclusively ate salmon from outside the local area, were unsure about where their salmon came from, or did not provide answers to these questions, there are 3100 people who ate salmon fished from within the local area last year who provided interpretable source locations. The average number of times these local-sourcers ate salmon last year was 17.

Question: *Please look at this map and mark the areas where the salmon came from the local area.*

Zones or river reaches contributing more than 2% of the reservation’s local salmon and sources within the Upper Columbia River are listed in Table 10 below. Some zones have been combined with their adjacent river reach.

Table 10: Principal local sources of salmon

Zone or River Reach	Description	Percentage of Salmon
R7/140/180/190/241	Columbia River downstream of the Grand Coulee Dam	76%
R8	Okanogan River between the Canadian Border and the Columbia River	6%
R10/382/381	San Poil River	4%
231	Creeks near Omak Lake	2%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	< 1%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	< 1%

Zones or river reaches each accounting for about 1% or less of local salmon consumed are, in descending order, 130, 292, 432, R9, 291, 232, 170, R11, 311, 120, 373, 374, 421, and 250. 13% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 7% of local salmon consumption.

Section 1.8: Sturgeon

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from sturgeon, also known as White Sturgeon?*

Percentage of reservation population who ate sturgeon last year:

- Yes: 3% (163 people)
 - Excludes 7 people who answered yes but provided no more sturgeon information.
- Don't know/no answer recorded: 2%
- No: 95%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the sturgeon?*

Of the 163 sturgeon consumers:

- 79% ate it less than once a month
- 2% ate it once a month
- 2% ate it more than once a month, but not every week
- 17% ate it more than once a week, but not every day

On average, each sturgeon consumer ate the fish 40 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the sturgeon?*

Of the 163 sturgeon consumers:

- 90% never ate the head, skin, organs, or eggs
- 2% ate the head, skin, organs, or eggs less than once a month
- 8% ate the head, skin, organs, or eggs once a week

On average, each sturgeon consumer ate the fish head, skin, organs, or eggs 5 times per year.

The 15 people who ate the sturgeon head, skin, organs, or eggs ate them 42 times per year on average.

Questions:

Thinking about the sturgeon (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much sturgeon was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the sturgeon was caught inside the local area by (you/SUBJECT) or someone else?

Of the 163 sturgeon consumers:

- 50% said all of the sturgeon that they ate was caught within the local area
- 17% said half of the sturgeon that they ate was caught within the local area

16% said the other half of the sturgeon they ate was caught outside the local area. 1% said most was bought from a store or restaurant and half was fished outside the local area (this does not add up to 100% but is not expected to be a significant source of error).

- 13% were unsure whether any of the fish they had eaten was caught inside the local area.

8% had no idea about the source, and 5% were sure it was not from the store, but did not know if it was caught inside or outside the local area.

- 13% only ate fish caught outside the local area, and not from a store or restaurant.
- 6% only ate sturgeon bought at a store or restaurant.

Taking the source of fish into account, we answered the question: how often did people who sourced their sturgeon from the local area eat the fish?

After removing from further analysis the 53 people who exclusively ate sturgeon from outside the local area or a store or restaurant, were unsure about where their sturgeon came from, or did not provide answers to these questions, there are 110 people who ate sturgeon fished from within the local area last year. The average number of times these local-sourcers ate sturgeon last year was 56.

Question: *Please look at this map and mark the areas where the sturgeon came from the local area.*

All zones or river reaches contributing to the reservation’s local sturgeon are listed in Table 11 below.

Table 11: Local sources of sturgeon

Zone or River Reach	Description	Percentage of Sturgeon
231	Omak Lake or nearby ³	83%
R7	Columbia River downstream of Grand Coulee Dam	7%
R5	Lake Roosevelt between the Spokane River and the San Poil River	4%
382	Mouth of the San Poil River or nearby creeks	2%

34% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 4% of overall local sturgeon consumption.

³ Sturgeon are not known to inhabit Omak Lake. Nevertheless, these are the data recorded.

Section 1.9: Sucker

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any type of Sucker, including Longnose, Bridgelip, or Largescale Sucker?*

Percentage of reservation population who ate sucker last year:

- Yes: < 1% (14 people)
- Don't know/no answer recorded: 1%
- No: 98%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the sucker?*

The 14 sucker consumers all ate the meat less than once a month (6 times per year).

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the sucker?*

The 14 sucker consumers all ate the head, skin, organs, or eggs once a week (52 times per year).

Questions:

Thinking about the sucker (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the sucker was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the sucker was caught inside the local area by (you/SUBJECT) or someone else?

All sucker consumers were unsure whether any of the fish they had eaten was caught inside the local area, outside the local area, or had come from a store or restaurant.

Because none of the respondents knew whether or not their sucker was from the local area, none were asked to use the map to show the source of their sucker, and no specific local area information is available for this type of fish.

Section 1.10: Trout

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from trout, including Rainbow, Red-band, Steelhead, Dolly Varden, Brown, or Bull Trout?*

Percentage of reservation population who ate trout last year:

- Yes: 46% (2684 people)
 - Includes 4 people who recorded no answer but subsequently provided trout information
 - Excludes 41 people who answered yes but subsequently provided no trout information or said that their frequency of trout consumption was “never.”
- Don’t know/no answer recorded: 1%
- No: 53%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the trout?*

Of the 2684 trout consumers:

- 66% ate it less than once a month
- 16% ate it once a month
- 14% ate it more than once a month, but not every week
- 2% ate it once a week
- 1% ate it more than once a week, but not every day
- 1% did not provide frequency information

On average, each trout consumer ate the fish 13 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the trout?*

Of did the 2684 trout consumers:

- 78% never ate the head, skin, organs, or eggs
- 16% ate the head, skin, organs, or eggs less than once a month
- 2% ate the head, skin, organs, or eggs once a month
- 2% ate the head, skin, organs, or eggs more than once a month, but not every week
- < 1% ate the head, skin, organs, or eggs once a week
- < 1% ate the head, skin, organs, or eggs more than once a week, but not every day
- 2% did not provide an answer to this question

On average, each trout consumer ate the fish head, skin, organs, or eggs 3 times per year.

Of the 591 people who ate the trout head, skin, organs, or eggs at all, on average they ate them 13 times per year.

Questions:

Thinking about the trout (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the trout was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the trout was caught inside the local area by (you/SUBJECT) or someone else?

Of the 2684 trout consumers:

- 89% said all of the trout that they ate was caught within the local area
 - 1% said most of the trout that they ate was caught within the local area
- < 1% said “some” trout was caught outside the local area and “a little” or none was bought from a store or restaurant. 1% said “a little” was fished outside the local area and none was bought from a store or restaurant. < 1% said “a little” was bought from a store or restaurant and none was fished outside the local area.
- 1% said half of the trout that they ate was caught within the local area and half was caught outside the local area, not sourced from a store or restaurant.
 - 1% said some or a little of the trout they ate was caught within the local area, with the remainder from outside the local area or from a store or restaurant.
 - 4% were unsure whether any of the trout they had eaten was caught inside the local area or did not provide an answer to this question.
 - 2% only ate trout caught outside the local area, and not from a store or restaurant.
 - 2% only ate trout bought from a store or restaurant.
 - < 1% ate “some” trout from a store or restaurant and “some” trout fished outside the local area.

Taking the source of fish into account, we answered the question: how often did people who sourced their trout from the local area eat the fish?

After removing from further analysis the 214 people who exclusively ate trout from outside the local area, were unsure about where their trout came from, or did not provide answers to these questions, there are 2470 people who ate trout fished from within the local area last year. The average number of times these local-sourcers ate trout last year was 14.

Question: *Please look at this map and mark the areas where the trout came from the local area.*

Zones or river reaches contributing more than 4% of the reservation’s local trout and sources within the Upper Columbia River are listed in Table 12 below.

Table 12: Principal local sources of trout

Zone or River Reach	Description	Percentage of Trout
R7	Columbia River downstream of the Grand Coulee Dam	20%
300	Owhi Lake or nearby	17%
110	Lakes or creeks west of Conconully	7%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	5%
431	Twin Lakes or nearby	4%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 4%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 4%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 2%
R1	Upper Columbia River between the US-Canada border and Onion Creek	< 2%

Zones or river reaches each accounting for 2-4% of local trout consumed are, in descending order, 180 (lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River), R10 (San Poil River between the Canadian Border and Lake Roosevelt), 291 (in or between Nespelem and Gold Lake), 441 (Wilmont Creek or nearby), R8 (Okanogan River between the Canadian Border and the Columbia River), and 382 (mouth of the San Poil River or nearby creeks). The zones or river reaches each accounting for less than 2% of local trout consumed are, in descending order, 422, 432, 311, 120, 140, 250, 421, 170, 373, 451, R9, 372, 381, 272, 361, 100, 130, 232, 233, 292, 241, 223, 282, 231, 242, 263, 881, 423, 190, 452, 374, 352, 281, 212, 160, 150, 261, R11, 262, 482, 461, 481, 343, 551, 542, and 462. 8% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 7% of overall local trout consumption.

Section 1.11: Walleye

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from walleye, also known as pickerel?*

Percentage of reservation population who ate walleye last year:

- Yes: 13% (772 people)
 - Excludes 25 people who answered yes but subsequently provided no walleye information.
- Don't know/no answer recorded: 2%
- No: 85%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the walleye?*

Of the 772 walleye consumers:

- 81% ate it less than once a month
- 17% ate it once a month
- 2% ate it more than once a month, but not every week
- 1% ate it once a week
- < 1% ate it more than once a week, but not every day

On average, each walleye consumer ate the fish 9 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the walleye?*

Of the 772 walleye consumers:

- 84% never ate the head, skin, organs, or eggs
- 11% ate the head, skin, organs, or eggs less than once a month
- 2% ate the head, skin, organs, or eggs once a month
- 1% ate the head, skin, organs, or eggs more than once a month, but not every week
- No one ate the head, skin, organs, or eggs once a week
- < 1% ate the head, skin, organs, or eggs more than once a week, but not every day
- 2% did not provide an answer to this question

On average, each walleye consumer ate the fish head, skin, organs, or eggs 2 times per year.

Of the 109 people who ate the walleye head, skin, organs, or eggs at all, on average they ate them 14 times per year.

Questions:

Thinking about the walleye (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the walleye was caught outside the local area by (you/SUBJECT) or someone else?

How much of the walleye was caught inside the local area by (you/SUBJECT) or someone else?

Of the 772 walleye consumers:

- 90% said all of the walleye that they ate was caught within the local area
- < 1% said most of the walleye that they ate was caught within the local area, with “a little” caught outside the local area and “some” bought from a store or restaurant.
- < 1% said half of the walleye that they ate was caught within the local area and half was caught outside the local area, not sourced from a store or restaurant.
- 2% were unsure whether any of the fish they had eaten was caught inside the local area (it was not from the store, but they did not know if it was caught inside or outside the local area).
- 3% only ate fish caught outside the local area, and not from a store or restaurant.
- 4% only ate walleye bought from a store or restaurant.

Taking the source of fish into account, we answered the question: how often did people who sourced their walleye from the local area eat the fish?

After removing from further analysis the 69 people who exclusively ate walleye from outside the local area, were unsure about where their walleye came from, or did not provide answers to these questions, there are 703 people who ate walleye fished from within the local area last year. The average number of times these local-sourcers ate walleye last year was 9.

Question: *Please look at this map and mark the areas where the walleye came from the local area.*

Zones or river reaches contributing more than 5% of the reservation’s local walleye and sources within the Upper Columbia River are listed in Table 13 below.

Table 13: Principal local sources of walleye

Zone or River Reach	Description	Percentage of Walleye
R7	Columbia River downstream of the Grand Coulee Dam	20%
R9/250	Banks Lake or nearby	16%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	11%
382	Mouth of the San Poil River or nearby creeks	7%
R4B	Lake Roosevelt between Inchelium and the Spokane River	7%
120	Lakes or creeks west of Okanogan	6%
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	5%
140	Lakes or creeks west and south of Bridgeport	5%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	Up to 3%
R3	Upper Columbia River/Lake Roosevelt near Marcus Flats	< 1%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	< 1%

Zones or river reaches each accounting for 2-3% of local walleye consumed are, in descending order, 422 (lakes or creeks near Hall Creek and Barnaby Creek), R10 (San Poil River between the Canadian Border and Lake Roosevelt), and R8 (Okanogan River between the Canadian Border and the Columbia River). The zones or river reaches each accounting for 0.18 – 1% of local walleye consumed are, in descending order, 432, 311, 411, R11, 431, 233, 412, and 100. 12% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 10% of overall local walleye consumption.

Section 1.12: Lake Whitefish

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from lake whitefish?*

Percentage of reservation population who ate lake whitefish last year:

- Yes: 2% (108 people)
- Don't know/no answer recorded: 2%
- No: 96%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the lake whitefish?*

Of the 108 lake whitefish consumers:

- 79% ate it less than once a month
- 5% ate it once a month
- 15% ate it more than once a month, but not every week

On average, each lake whitefish consumer ate the fish 9 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the lake whitefish?*

Of the 108 lake whitefish consumers:

- 88% never ate the head, skin, organs, or eggs
- 6% ate the head, skin, organs, or eggs less than once a month
- 2% ate the head, skin, organs, or eggs once a month
- 4% ate the head, skin, organs, or eggs more than once a month, but not every week

On average, each lake whitefish consumer ate the fish head, skin, organs, or eggs 2 times per year.

Of the 13 people who ate the lake whitefish head, skin, organs, or eggs at all, on average they ate them 13 times per year.

Questions:

Thinking about the lake whitefish (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the lake whitefish was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the lake whitefish was caught inside the local area by (you/SUBJECT) or someone else?

Of the 108 lake whitefish consumers:

- 91% said all of the lake whitefish that they ate was caught within the local area.
- 8% only ate fish bought from a store or restaurant.

Taking the source of fish into account, we answered the question: how often did people who sourced their lake whitefish from the local area eat the fish?

After removing from further analysis the 8 people who exclusively ate lake whitefish from a store or restaurant, there are 100 people who ate lake whitefish fished from within the local area last year. The average number of times these local-sourcers ate lake whitefish last year was 9.

Question: *Please look at this map and mark the areas where the lake whitefish came from the local area.*

Zones or river reaches contributing more than 8% of the reservation’s local lake whitefish and sources within the Upper Columbia River are listed in Table 14 below.

Table 14: Principal local sources of lake whitefish

Zone or River Reach	Description	Percentage of Lake Whitefish
300	Owhi Lake or nearby	23%
231	Omak Lake or nearby	19%
R7	Columbia River downstream of the Grand Coulee Dam	12%
431	Twin Lakes or nearby	11%
311	Rebecca Lake, Buffalo Lake, or nearby	8%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 4%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 4%

Zones or river reaches each accounting for 1-4% of local lake whitefish consumed are, in descending order, R10 (San Poil River between the Canadian Border and Lake Roosevelt), 180 (lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River), 291 (in or between Nespelem and Gold Lake), and 343 (lakes or creeks west of Curlew). 15% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 11% of overall local lake whitefish consumption.

Section 1.13: Mountain Whitefish

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from mountain whitefish?*

Percentage of reservation population who ate mountain whitefish last year:

- Yes: 1% (66 people)
 - Excludes 2 people who answered yes but subsequently provided no mountain whitefish information
- Don't know/no answer recorded: 2%
- No: 97%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the mountain whitefish?*

Of the 66 mountain whitefish consumers:

- 93% ate it less than once a month
- 6% ate it more than once a month, but not every week

On average, each mountain whitefish consumer ate the fish 8 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the mountain whitefish?*

Of the 66 mountain whitefish consumers:

- 83% never ate the head, skin, organs, or eggs
- 10% ate the head, skin, organs, or eggs less than once a month
- 6% ate the head, skin, organs, or eggs more than once a month, but not every week

On average, each mountain whitefish consumer ate the fish head, skin, organs, or eggs 3 times per year.

Of the 11 people who ate the mountain whitefish head, skin, organs, or eggs at all, on average they ate them 13 times per year.

Questions:

Thinking about the mountain whitefish (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the mountain whitefish was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the mountain whitefish was caught inside the local area by (you/SUBJECT) or someone else?

Of the 66 mountain whitefish consumers:

- 69% said all of the mountain whitefish that they ate was caught within the local area
- 22% only ate mountain whitefish caught outside the local area, and not from a store or restaurant.
- 8% only ate mountain whitefish bought from a store or restaurant.

Taking the source of fish into account, we answered the question: how often did people who sourced their mountain whitefish from the local area eat the fish?

After removing from further analysis the 20 people who exclusively ate mountain whitefish from outside the local area or from a store or restaurant, there are 46 people who ate mountain whitefish fished from within the local area last year. The average number of times these local-sourcers ate mountain whitefish last year was 8.

Question: *Please look at this map and mark the areas where the mountain whitefish came from the local area.*

All zones or river reaches contributing to of the reservation’s local mountain whitefish are listed in Table 15 below.

Table 15: Principal local sources of mountain whitefish

Zone or River Reach	Description	Percentage of Mountain Whitefish
250	Banks Lake or nearby	54%
431	Twin Lakes or nearby	9%
R8	Okanogan River between the Canadian Border and the Columbia River	8%
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	8%

22% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 21% of overall local mountain whitefish consumption.

Section 1.14: Mussels

Question: *Over the past 12 months, did (you/SUBJECT) eat any mussels, also known as Freshwater Clams or Bivalves?*

Percentage of reservation population who ate mussels last year:

- Yes: 8% (473 people)
 - Excludes 6 people who answered yes but subsequently provided no mussel information
- Don't know/no answer recorded: 2%
- No: 90%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the mussels?*

Of the 473 mussel consumers:

- 77% ate them less than once a month
- 16% ate them once a month
- 7% ate them more than once a month, but not every week

On average, each mussel consumer ate them 9 times per year.

Questions:

Thinking about the mussels (you/SUBJECT) ate in the past 12 months, how much of them were bought at a store or eaten in a restaurant?

How much of the mussels were caught outside the local area by (you/SUBJECT) or someone else?

How much of the mussels were caught inside the local area by (you/SUBJECT) or someone else?

Of the 473 mussel consumers:

- 5% said all of the mussels that they ate were caught within the local area
- < 1% said most of the mussels that they ate were caught within the local area, with the remainder from a store or restaurant.
- 6% said half of the mussels that they ate were gathered within the local area and half were gathered outside the local area, not sourced from a store or restaurant.
- 22% only ate mussels gathered outside the local area, and not from a store or restaurant.
- 4% said most of the mussels they ate were from a store or restaurant, with the remainder gathered outside the local area.
- 58% only ate mussels bought from a store or restaurant.
- 5% were unsure about the source of their mussels.

Taking the source of fish into account, we answered the question: how often did people who sourced their mussels from the local area eat them?

After removing from further analysis the 420 people who exclusively ate mussels from outside the local area, were unsure about where their mussels came from, or did not provide answers to these questions, there are 53 people who ate mussels gathered from within the local area last year. The average number of times these local-sourcers ate mussels last year was 6.

Question: *Please look at this map and mark the areas where the mussels came from the local area.*

All zones or river reaches contributing to the reservation’s local mussels are listed in Table 16 below.

Table 16: Local sources of mussels

Zone or River Reach	Description	Percentage of Mussels
381/382	Mouth of the San Poil River upstream to Louie Creek, or nearby creeks	54%
292	Lakes and creeks north and west of Nespelem	12%
300	Owhi Lake or nearby	4%
311	Rebecca Lake, Buffalo Lake, or nearby, including the Columbia River near Elmer City	4%

16% of local-sourcers recorded “999” for the area where their mussels were gathered. Their portion accounted for 25% of overall local mussel consumption.

Section 1.15: Crawfish

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from crawfish, also known as crayfish or crawdads?*

Percentage of reservation population who ate crawfish last year:

- Yes: 9% (506 people)
 - Excludes 21 people who answered yes but subsequently provided no crawfish information
- Don't know/no answer recorded: 1%
- No: 90%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the crawfish?*

Of the 506 crawfish consumers:

- 81% ate them less than once a month
- 11% ate them once a month
- 8% ate them more than once a month, but not every week
- 6% ate them more than once a week, but not every day
- 1% did not provide an answer to this question.

On average, each crawfish consumer ate them 13 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the crawfish or crawdads whole?*

Of the 506 crawfish consumers:

- 52% never ate the crawfish whole
- 31% ate the crawfish whole less than once a month
- 5% ate the crawfish whole once a month
- 2% ate the crawfish whole more than once a month, but not every week
- 9% did not know or did not provide an answer to this question

On average, each crawfish consumer ate the crawfish whole 4 times per year.

The 198 people who ever ate the crawfish whole ate them an average of 8 times per year.

Questions:

Thinking about the crawfish (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the crawfish was caught outside the local area by (you/SUBJECT) or someone else?

How much of the crawfish was caught inside the local area by (you/SUBJECT) or someone else?

Of the 506 crawfish consumers:

- 84% said all of the crawfish that they ate was caught within the local area
- < 1% said half of the crawfish that they ate was caught within the local area and half was bought from a store or restaurant.
- 1% said some of the crawfish they ate was caught inside the local area, “a little” was caught outside the local area, and “a little” was bought from a store or restaurant.
- 2% only ate crawfish caught outside the local area, and not from a store or restaurant.
- 12% only ate crawfish bought from a store or restaurant.
- < 1% did not provide an answer to this question.

Taking the source of fish into account, we answered the question: how often did people who sourced their crawfish from the local area eat them?

After removing from further analysis the 73 people who exclusively ate crawfish from outside the local area or from a store or restaurant, or who did not provide answers to the source or frequency questions, there are 433 people who ate crawfish fished from within the local area last year. The average number of times these local-sourcers ate crawfish last year was 14.

Question: *Please look at this map and mark the areas where the crawfish came from the local area.*

Zones or river reaches contributing more than 3% of the reservation’s local crawfish are in Table 17.

Table 17: Principal local sources of crawfish

Zone or River Reach	Description	Percentage of Crawfish
311	Rebecca Lake, Buffalo Lake, or nearby	68%
300	Owhi Lake or nearby	6%
R8	Okanogan River between the Canadian Border and the Columbia River	6%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	4%
381/382	Mouth of the San Poil River upstream to Louie Creek, or nearby creeks	38%

Zones or river reaches each accounting for 1-3% of local crawfish consumed are, in descending order, 291 (in or between Nespelem and Gold Lake), 441 (Wilmont Creek or nearby), and 432 (lakes or creeks west of Inchelium). The zones or river reaches each accounting for 0.03 – 1% of local crawfish consumed are, in descending order, 422, 221, 431, R10, 110, R11, 211, 160, 423, 414, and 453. 5% of local-sourcers recorded “999” for the area where their fish was caught. Their portion accounted for 2% of overall local crawfish consumption.

Section 1.16: Aquatic Animals

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any other aquatic animals, such as Turtles, Snakes, or Frogs?*

Percentage of reservation population who ate aquatic animals last year:

- Yes: 1% (42 people)
- Don't know/no answer recorded: 1%
- No: 98%
 - Includes people who did not eat any fish or seafood at all.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the aquatic animals?*

Of the 42 aquatic animal consumers:

- 36% ate them less than once a month
- 64% ate them more than once a month, but not every week

On average, each aquatic animal consumer ate them 18 times per year.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the aquatic animals?*

No aquatic animal consumer reported ever eating the head, skin, organs, or eggs.

Questions:

Thinking about the aquatic animals (you/SUBJECT) ate in the past 12 months, how much was bought at a store or eaten in a restaurant?

How much of the aquatic animals were caught outside of the local area by (you/SUBJECT) or someone else?

How much of the aquatic animals were caught inside the local area by (you/SUBJECT) or someone else?

All 42 aquatic animal consumers said that all of the aquatic animals that they ate were caught within the local area.

Question: *Please look at this map and mark the areas where the aquatic animals came from in the local area.*

All zones or river reaches contributing to the reservation's local aquatic animals are listed in Table 18 below.

Table 18: Local sources of aquatic animals

Zone or River Reach	Description	Percentage of Aquatic Animals
231	Omak Lake or nearby	66%
170	Lakes or creeks north of Omak	22%
461	Southwest portion of Hellsgate	9%
291	In or between Nespelem and Gold Lake	3%

No local-sourcers recorded “999” for the area where their aquatic animals were caught.

Section 1.17: Other Fish or Freshwater Animals

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any other fish or freshwater animals from the local area?*

Percentage of reservation population who ate any other fish or freshwater animals from the local area last year:

- Yes: < 1% (22 people)
 - Excludes 125 people who answered yes but subsequently provided information regarding only fish or seafood purchased from a store or not from the local area (cod, lobster, red snapper, shrimp, oysters, clams, tuna, whitefish, halibut, crab, and Gorton's fish fillets).
- No: > 99%
 - Includes people who did not eat any fish or seafood at all.

Three additional types of locally-sourced fish were reported: catfish (10 people), creek fish (4 people), and eastern brook trout (5 people).

Question: *In the past 12 months, how often did (you/SUBJECT) eat the meat of the (other fish)?*

Of the consumers of "other fish":

- 100% of the catfish consumers ate catfish less than once a month
- 100% of the creek fish consumers ate creek fish less than once a month
- 100% of the eastern brook trout consumers ate eastern brook trout less than once a month

Question: *In the past 12 months, how often did (you/SUBJECT) eat the head, skin, organs, or eggs of the (other fish)?*

Of the consumers of "other fish":

- None of the catfish consumers ate the head, skin, organs, or eggs of catfish
- All of the creek fish consumers ate the head, skin, organs, or eggs less than once a month
- None of the eastern brook trout consumers ate the head, skin, organs, or eggs

Questions:

Thinking about the (other fish) (you/SUBJECT) ate in the past 12 months, how much of it was bought at a store or eaten in a restaurant?

How much of the (other fish) was caught outside of the local area by (you/SUBJECT) or someone else?

How much of the (other fish) was caught inside the local area by (you/SUBJECT) or someone else?

Of the consumers of “other fish”:

- 100% of the catfish consumers said all of the catfish they ate was caught from the local area
- 100% of the creek fish consumers said all of the creek fish they ate was caught from the local area
- 100% of the eastern brook trout consumers said all of the eastern brook trout they ate was caught from the local area

Question: *Please look at this map and mark the areas where the (other fish) came from the local area.*

All zones or river reaches contributing to other types of fish consumed by people who live on the reservation are listed in Table 19 below.

Table 19: Local sources of other fish

Zone or River Reach	Description	Percentage
R7	Columbia River downstream of the Grand Coulee Dam	69% of catfish
100	West of Loomis and Palmer Lake	31% of catfish
431/432/442	Twin Lakes and areas east and south	50% of creek fish
421/422	Hall Creek, Barnaby Creek, or nearby	37% of creek fish
441	Wilmont Creek or nearby	13% of creek fish
300	Owhi Lake or nearby	100% of eastern brook trout

No local-sourcers recorded “999” for the area where their fish was caught.

Section 2: Birds

Section 2.1: Wild Waterfowl

Question: *These questions are about any birds (you have/SUBJECT has) eaten over the last 12 months. Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any type of wild waterfowl such as Ducks and Geese? Please do not include any waterfowl raised on a farm.*

Percentage of reservation population who ate wild waterfowl in the last year:

- Yes: 3% (213 people)
- No: 97%

Question: *Did (you/he/she) eat: Duck? Goose? Swan? Coots or mudhens? Some other wild waterfowl?*

Of the 213 consumers of wild waterfowl:

- 56% ate duck
- 55% ate goose
- No one ate swan, coots or mudhens, or any other wild waterfowl
- 10% did not specify the type of wild waterfowl they ate

Of the 213 consumers of wild waterfowl:

- 21% ate both duck and goose
- 69% ate only duck or only goose

Question: *In the last 12 months, how often did (you/SUBJECT) eat the meat of the (BIRD)?*

Of the 213 consumers of wild waterfowl:

- 5% never ate the meat
- 89% ate the meat less than once a month
- 1% ate the meat more than once a month, but not every week
- 4% did not provide this information

Of the 194 people who ate the meat of the wild waterfowl, they did so on average 7 times per year.

Question: *In the last 12 months, how often did (you/SUBJECT) eat head, skin, or organs of these birds?*

Of the 213 consumers of wild waterfowl:

- 67% never ate the head, skin, or organs
- 26% ate the head, skin, or organs less than once a month
- 1% ate the head, skin, or organs more than once a month, but not every week
- 4 % did not provide this information

On average, each wild waterfowl consumer ate the head, skin, or organs 2 times per year.

Of the 58 people who ate the wild waterfowl head, skin, or organs at all, on average they ate them 7 times per year. These people consumed the non-meat parts as follows:

- 88% ate the skin
- 81% ate the gizzard
- 69% ate the heart
- 17% ate the liver
- No one ate the head, stomach or tripe, or the bone marrow

Question: *In the past 12 months, how often did (you/SUBJECT) eat the eggs from the (BIRD)?*

5% of the 213 wild waterfowl consumers reported eating the eggs of these birds once a week.

Question: *How much of the (meat/organs/eggs) came from birds caught or raised in the local area?*

- 56% said all of the wild waterfowl that they ate was caught within the local area
- 5% said half of the wild waterfowl that they ate was caught within the local area
- 8% said a little of the wild waterfowl that they ate was caught within the local area
- 26% said none of the wild waterfowl that they ate was caught within the local area
- 4% did not provide this information

After removing the 63 people who ate no wild waterfowl from the local area or did not provide location information, there are 150 people who ate wild waterfowl or their eggs from the local area last year.

Question: *Please look at this map and mark areas where (meat/organs/eggs) came from the local area.*

Zones contributing more than 10% to the reservation’s local wild waterfowl are listed in Table 20 below.

Table 20: Local sources of wild waterfowl

Zone	Description	Percentage of Wild Waterfowl
582	Lakes, creeks, or the Colville River near Addy	15%
180 ⁴	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	13%
130	Lake(s) or creeks to the north of and near Brewster	12%
462	Northeast portion of Hellsgate	11%

Zones accounting for 1-8% of local wild waterfowl consumed are, in descending order, 100 (lakes or creeks west of Loomis), 311 (Rebecca Lake, Buffalo Lake, or nearby), 431 (Twin Lakes or nearby), and 170 (lakes or creeks north of Omak). 30% of local-sourcers recorded “999” for the area where their wild waterfowl were from, accounting for 35% of overall local wild waterfowl consumption.

⁴ 180 was the only zone from which wild waterfowl eggs were reported.

Section 2.2: Wild Upland Birds

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any type of upland bird such as Wild Turkey, Pheasant, Grouse, Chukar, or Quail?*

Percentage of reservation population who ate wild upland birds in the last year:

- Yes: 20% (1183 people)
- No: 80%
- Don't know: < 1%

Question: *Did (you/he/she) eat: Wild Turkey? Pheasant? Grouse? Chukar? Quail? Another upland bird?*

Of the 1183 consumers of wild upland birds:

- 65% ate grouse
- 39% ate wild turkey
- 19% ate quail
- 15% ate pheasant
- 5% ate chukar
- Two other upland birds were reported by 1%: Hungarian Partridge and Creek Pheasant.
- 1% did not specify the type of wild upland bird they ate.

Of the 1183 consumers of wild upland birds,

- 1% ate 6 types of upland birds
- 1% ate 5 types of upland birds
- 2% ate 4 types of upland birds
- 6% ate 3 types of upland birds
- 24% ate 2 types of upland birds
- 65% ate 1 type of upland bird
- 2% did not specify the type of wild upland bird they ate.

Question: *In the last 12 months, how often did (you/SUBJECT) eat the meat of the (BIRD)?*

Of the 1183 consumers of wild upland birds:

- < 1% never ate the meat
- 80% ate the meat less than once a month
- 7% ate the meat once a month
- 7% ate the meat more than once a month, but not every week
- 1% ate the meat every week
- 1% ate the meat more than once a week, but not every day
- < 1% ate the meat every day
- 4% did not provide this information

Of the 1130 people who reported eating the meat of the wild upland birds, they did so on average 11 times per year.

Question: *In the last 12 months, how often did (you/SUBJECT) eat the head, skin, or organs of these birds?*

Of the 1183 consumers of wild upland birds:

- 74% never ate the head, skin, or organs
- 16% ate the head, skin, or organs less than once a month
- 3% ate the head, skin, or organs once a month
- 2% ate the head, skin, or organs more than once a month, but not every week
- 2% ate the head, skin, or organs once a week
- 1% ate the head, skin, or organs more than once a week, but not every day
- 4% did not provide this information

On average, each wild upland bird consumer ate the head, skin, or organs 4 times per year.

Of the 308 people who ate the wild upland birds head, skin, or organs at all, on average they ate them 17 times per year. These people consumed the non-meat parts as follows:

- 56% ate the skin
- 41% ate the gizzard
- 37% ate the heart
- 18% ate the liver
- No one ate the head, stomach or tripe, or bone marrow

Question: *In the past 12 months, how often did (you/SUBJECT) eat the eggs from the (BIRD)?*

Of the 1183 consumers of wild upland birds:

- 86% never ate the eggs of wild upland birds
- 4% ate the eggs of wild upland birds less than once a month
- 1% ate the eggs of wild upland birds more than once a month, but not every week
- 1% ate the eggs of wild upland birds once a week
- < 1% ate the eggs of wild upland birds more than once a week, but not every day
- 1% ate the eggs of wild upland birds every day⁵
- 8% didn't know or did not provide this information

On average, each wild upland bird consumer ate the eggs 7 times per year.

Of the 71 people who ate the wild upland bird eggs at all, on average they ate them 101 times per year.

⁵ All of the respondents eating wild upland bird eggs every day or more than once a week reported grouse as their only upland bird.

Question: *How much of the (meat/organs/eggs) came from birds caught or raised in the local area?*

- 76% said all of the wild upland birds that they ate were caught within the local area
- 1% said half of the wild upland birds that they ate were caught within the local area
- 1% said some of the wild upland birds that they ate were caught within the local area
- < 1% said a little of the wild upland birds that they ate were caught within the local area
- 14% said none of the wild upland birds that they ate were caught within the local area
- 8% did not know or did not provide this information

After removing from further analysis the 260 people who ate no wild upland birds from within the local area or who did not provide location information, there are 923 people who ate wild upland birds or their eggs from within the local area last year.

Question: *Please look at this map and mark the areas where the (meat/organs/eggs) came from the local area.*

Zones or river reaches contributing more than 3% to the reservation’s local wild upland birds and eggs are listed in Table 21 below.

Table 21: Local sources of wild upland birds and eggs⁶

Zone or River Reach	Description	Percentage of Wild Upland birds
432	West of Inchelium	15%
300	Near or south of Owhi Lake	10%
382	Near the mouth of the San Poil River	6%
170	North of Omak	6%
452	Near Silver Creek Road between Keller and the Columbia River	5%
421	Near Hall Creek or Sitdown Creek	3%

Zones or river reaches each accounting for 2-3% of local wild upland birds and eggs consumed are, in descending order, 462 (northeast portion of Hellsgate), 110 (west of Conconully), and 422 (near Hall Creek or Barnaby Creek). Zones or river reaches each accounting for 0.02-2% of local wild upland birds and eggs consumed are, in descending order, 381, 160, 291, 211, 250, 180, 281, 330, 552, 311, 272, 373, 130, 374, 442, 292, 120, 223, 431, 441, 212, 451, 351, 563, 361, 231, 423, 372, 222, 522, 242, 363, R7, 233, 232, 591, 371, 150, 521, 261, 262, 263, 592, 543, 602, 612, 613, and 614. 18% of local-sourcers recorded “999” for the area where their wild upland birds or eggs were gathered. Their portion accounted for 21% of overall local wild upland bird consumption.

⁶ People eating wild upland bird eggs more than once a week or every day reported areas 300, 432, and 999 as the source of their wild upland birds and eggs.

Section 2.3: Other Wild Birds

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any other wild birds that we haven't mentioned such as Mergansers, Loons, or Doves?*

Percentage of reservation population who ate other wild birds in the last year:

- Yes: 1% (54 people)
 - Includes 13 people who answered “no” to this question but subsequently provided information.
- No: 99%

Question: *Which types of these wild birds did (you/SUBJECT) eat?*

Of the 37 consumers of “other” wild birds:

- 49% ate doves
- 12% ate Hungarian partridge
- 11% ate creek pheasant
- 27% did not specify the type of bird they ate, and provided no further information

Question: *In the last 12 months, how often did (you/SUBJECT) eat the meat of the (BIRD)?*

All of the people who ate the meat of the doves reported doing so less than once a month.

All of the people who ate the meat of the creek pheasants reported doing so less than once a month.

All of the people who ate the meat of Hungarian partridge reported doing so more than once a month, but not every week.

Question: *In the last 12 months, how often did (you/SUBJECT) eat the head, skin, or organs of these birds?*

None of the people who ate doves reported eating the head, skin, or organs of those birds.

None of the people who ate creek pheasants reported eating the head, skin, or organs of those birds.

All of the people who ate Hungarian partridge reported eating the head, skin, or organs of those birds more than once a month, but not every week. Specifically these consumers were eating the heart of the bird.

Question: *In the past 12 months, how often did (you/SUBJECT) eat the eggs from the (BIRD)?*

None of the consumers reported eating the eggs of those birds.

Question: *How much of the (meat/organs/eggs) came from birds caught or raised in the local area?*

All of the consumers reported that all of the birds came from the local area.

Question: Please look at this map and mark the areas where the (meat/organs/eggs) came from the local area.

All zones or river reaches contributing to the reservation’s other wild birds are listed in Table 22 below.

Table 22: Local sources of doves

Zone or River Reach	Description	Percentage of Other wild birds
232	Between Omak Lake and Nespelem	55% of doves
130	Near Brewster to the north	22% of doves
180	West of Omak Lake, north of the Columbia River, and east of the Okanogan River	13% of doves
231	Around Omak Lake	10% of doves
373	Near the San Poil River, between Gold Lake and Thirtymile Creek	100% of creek pheasants
R5	Near Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	100% of Hungarian partridge

No local-sourcers recorded “999” for the area where their other wild birds were gathered.

Section 2.4: Farm-Raised Birds

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat, organs, or eggs from any type of domestic poultry, that is Chicken, Turkey, Duck, Goose, or any other birds raised on a farm?*

Percentage of reservation population who ate farm-raised birds in the last year:

- Yes: 84% (4975 people)
- No: 16%
- Don't know: < 1%

Question: *Did (you/he/she) eat: Chicken? Turkey? Duck? Goose? Some other domestic poultry?*

Of the 4975 consumers of domestic poultry:

- 97% ate chicken
- 85% ate turkey
- 2% ate duck
- < 1% ate goose
- 1% reported Cornish game hens, game hens, or hens
- 3% did not specify the type of domestic poultry they ate.

Of the 4975 consumers of domestic poultry,

- < 1% ate 4 types of domestic poultry
- 3% ate 3 types of domestic poultry
- 81% ate 2 types of domestic poultry
- 13% ate 1 type of domestic poultry

Question: *In the last 12 months, how often did (you/SUBJECT) eat the meat of the (BIRD)?*

Of the 4975 consumers of domestic poultry and eggs:

- 1% never ate the meat
- 9% ate the meat less than once a month
- 12% ate the meat once a month
- 27% ate the meat more than once a month, but not every week
- 26% ate the meat once a week
- 24% ate the meat more than once a week, but not every day
- 1% ate the meat every day
- < 1% did not provide this information

Of the 4901 people who ate the meat of the domestic poultry, they did so on average 78 times per year.

Question: *In the last 12 months, how often did (you/SUBJECT) eat the head, skin, or organs of these birds?*

Of the 4975 consumers of domestic poultry:

- 54% never ate the head, skin, or organs
- 12% ate the head, skin, or organs less than once a month
- 7% ate the head, skin, or organs once a month
- 10% ate the head, skin, or organs more than once a month, but not every week
- 11% ate the head, skin, or organs once a week
- 6% ate the head, skin, or organs more than once a week, but not every day
- No one ate the head, skin, or organs every day
- < 1% did not provide this information

On average, each domestic poultry consumer ate the head, skin, or organs 23 times per year.

Of the 2289 people who ate the domestic poultry head, skin, or organs at all, on average they ate them 50 times per year. These people consumed the non-meat parts as follows:

- 90% ate the skin
- 25% ate the gizzard
- 16% ate the heart
- 15% ate the liver
- < 1% ate the head
- < 1% ate the bone marrow
- No one ate the stomach or tripe

Question: *In the past 12 months, how often did (you/SUBJECT) eat the eggs from the (BIRD)?*

- 5% never ate the eggs
- 3% ate the eggs less than once a month
- 4% ate the eggs once a month
- 11% ate the eggs more than once a month, but not every week
- 16% ate the eggs s once a week
- 44% ate the eggs more than once a week, but not every day
- 16% ate the eggs s every day
- 1% did not provide this information

On average, each domestic poultry consumer ate the eggs 163 times per year.

Of the 4677 people who ate the eggs at all, on average they ate them 173 times per year.

Question: *How much of the (meat/organs/eggs) came from birds caught or raised in the local area?*

- 8% said all of the domestic poultry or eggs that they ate were from within the local area
- 2% said most of the domestic poultry or eggs that they ate were from within the local area
- 3% said half of the domestic poultry or eggs that they ate were from within the local area
- 5 % said some of the domestic poultry or eggs that they ate were from within the local area
- 3% said a little of the domestic poultry or eggs that they ate were from within the local area
- 75% said none of the domestic poultry or eggs that they ate were from within the local area
- 5% did not know or did not provide this information

After removing from further analysis the 3930 people who ate no domestic poultry from within the local area, or who did not provide location information, there are 1045 people who ate domestic poultry or eggs from within the local area last year.

Question: *Please look at this map and mark the areas where the (meat/organs/eggs) came from the local area.*

Zones or river reaches contributing more than 5% to the reservation’s local domestic poultry are listed in Table 23 below.

Table 23: Local sources of domestic poultry

Zone or River Reach	Description	Percentage of Domestic poultry
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	20%
170	North of Omak	15%
222	Near Omak Creek or Haley Creek	7%
512	Near Colville or Kettle Falls	5%
300	Near Owhi Lake	5%

Zones or river reaches each accounting for 2-5% of local domestic poultry consumed are, in descending order, 432 (west of Inchelium), 382 (near the mouth of the San Poil River), 120 (west of Okanogan), 330 (near Almira, Wilbur, or Creston), and 311(near Rebecca Lake, Buffalo Lake, or Elmer City). Zones or river reaches each accounting for 0.02-2% of local wild upland birds and eggs consumed are, in descending order, 413, 422, 452, 232, 522, 140, 442, 312, 381, 371, 351, 160, 521, 431, 364, 361, 354, 592, 150, 221, 451, 291, 200, 453, 211, and 250. 13% of local-sourcers recorded “999” for the area where their domestic poultry were gathered. Their portion accounted for 16% of overall local domestic poultry consumption.

Section 3: Wild Animals

The next questions to the participants assessed consumption of 9 specific types of wild animals (mammals) and also allowed the respondents to specify other species of wild animals eaten from the local area that were not otherwise identified.

The mean number of types of animal consumed was 2, and the maximum number of different types of animal eaten (5) was reported by 0.40% (21 people).

A summary of pertinent wild animal consumption statistics by species is given in Table 24 below.

Table 24: Wild animal consumption summary sorted by percentage of reservation residents who consume each type.

Animal	Percentage of Population Consuming	Average Meat Consumption Frequency (times per year)	Consumers Sourcing from Local Area
Deer	76%	38	90%
Elk	46%	22	84%
Moose	28%	14	90%
Bear	4 %	19	81%
Small animals	2%	7	84%
Bighorn sheep	2%	8	100%
Wild cats	1%	6	89%
Other wild animals (horse)	< 1%	6	100%
Beaver	0%	N/A	N/A

Section 3.1: Deer

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from deer?*

Percentage of reservation population who ate deer last year:

- Yes: 76% (4466 people)
 - Excludes 25 people who answered yes but subsequently provided no deer information
- Don't know/no answer recorded: < 1%
- No: 24%
 - Includes people who did not eat any wild animals at all.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the deer?*

Of the 4466 deer consumers:

- < 1% never ate the meat
- 37% ate it less than once a month
- 20% ate it once a month
- 22% ate it more than once a month, but not every week
- 12% ate it once a week
- 9% ate it more than once a week, but not every day
- 1% ate it every day
- < 1% didn't know or did not provide an answer

On average, each deer consumer ate the meat 38 times per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the deer?*

Percentage of 4466 deer consumers who consumed deer organs:

- Yes: 26% (1162 people)
- Don't know: 1%
- No: 73%

Question: *Which of the following deer organs did (you/SUBJECT) eat?*

The 1162 people who ate the deer organs at all consumed the non-meat parts as follows:

- 89% ate the heart
- 57% ate the liver
- 2% ate the kidneys
- 1% ate the bone marrow
- No one ate the brain, eyes, glands or sweetbreads, lungs, or the stomach or tripe

Question: *Over the past 12 months, how often did (you/SUBJECT) eat deer organs?*

Of the 1162 deer organ consumers:

- 85% ate the organs less than once a month
- 7% ate the organs once a month
- 5% ate the organs more than once a month, but not every week
- 1% ate the organs every week
- 2% ate the organs more than once a week, but not every day

On average, each deer organ consumer ate the organs 13 times per year.

Question: *How much of the deer was hunted from inside the local area?*

Of the 4466 deer consumers:

- 88% said all of the deer that they ate were from within the local area
- 1% said most of the deer that they ate were from within the local area
- 1% said half of the deer that they ate were from within the local area
- < 1% said some of the deer that they ate were from within the local area
- 2% said none of the deer that they ate were from within the local area
- 9% did not know or did not provide this information

Taking the source of deer into account, we answered the question: how often did people who sourced their deer from the local area eat the deer?

After removing from further analysis the 491 people who exclusively ate deer from outside the local area, were unsure about where their deer came from, or did not provide answers to these questions, there are 3975 people who ate deer from within the local area last year. The average number of times these local-sourcers ate deer last year was 41.

Question: *Please look at this map and mark the areas where the deer was hunted in the local area.*

Zones contributing more than 3% of the reservation's local deer and sources adjacent to the Upper Columbia River are listed in Table 25 below.

Table 25: Principal local sources of deer

Zone	Description	Percentage of Deer
422/R4A	Adjacent to Upper Columbia River/Lake Roosevelt near Hall Creek and Barnaby Creek	6%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	6%
291	In or between Nespelem and Gold Lake	4%
382	Near the mouth of the San Poil River	4%
432/R4B	Adjacent to Upper Columbia River/Lake Roosevelt and west of Inchelium	4%
311	Near Rebecca Lake or Buffalo Lake	3%
381	Near the San Poil River, Jack Creek, or Louie Creek	3%
R3	Adjacent to Upper Columbia River/Lake Roosevelt near Marcus Flats	< 2%
483/R2	Adjacent to Upper Columbia River between Onion Creek and Marcus Flats	< 2%
312/R6	Adjacent to Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	< 2%
461/R5	Adjacent to Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	< 2%
R1	Adjacent to Upper Columbia River between the US-Canada border and Onion Creek	< 2%

Zones each accounting for 2-3% of local deer consumed are, in descending order, 431 (Twin Lakes or nearby), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), 442 (south of Inchelium near Lake Roosevelt), and 421 (near Hall Creek or Sitdown Creek). The zones or river reaches each accounting for 0.003 – 2% of local deer consumed are, in descending order, 110, 441, 170, 423, 282, 451, 374, 150, 223, 160, 371, 372, 233, 281, 453, 272, 232, 300, 462, 120, 130, 140, 222, 413, 221, 271, 452, 351, 363, 522, 521, 211, 330, 352, 231, 262, 292, 361, 241, 503, 512, 344, 354, 320, 212, 263, 261, R13, 611, 250, 362, 414, 190, 364, 411, 402, 393, 100, and 481. 41% of local-sourcers recorded “999” for the area where their deer was hunted. Their portion accounted for 32% of overall local deer consumption.

Section 3.2: Elk

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from elk?*

Percentage of reservation population who ate elk last year:

- Yes: 46% (2695 people)
 - Excludes 46 people who answered yes but subsequently provided no elk information
- Don't know/no answer recorded: < 1%
- No: 54%
 - Includes people who did not eat any wild animals at all.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the elk?*

Of the 2695 elk consumers:

- 54% ate it less than once a month
- 19% ate it once a month
- 17% ate it more than once a month, but not every week
- 7% ate it once a week
- 4% ate it more than once a week, but not every day
- < 1% ate it every day

On average, each elk consumer ate the meat 22 times per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the elk?*

Percentage of 2695 elk consumers who consumed elk organs:

- Yes: 14% (378 people)
- Don't know: < 1%
- No: 86%

Question: *Which of the following elk organs did (you/SUBJECT) eat?*

The 378 people who ate the elk organs at all consumed them as follows:

- 83% ate the heart
- 48% ate the liver
- 6% ate the kidneys
- No one ate the bone marrow, brain, eyes, glands or sweetbreads, lungs, or the stomach or tripe

Question: *Over the past 12 months, how often did (you/SUBJECT) eat elk organs?*

Of the 378 elk organ consumers:

- 87% ate the organs less than once a month

- 6% ate the organs once a month
- 8% ate the organs more than once a month, but not every week

On average, each elk organ consumer ate the organs 8 times per year.

Question: *How much of the elk was hunted from inside the local area?*

Of the 2695 elk consumers:

- 82% said all of the elk that they ate were from within the local area
- 1% said most of the elk that they ate were from within the local area
- < 1% said half of the elk that they ate were from within the local area
- < 1% said some of the elk that they ate were from within the local area
- 8% said none of the elk that they ate were from within the local area
- 8% did not know whether the elk that they ate were from within the local area

Taking the source of elk into account, we answered the question: how often did people who sourced their elk from the local area eat the elk?

After removing from further analysis the 431 people who exclusively ate elk from outside the local area or were unsure about where their elk came from, there are 2264 people who ate elk from within the local area last year. The average number of times these local-sourcers ate elk last year was 24.

Question: *Please look at this map and mark the areas where the elk was hunted in the local area.*

Zones contributing more than 4% of the reservation’s local elk are listed in Table 26 below.

Table 26: Principal local sources of elk

Zone	Description	Percentage of Elk
382	Near the mouth of the San Poil River	8%
453	North of Hellsgate along Lake Roosevelt	7%
291	In or between Nespelem and Gold Lake	5%
282	North of Gold Lake	4%
373	Near San Poil River, between Gold Lake and Thirtymile Creek	4%
441	Near Wilmont Creek	4%
422	Near Hall Creek and Barnaby Creek	4%

Zones accounting for 2-3% of local elk consumed are, in descending order, 381 (near the San Poil River, Jack Creek, or Louie Creek), 461 (southwest Hellsgate), and 451 (near Ninemile Creek, Jones Creek, and Cook Creek). The zones accounting for 0.002 – 2% of local elk consumed are, in descending order, 272, 452, 371, 462, 442, 311, 374, 432, 300, 372, 613, 232, 281, 431, 330, 233, 292, 423, 263, 612, 223, 421, 170, 411, 120, 363, 402, 160, 253, 252, 312, 414, 393, 602, and 222. 47% of local-sourcers recorded “999” for the area where their elk was hunted. Their portion accounted for 39% of overall local elk consumption.

Section 3.3: Moose

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from moose?*

Percentage of reservation population who ate moose last year:

- Yes: 28% (1626 people)
 - Includes 6 people who answered no but provided information about moose
 - Excludes 15 people who answered yes but subsequently provided no moose information
- Don't know/no answer recorded: < 1%
- No: 72%
 - Includes people who did not eat any wild animals at all.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the moose?*

Of the 1626 moose consumers:

- 69% ate it less than once a month
- 10% ate it once a month
- 16% ate it more than once a month, but not every week
- 3% ate it once a week
- 2% ate it more than once a week, but not every day
- 1% did not provide an answer

On average, each moose consumer ate the meat 14 times per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the moose?*

Percentage of 1626 moose consumers who consumed moose organs:

- Yes: 11% (179 people)
- No: 89%

Question: *Which of the following moose organs did (you/SUBJECT) eat?*

The 179 people who ate the moose organs at all consumed the non-meat parts as follows:

- 80% ate the heart
- 38% ate the liver
- 1% ate the kidneys
- No one ate the bone marrow, brain, eyes, glands or sweetbreads, lungs, or the stomach or tripe

Question: *Over the past 12 months, how often did (you/SUBJECT) eat moose organs?*

Of the 179 moose organ consumers:

- 90% ate the organs less than once a month
- 9% ate the organs once a month
- 1% ate the organs more than once a month, but not every week

On average, each moose organ consumer ate the organs 7 times per year.

Question: *How much of the moose was hunted from inside the local area?*

Of the 1626 moose consumers:

- 88% said all of the moose that they ate were from within the local area
- 1% said half of the moose that they ate were from within the local area
- < 1% said some of the moose that they ate were from within the local area
- 4% said none of the moose that they ate were from within the local area
- 7% did not know or did not provide this information

Taking the source of moose into account, we answered the question: how often did people who sourced their moose from the local area eat the moose?

After removing the 178 people who only ate moose from outside the local area, were unsure where their moose came from, or did not provide these answers, there are 1448 people who ate moose from within the local area. The average number of times these local-sourcers ate moose last year was 15.

Question: *Please look at this map and mark the areas where the moose was hunted in the local area.*

Zones contributing more than 5% of the reservation's local moose are listed in Table 27 below.

Table 27: Principal local sources of moose

Zone	Description	Percentage of Moose
373	Near San Poil River, between Gold Lake and Thirtymile Creek	7%
431	Twin Lakes or nearby	6%
382	Near the mouth of the San Poil River	5%
374	Near the San Poil River and Bridge Creek	5%
282	North of Gold Lake	5%

Zones accounting for 2-4% of local moose are, in descending order, 453 (north of Hellsgate along Lake Roosevelt), 223 (near Omak Creek/Swimptkin Creek), 291 (in or between Nespelem and Gold Lake), 422 (near Hall Creek/Barnaby Creek), and 432 (west of Inchelium). The zones accounting for 0.01-2% of local moose consumed are, in descending order, 411, 423, 451, 170, 292, 441, 421, 452, 281, 613, 160, 271, 363, 461, 372, 381, 462, 232, 222, 442, 402, 233, 231, 221, and 300. 45% of local-sourcers recorded "999" for the area where their moose was hunted, accounting for 46% of local moose consumption.

Section 3.4: Bighorn Sheep

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from bighorn sheep?*

Percentage of reservation population who ate bighorn sheep last year:

- Yes: 2% (91 people)
 - Excludes 14 people who answered yes but subsequently provided no bighorn sheep information
- Don't know/no answer recorded: < 1%
- No: 98%
 - Includes people who did not eat any wild animals at all.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the bighorn sheep?*

Of the 91 bighorn sheep consumers:

- 74% ate it less than once a month
- 26% ate it once a month

On average, each bighorn sheep consumer ate the meat 8 times per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the bighorn sheep?*

None of the people who ate the bighorn sheep reported eating the organs.

Question: *How much of the bighorn sheep was hunted from inside the local area?*

All of the people who ate bighorn sheep reported that all of the sheep they ate were from the local area.

Question: *Please look at this map and mark areas where the bighorn sheep was hunted in the local area.*

Zones contributing more than 5% of the reservation's local bighorn sheep are listed in Table 28 below.

Table 28: Principal local sources of bighorn sheep

Zone	Description	Percentage of Bighorn Sheep
352	Around Curlew Lake	33%
354	South of Curlew Lake	20%
200	Near the Canadian border between the Okanogan River and Meyers Creek	19%
422	Near Hall Creek and Barnaby Creek	6%

Zones accounting for 1-3% of local bighorn sheep consumed are, in descending order, 150, 344, 343, R10, and 483. 28% of local-sourcers recorded "999" for the area where their bighorn sheep was hunted, accounting for 12% of local bighorn sheep consumption.

Section 3.5: Bear

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from bear?*

Percentage of reservation population who ate bear last year:

- Yes: 4% (263 people)
 - Don't know/no answer recorded: 1%
 - No: 95%
- Includes people who did not eat any wild animals at all.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the bear?*

Of the 263 bear consumers:

- 64% ate it less than once a month
- 10% ate it once a month
- 12% ate it more than once a month, but not every week
- 10% ate it once a week
- 2 % ate it more than once a week, but not every day

On average, each bear consumer ate the meat 19 times per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the bear?*

1% (3 people) of the 263 bear consumers reported consuming bear organs.

Question: *Which of the following bear organs did (you/SUBJECT) eat?*

The 3 people who ate the bear organs at all reported consuming the only heart.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat bear organs?*

The 3 people who ate the bear organs at all reported consuming the heart less than once a month.

Question: *How much of the bear was hunted from inside the local area?*

Of the 263 bear consumers:

- 81% said all of the bear that they ate were from within the local area
- 1% said none of the bear that they ate were from within the local area
- 17% did not know or did not provide this information

Taking the source of bear into account, we answered the question: how often did people who sourced their bear from the local area eat the bear?

After removing from further analysis the 47 people who exclusively ate bear from outside the local area or who were unsure about where their bear came from, or who did not provide answers to these

questions, there are 216 people who ate bear from within the local area last year. The average number of times these local-sourcers ate bear last year was 21.

Question: *Please look at this map and mark the areas where the bear was hunted in the local area.*

Zones contributing more than 1% of the reservation’s local bear are listed in Table 29 below.

Table 29: Principal local sources of bear

Zone	Description	Percentage of Bear
311	Near Rebecca Lake or Buffalo Lake	32%
232	Between Omak Lake and Nespelem	5%
431	Twin Lakes or nearby	4%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	2%
361	Near the San Poil River north of Scatter Creek	1%

Zones each accounting for 0.1-1% of local bear consumed are, in descending order, 300, 432, 413, 223, 422, 451, 441, 120, 150, 453, 263, 262, 261, and 222. 38% of local-sourcers recorded “999” for the area where their bear was hunted. Their portion accounted for 51% of overall local bear consumption.

Section 3.6: Wild Cats

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from wild cats such as cougar, bobcat, or lynx?*

Percentage of reservation population who ate wild cats last year:

- Yes: 1% (60 people)
- Don't know/no answer recorded: < 1%
- No: 99%
 - Includes people who did not eat any wild animals at all.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the wild cats?*

All of the people who ate the meat of the wild cats reported doing so less than once a month.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the wild cats?*

Percentage of 60 wild cat consumers who consumed wild cat organs:

- Yes: 34% (21 people)
- Don't know/no answer recorded: 10%
- No: 56%

Question: *Which of the following wild cat organs did (you/SUBJECT) eat?*

The 21 people who ate the wild cat organs reported eating only the heart and liver.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat wild cats organs?*

All 21 of the people who ate the organs of the wild cats reported doing so less than once a month.

Question: *How much of the wild cats were hunted from inside the local area?*

Of the 60 wild cat consumers:

- 89% said all of the wild cats that they ate were from within the local area
- 11% said none of the wild cats that they ate were from within the local area

After removing from further analysis the 6 people who exclusively ate wild cats from outside the local area, there are 54 people who ate wild cats from within the local area last year.

Question: *Please look at this map and mark the areas where the wild cats were hunted in the local area.*

61.08% of local-sourcers recorded "999" for the area where their wild cats were hunted, accounting for 61.08% of overall local wild cat consumption. The remainder of local-sourcers recorded that the area where their wild cats were hunted was in zones 180 and 232, both areas south of Omak Lake.

Section 3.7: Beaver

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from beaver?*

No reservation residents ate beaver in the past year. < 1% of reservation residents did not report an answer to this question.

Section 3.8: Small Animals

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from any smaller animals, such as Groundhog, Squirrel, Porcupine, or Rabbit?*

Percentage of reservation population who ate small animals last year:

- Yes: 2% (113 people)
- No: 98%
 - Includes people who did not eat any wild animals at all.

Question: *Which types of animals did (you/SUBJECT) eat?*

Of the 113 consumers of small animals:

- 67% ate rabbit
- 37% ate squirrel
- 2% ate groundhog
- No one ate porcupine
- 7% did not answer this question

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the small animals?*

Of the 113 small animal consumers:

- 97% ate it less than once a month
- 3% ate it more than once a month, but not every week (these consumers all reported rabbit as the only small animal they ate)

On average, each small animal consumer ate the meat 6 times per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the small animals?*

Percentage of 113 small animal consumers who consumed small animal organs:

- Yes: 13% (all small animal consumers who answered yes referred to squirrel organs)
- Don't know: 12%
- No: 76%

Question: Which of the following small animal organs did (you/SUBJECT) eat?

The 15 people who ate squirrel organs at all only reported eating the heart.

Question: Over the past 12 months, how often did (you/SUBJECT) eat small animal organs?

The 15 people who ate the squirrel hearts reported eating them less than once per month.

Question: How much of the small animals was hunted from inside the local area?

Of the 113 small animal consumers:

- 84% said all of the small animals that they ate were from within the local area
- 16%, all of whom were rabbit consumers, said they did not know whether the small animals that they ate were from within the local area.

Taking the source of small animals into account, we answered the question: how often did people who sourced their small animals from the local area eat the small animals?

After removing from further analysis the 18 people who were unsure about where their small animals came from, there are 95 people who ate small animals from within the local area last year. The average number of times these local-sourcers ate small animals last year was 7.

Question: Please look at this map and mark the areas where the small animals were hunted in the local area.

Zones contributing more than 4% of the reservation’s local small animals are listed in Table 30 below.

Table 30: Principal local sources of small animals

Zone	Description	Percentage of Small animals
170	Area north of Omak	38%
271	Near Cape Labelle Creek or Aeneas Creek	17%
423	Near Lynx Creek	7%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	5%
311	Near Rebecca Lake or Buffalo Lake	4%

Zones each accounting for 2-4% of local small animals consumed are, in descending order, 300 (near Owhi Lake), 382 (near the mouth of the San Poil River), 381 (near the San Poil River, Jack Creek, or Louie Creek), 421 (near Hall Creek or Sitdown Creek), 372 (near Twentythreemile Creek), and 422 (near Hall Creek and Barnaby Creek). The zones each accounting for 0.8-2% of local small animals consumed are, in descending order, 120, 263, 262, and 261. No local-sourcers recorded “999” for the area where their small animals was hunted.

Section 3.9: Other Wild Animals

Question: *Over the past 12 months, did (you/SUBJECT) eat any meat or organs from any other wild animal from the local area, such as a Raccoon, Otter, Weasel, or Chipmunk??*

Percentage of reservation population who ate other wild animals last year:

- Yes: < 1% (3 people)
- Don't know: < 1%
- No: > 99%
 - Includes people who did not eat any wild animals at all.

Question: *Which types of animals did (you/SUBJECT) eat?*

All of the people who ate the meat of the other wild animals reported eating horses.

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the other wild animals?*

All of the people who ate the meat of the horses reported doing so less than once a month.

Question: *Over the past 12 months, did (you/SUBJECT) eat any of the organs from the other wild animals?*

None of the people who ate the meat of the horses reported eating horse organs.

Question: *How much of the other wild animals was hunted from inside the local area?*

All of the people who ate the meat of the horses reported that all of the horses were from inside the local area, but recorded "999" for the source area.

Section 4: Farm Animals

The next questions to the participants assessed the total consumption of 5 types of farm animals (mammals), and asked respondents to specify how often they had eaten these types of animals and the source of the animals.

The mean number of types of animal consumed was 2, and the maximum number of different types of animal eaten (5) was reported by < 1% (8 people).

Question: *Okay, now let's talk about farm animals. Over the past 12 months, did (you/SUBJECT) eat any meat or organs from Beef, Bison, Pork, Lamb, or Goat?*

Percentage of reservation population who ate any type of farm animal last year:

- Yes: 93% (5497 people)
- Don't know: < 1%
- No: 7%

Question: *Which of these did (you/SUBJECT) eat?*

Of the 5497 consumers of farm animals

- 98% ate beef
- 88% ate pork
- 10% ate bison
- 5% ate lamb
- 2% ate goat

Question: *Over the past 12 months, how often did (you/SUBJECT) eat the meat of the any of these animals?*

Of the 5497 farm animal consumers:

- 2% ate it less than once a month
- 4% ate it once a month
- 10% ate it more than once a month, but not every week
- 16% ate it once a week
- 59% ate it more than once a week, but not every day
- 9% ate it every day
- < 1% did not provide an answer

On average, each farm animal consumer ate the meat 166 days per year.

Question: *Over the past 12 months, did (you/SUBJECT) eat the organs from any of these animals?*

Percentage of the 5497 farm animal consumers who consumed organs:

- Yes: 8% (440 people)
- Don't know: < 1%
- No: 91%

Question: *Which of the following organs did (you/SUBJECT) eat?*

The 440 people who ate the farm animal organs at all consumed the non-meat parts as follows:

- 90% ate the liver
- 36 % ate the heart
- 6% ate the kidneys
- 1% ate the glands or sweetbreads
- < 1% ate the bone marrow
- No one ate the brain, eyes, lungs, or the stomach or tripe

Question: *Over the past 12 months, how often did (you/SUBJECT) eat organs from these animals?*

Of the 440 organ consumers:

- 81% ate the organs less than once a month
- 10% ate the organs once a month
- 5% ate the organs more than once a month, but not every week
- 2% ate the organs every week
- 3% ate the organs more than once a week, but not every day

On average, each farm animal organ consumer ate the organs 15 times per year.

Question: *How much of the (meat/organs) was from farm animals raised inside the local area?*

Of the 5497 farm animal consumers:

- 11% said all of the farm animals that they ate were from within the local area
- 5% said most of the farm animals that they ate were from within the local area
- 5% said half of the farm animals that they ate were from within the local area
- 6% said some of the farm animals that they ate were from within the local area
- 2% said a little of the farm animals that they ate were from within the local area
- 65% said none of the farm animals that they ate were from within the local area
- 6% did not know or did not provide this information

Taking the source of farm animals into account, we answered the question: how often did people who sourced their farm animals from the local area eat the farm animals?

After removing from further analysis the 3902 people who exclusively ate farm animals from outside the local area (including purchases from stores or restaurants), were unsure about where their farm animals came from, or did not provide answers to these questions, there are 1595 people who ate farm animals from within the local area last year. The average number of times these local-sourcers ate meat from farm animals last year was 180.

Question: *Please look at this map and mark the areas where these animals were raised from the local area.*

Zones contributing more than 3% of the reservation’s local farm animals are listed in Table 31 below.

Table 31: Principal local sources of farm animals

Zone	Description	Percentage of Farm Animals
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	19%
222	Near Omak Creek or Haley Creek	7%
382	Near the mouth of the San Poil River	6%
120	West of Okanogan	5%
170	North of Omak	4%
291	In or between Nespelem and Gold Lake	4%
160	Near Tonasket, between Loomis and the Reservation north boundary	3%
422	Near Hall Creek and Barnaby Creek	3%
140	West and south of Bridgeport	3%
381	Near the San Poil River, Jack Creek, or Louie Creek	3%
432	West of Inchelium	3%

The zones or river reaches each accounting for 0.004 – 3% of local farm animals consumed are, in descending order, 250, 512, 150, 242, 232, 330, 311, 292, 231, 223, 233, 373, 300, 442, R10, 130, 351, 312, 110, 271, 221, 451, 582, 441, 374, 343, 583, 352, 190, 552, 592, 320, 263, 612, 521, 452, 211, 431, 522, 581, 413, 462, 593, 572, 261, 212, and 200. 9% of local-sourcers recorded “999” for the area where their farm animals were raised. Their portion accounted for 5% of overall local farm animal consumption.

Section 5: Dairy Products

Question: *Next I'd like you to think about dairy products you may have eaten. Over the past 12 months, did (you/SUBJECT) eat any dairy products such as milk, cream, cheese, yogurt, or ice cream from Cows, Sheep, or Goats?*

Percentage of reservation population who ate dairy last year:

- Yes: 93% (5492 people)
 - Excludes 20 people who answered yes but gave no further dairy information.
- No: 7%

Question: *In the past 12 months, how often did (you/SUBJECT) eat dairy products from Cows, Sheep, or Goats?*

Of the 5492 dairy consumers:

- 1% ate it less than once a month
- 1. % ate it once a month
- 2% ate it more than once a month, but not every week
- 6% ate it once a week
- 24% ate it more than once a week, but not every day
- 66% ate it every day
- < 1% did not know how often they ate dairy

On average, each dairy consumer ate dairy products 293 days per year.

Question: *How much of the dairy product came from animals raised in the local area?*

Of the 5492 dairy consumers:

- 3% said all of the dairy products that they ate were from within the local area
- < 1% said most of the dairy products that they ate were from within the local area
- 1% said half of the dairy products that they ate were from within the local area
- 2% said some of the dairy products that they ate were from within the local area
- 3% said a little of the dairy products that they ate were from within the local area
- 84% said none of the dairy products that they ate were from within the local area
- 7% did not know or did not provide this information

Taking the source of farm animals into account, we answered the question: how often did people who sourced their dairy from the local area eat dairy products?

After removing the 4997 people who only ate dairy from outside the local area (including purchases from stores or restaurants), were unsure about where their dairy came from, or did not provide answers to these questions, there are 495 people who ate dairy products from animals raised within the local area last year. The average number of days these local-sourcers ate dairy last year was 320.

Question: Please look at this map and mark the areas where these animals were raised from the local area.

Zones contributing more than 6% of the reservation’s local dairy products are listed in Table 32 below.

Table 32: Principal local sources of dairy products

Zone	Description	Percentage of Dairy Products
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	18%
382	Near the mouth of the San Poil River	15%
233	Near Coyote Creek	9%
512	Near Colville or Kettle Falls	7%
170	North of Omak	7%
432	West of Inchelium	6%
320	Near the south bank of Lake Roosevelt between Grand Coulee Dam and the San Poil River	3-5%
311	Near Rebecca Lake or Buffalo Lake	3-5%
381	Near the San Poil River, Jack Creek, or Louie Creek	3-5%
292	North and west of Nespelem	3-5%

The zones accounting for 0.004 – 3% of local dairy consumed are, in descending order, 373, 120, 222, 582, 130, 442, 160, 521, 291, 531, 232, 110, and 422. 12% of local-sourcers recorded “999” for the area where their dairy products are from. Their portion accounted for 4% of overall local dairy consumption.

Section 6: Fruits and Vegetables

Question: *Okay, now let's talk about fruits and vegetables (you have/SUBJECT has) eaten in the past 12 months. This does not include wild plants or berries gathered by (you/SUBJECT) or someone else. In the past 12 months, how often did (you/SUBJECT) eat any fruits or vegetables?*

- < 1% never ate fruits and vegetables
- 1% ate them less than once a month
- 1% ate them once a month
- 3% ate them more than once a month, but not every week
- 6% ate them once a week
- 33% ate them more than once a week, but not every day
- 55% ate them every day

More than 99% of the people who live on the reservation (5879 people) ate fruits and vegetables last year. On average, each fruit/vegetable consumer ate them 276 days per year.

Question: *How much of the fruits and vegetables were grown on farms or gardens located inside the local area? (SHOW MAP) Do not include fruits and vegetables purchased from a grocery store.*

Of the 5879 fruit/vegetable consumers:

- 5% said all of the fruit and vegetables that they ate were from within the local area
- 7% said most of the fruit and vegetables that they ate were from within the local area
- 14% said half of the fruit and vegetables that they ate were from within the local area
- 24% said some of the fruit and vegetables that they ate were from within the local area
- 10% said a little of the fruit and vegetables that they ate were from within the local area
- 37% said none of the fruit and vegetables that they ate were from within the local area
- 3% did not know or did not provide this information

Taking the source of fruit and vegetables into account, we answered the question: how often did people who sourced their fruit and vegetables from the local area eat fruit and vegetables?

After removing from further analysis the 2391 people who exclusively ate fruit and vegetables from outside the local area, were unsure about where their fruit and vegetables came from, or did not provide answers to these questions, there are 3528 people who ate fruit and vegetables from the local area last year. The average number of days these local-sourcers ate fruit and vegetables last year was 295.

Question: *Now I would like you to think about the locally grown fruits and vegetables (you have/SUBJECT has) eaten over the past 12 months, including items purchased at a local fruit or vegetable stand. (SHOW MAP). I'm going to read a list. For each one, tell me if (you have/SUBJECT has) eaten that locally grown fruit or vegetable in the last 12 months.*

The 3528 people who ate local fruits and vegetables at all reported eating these local items specifically:

- 91% ate apples
- 84% ate tomatoes
- 81% ate peaches, plums, or cherries
- 77% ate cucumber
- 71% ate corn
- 66% ate strawberries
- 64% ate carrots
- 64% ate zucchini
- 63% ate onions
- 59% ate peppers
- 59% ate melon
- 58% ate potatoes
- 57% ate raspberries or blackberries
- 56% ate lettuce
- 52% ate pears
- 51 % ate green beans
- 45% ate summer squash
- 41% ate herbs
- 41% ate asparagus
- 39% ate cabbage, collards, or Brussels sprouts
- 39% ate peas
- 36% ate garlic
- 35% ate pumpkin
- 34% ate broccoli
- 32% ate blueberries
- 28% ate cauliflower
- 26% ate spinach or chard
- 25% ate celery
- 23% ate beets
- 9% ate eggplant
- 4% ate kale
- 11% ate other fruits or vegetables:
 - 6% ate apricots
 - 4% ate rhubarb
 - Other local fruits and vegetables reported by fewer than 3% of the population: acorn/ butternut/hubbard squash, banana, bok choy, cilantro, fava beans, fennel, gooseberries, grapes, hops, kohlrabi, leeks, nectarines, okra, pluots, Italian prunes, radishes, rutabaga, soybeans, squash, turnips, white squash, winter squash, yams, and yellow squash.
- < 1% did not provide answers to this section

The mean number of types of fruit or vegetable consumed was 16, and the maximum number of different types of fruit or vegetable eaten (33) was reported by 1% (30 people).

Question: *Okay, now I'd like to ask about the locations where all the fruits and vegetables were grown. Please look at this map and mark the areas where the fruits and vegetables were grown in the local area.*

Zones contributing more than 5% of the reservation's local fruits and vegetables are listed in Table 33 below.

Table 33: Principal local sources of fruits and vegetables

Zone	Description	Percentage of Fruits and Vegetables
311	Near Elmer City, Rebecca Lake, or Buffalo Lake (this zone is where Shaw's Fruit Stand is located)	24%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	15%
170	Omak and north of Omak	12%
120	Okanogan and west of Okanogan	8%
432	Inchelium and west of Inchelium	7%
130	Brewster and north of Brewster	6%

Zones accounting for 1-5% of local fruits and vegetables consumed are, in descending order, 382 (near the mouth of the San Poil River), 222 (near Omak Creek or Haley Creek), 140 (Bridgeport and west and south of Bridgeport), 422 (north of Inchelium near Hall Creek and Barnaby Creek), 320 (Grand Coulee and the south bank of Lake Roosevelt between Grand Coulee Dam and the San Poil River), 300 (near Owhi Lake), and 160 (near Tonasket, between Loomis and the Reservation north boundary). The zones or river reaches accounting for 0.005 – 1% of local fruits and vegetables consumed are, in descending order, 381, 374, 512, 312, 442, 414, 330, 150, 373, 441, 291, 233, R13, 413, 231, 223, 221, 431, 513, 242, 351, 250, 200, 211, 272, 352, 511, 110, 371, 393, 521, 292, 423, 531, 541, 614, 612, 232, 503, 462, 613, 532, 611, 421, and 404. 2% of local-sourcers recorded "999" for the area where their fruits and vegetables were grown. Their portion accounted for 2% of overall local fruit and vegetable consumption.

Section 7: Wild Plants and Mushrooms

The next questions to the participants assessed consumption of specific types of wild plant (including wild mushrooms), including the parts of the plant used and whether the plant was used in a tea. The questions also allowed the respondents to specify other species of wild plants eaten from the local area that were not otherwise identified.

Question: *Okay, now let's talk about any wild plants (you/SUBJECT) may have eaten in the past 12 months. These may have been gathered by (you/SUBJECT) or someone else.*

A summary of pertinent wild plant consumption statistics by species is given in Table 34 below.

Table 34: Wild plants sorted by percent of reservation residents who consume each type.

Plant	Percentage of Population Consuming	Average Consumption Frequency (times per year)	Consumers Sourcing from Local Area
Huckleberries	75%	16	86%
Wild Strawberries	27%	9	89%
Camas	23%	14	74%
Wild Raspberries	22%	10	90%
Bitterroot	21%	11	83%
Wild Blackberries	19%	15	78%
Wild Mushrooms	17%	11	92%
Sarvisberries	16%	14	89%
Chokecherries	14%	17	87%
Lomatiums	14%	14	89%
Spring Beauty	14%	13	84%
Indian Carrot	12%	12	88%
Wild Thimbleberries	11%	8	89%
Wild Rose	10%	21	87%
Hazelnuts	10%	32	36%
Balsamroot	9%	22	95%
Pine Nuts	8%	14	37%
Soapberries	8%	18	84%
Blue Elderberries	7%	17	89%
Sage	7%	37	65%
Lichen (Moss)	7%	10	78%
Oregon Grape	3%	9	95%
Walnuts	3%	53	100%
Red or Black Hawthorn	2%	21	100%
Valerian	1%	44	84%
Cattail	1%	19	100%
Huss Huss	1%	12	100%
Buckbrush	1%	8	86%
Bunchberries	< 1%	6	57%

Section 7.1: Balsamroot

Question: *In the past 12 months, did (you/SUBJECT) eat Balsamroot, also known as Wild Sunflower or Spring Sunflower, or drink tea made from any part of this plant? This includes seeds, shoots, or any other part.*

Percentage of reservation population who ate balsamroot last year:

- Yes: 9% (542 people)
- Don't know: < 1%
- No: 90%

Question: *Did (you/SUBJECT) eat the Balsamroot, drink tea made from the Balsamroot, or both?*

Of the 542 people who had balsamroot last year, they consumed it in the following way:

- Ate part of the balsamroot plant: 89%
- Drank tea made from part of the balsamroot plant: 8%
- Both ate and drank tea: 3%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 542 people who had balsamroot last year, they consumed the following parts:

- Seeds: 17%
- Shoots: 74%
- Roots: 9%
- Some other part: 8%
 - 8% had the stem or stalk
 - < 1% had the leaves
- Don't know/no answer recorded: 3%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Balsamroot or drink it in tea?*

Of the 542 balsamroot consumers:

- 80% had it less than once a month
- 8% had it once a month
- 2% had it more than once a month, but not every week
- 1% had it once a week
- 5% had it more than once a week, but not every day
- 1% had it every day
- 2% did not provide an answer

On average, each balsamroot consumer had the plant in some form 22 times per year.

Question: *How much of the Balsamroot (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 542 balsamroot consumers:

- 94% said all of the balsamroot that they had was from within the local area
- 1% said some of the balsamroot that they had was from within the local area
- 5% did not know or did not provide this information

Taking the source of balsamroot into account, we answered the question: how often did people who sourced their balsamroot from the local area have the balsamroot?

After removing from further analysis the 27 people who were unsure about where their balsamroot came from, or who did not provide answers to these questions, there are 515 people who had balsamroot from within the local area last year. The average number of times these local-sourcers had balsamroot last year was 23.

Question: *Please look at this map and mark the areas where the balsamroot was gathered in the local area.*

Zones contributing more than 25% of the reservation’s local balsamroot are listed in Table 35 below.

Table 35: Principal local sources of balsamroot

Zone	Description	Percentage of Balsamroot
170	North of Omak	49%
382	Near mouth of the San Poil River	25%

Zones each accounting for 2-4% of local balsamroot consumed are, in descending order, 311 (near Rebecca Lake or Buffalo Lake), 432 (west of Inchelium), 222 (near Omak Creek or Haley Creek) and 233 (near Coyote Creek). The zones or river reaches each accounting for 0.01 – 2% of local balsamroot consumed are, in descending order, 291, 442, 300, 292, 120, 180, 462, 422, 330, 130, 441, 223, 421, 221, 373, R4B, 320, 423, 272, 521, 483, 453, 232, 458, and 312. 3% of local-sourcers recorded “999” for the area where their balsamroot was gathered. Their portion accounted for 2% of overall local balsamroot consumption.

Section 7.2: Commonly Consumed Roots

Section 7.2.1: Bitterroot

Question: *In the past 12 months, did (you/SUBJECT) eat or drink tea made from any part of the Bitterroot, also known as Sand Rose, Desert Rose, Rock Rose, Spatlum, or Spitlum? This includes the roots, bulbs, or any other part.*

Percentage of reservation population who ate bitterroot last year:

- Yes: 21 % (1239 people)
 - Excludes 9 people who answered yes but subsequently provided no bitterroot information
- Don't know/no answer recorded: 1%
- No: 78%

Question: *Did (you/SUBJECT) eat the Bitterroot, drink tea made from the Bitterroot, or both?*

Of the 1239 people who had bitterroot last year, they consumed it in the following way:

- Ate part of the bitterroot plant: 84%
- Drank tea made from part of the bitterroot plant: 7%
- Both ate and drank tea: 10%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 1239 people who had bitterroot last year, they consumed the following parts:

- Roots: 99%
- Some other part: < 1% (berry or stem)
- Don't know/no answer recorded: < 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Bitterroot or drink it in tea?*

Of the 1239 bitterroot consumers:

- 80% had it less than once a month
- 12% had it once a month
- 4 % had it more than once a month, but not every week
- 2% had it once a week
- 1% had it more than once a week, but not every day
- 1% didn't know

On average, each bitterroot consumer had the plant in some form 11 times per year.

Question: *How much of the Bitterroot (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 1239 bitterroot consumers:

- 79% said all of the bitterroot that they had was from within the local area
- 2 % said most of the bitterroot that they had was from within the local area
- < 1% said half of the bitterroot that they had was from within the local area
- 1% said some of the bitterroot that they had was from within the local area
- 1% said a little of the bitterroot that they had was from within the local area
- 6% said none of the bitterroot that they had was from within the local area
- 11% did not know whether the bitterroot that they had was from within the local area

Taking the source of bitterroot into account, we answered the question: how often did people who sourced their bitterroot from the local area have the bitterroot?

After removing from further analysis the 210 people who exclusively had bitterroot from outside the local area, were unsure about where their bitterroot came from, or did not provide answers to these questions, there are 1029 people who had bitterroot from within the local area last year. The average number of times these local-sourcers had bitterroot last year was 11.

Question: *Please look at this map and mark the areas where the bitterroot was gathered in the local area.*

Zones contributing more than 4% of the reservation’s local bitterroot are listed in Table 36 below.

Table 36: Principal local sources of bitterroot

Zone	Description	Percentage of Bitterroot
291	In or between Nespelem and Gold Lake	20%
330	Near Almira, Wilbur, or Creston	14%
300	Near Owhi Lake	12%
311	Near Rebecca Lake or Buffalo Lake	5%
233	Near Coyote Creek	5%

Zones accounting for 2-3% of local bitterroot consumed are, in descending order, 382 (near the mouth of the San Poil River), 221 (near Wanacut Creek), 250 (near Banks Lake), and 130 (north of and near Brewster). The zones or river reaches each accounting for 0.01 – 2% of local bitterroot consumed are, in descending order, 222, 292, 470, 232, 373, 231, 180, 552, 320, 312, 441, 170, 223, 432, 110, 431, 381, 614, 613, 612, 611, 242, 241, 190, and 281. 29% of local-sourcers recorded “999” for the area where their bitterroot was gathered. Their portion accounted for 23% of overall local bitterroot consumption.

Section 7.2.2: Indian Carrot

Question: *In the past 12 months, did (you/SUBJECT) eat or drink tea made from any part of the Indian Carrot, also known as Wild Carrot, Wild Caraway, False Caraway, or Gairdner's Yampah? This includes the roots, bulbs, or any other part.*

Percentage of reservation population who ate Indian carrot last year:

- Yes: 12% (724 people)
 - Excludes 11 people who answered yes but subsequently provided no Indian carrot information
- Don't know/no answer recorded: 1%
- No: 86%

Question: *Did (you/SUBJECT) eat the Indian carrot, drink tea made from the Indian carrot, or both?*

Of the 724 people who had Indian carrot last year, they consumed it in the following way:

- Ate part of the Indian carrot plant: 98%
- Both ate and drank tea: 2 %

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 724 people who had Indian carrot last year, they consumed the following parts:

- Roots: 98%
- Some other part: < 1%. These consumers reported eating the whole plant.
- Don't know/no answer recorded: 2%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Indian carrot or drink it in tea?*

Of the 724 Indian carrot consumers:

- 82% had it less than once a month
- 7% had it once a month
- 6% had it more than once a month, but not every week
- 3% had it once a week
- 1% had it every day
- 2% didn't know

On average, each Indian carrot consumer had the plant in some form 12 times per year.

Question: *How much of the Indian carrot (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 724 Indian carrot consumers:

- 82% said all of the Indian carrot that they had was from within the local area
- 4% said most of the Indian carrot that they had was from within the local area
- < 1% said half of the Indian carrot that they had was from within the local area
- 2% said some of the Indian carrot that they had was from within the local area
- < 1% said a little of the Indian carrot that they had was from within the local area
- 3% said none of the Indian carrot that they had was from within the local area
- 9% did not know whether the Indian carrot that they had was from within the local area

Taking the source of Indian carrot into account, we answered the question: how often did people who sourced their Indian carrot from the local area have the Indian carrot?

After removing from further analysis the 86 people who exclusively had Indian carrot from outside the local area, were unsure about where their Indian carrot came from, or did not provide answers to these questions, there are 638 people who had Indian carrot from within the local area last year. The average number of times these local-sourcers had Indian carrot last year was 11.

Question: *Please look at this map and mark the areas where the Indian carrot was gathered in the local area.*

Zones contributing more than 4% of the reservation’s local Indian carrot are listed in Table 37 below.

Table37: Principal local sources of Indian carrot

Zone	Description	Percentage of Indian carrot
382	Near the mouth of the San Poil River	37%
291	In or between Nespelem and Gold Lake	6%
381	Near the San Poil River, Jack Creek, or Louie Creek	4%
300	Near Owhi Lake	4%

Zones each accounting for 2-4% of local Indian carrot consumed are, in descending order, 292 (north and west of Nespelem), 233 (near Coyote Creek), and 421 (near Hall Creek or Sitdown Creek). The zones or river reaches each accounting for 0.02 – 2% of local Indian carrot consumed are, in descending order, 221, 470, 311, 432, 180, 330, 423, 312, 222, 232, 231, 250, 223, R10, 461, 190, 320, 431, 512, 130, 451, 442, 361, and 552. 37% of local-sourcers recorded “999” for the area where their Indian carrot was gathered. Their portion accounted for 27% of overall local Indian carrot consumption.

Section 7.2.3: Spring Beauty

Question: *In the past 12 months, did (you/SUBJECT) eat or drink tea made from any part of the Spring Beauty, also known as Indian Potato? This includes the roots, bulbs, or any other part.*

Percentage of reservation population who ate spring beauty last year:

- Yes: 14% (819 people)
 - Excludes 31 people who answered yes but subsequently provided no spring beauty information
- Don't know/no answer recorded: 1%
- No: 85%

Question: *Did (you/SUBJECT) eat the Spring beauty, drink tea made from the spring beauty, or both?*

Of the 819 people who had spring beauty last year, they consumed it in the following way:

- Ate part of the spring beauty plant: 89%
- Drank tea made from part of the spring beauty plant: 3%
- Both ate and drank tea: 5%
- Don't know/no answer recorded: 3%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 819 people who had spring beauty last year, they consumed the following parts:

- Roots: 96%
- Some other part: 1%. Consumer identified the stem, stalk and flower.
- No answer recorded: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat spring beauty or drink it in tea?*

Of the 819 spring beauty consumers:

- 82% had it less than once a month
- 9% had it once a month
- 3% had it more than once a month, but not every week
- 4% had it once a week
- 1% had it more than once a week, but not every day
- 1% had it every day
- 1% didn't know or did not provide an answer

On average, each spring beauty consumer had the plant in some form 13 times per year.

Question: *How much of the Spring beauty (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 819 spring beauty consumers:

- 82% said all of the spring beauty that they had was from within the local area
- 1% said most of the spring beauty that they had was from within the local area
- 2% said some of the spring beauty that they had was from within the local area
- 7% said none of the spring beauty that they had was from within the local area
- 8% did not know whether the spring beauty that they had was from within the local area

Taking the source of spring beauty into account, we answered the question: how often did people who sourced their spring beauty from the local area have the spring beauty?

After removing from further analysis the 122 people who exclusively had spring beauty from outside the local area, were unsure about where their spring beauty came from, or did not provide answers to these questions, there are 697 people who had spring beauty from within the local area last year. The average number of times these local-sourcers had spring beauty last year was 12.

Question: *Please look at this map and mark the areas where the spring beauty was gathered in the local area.*

Zones contributing more than 3% of the reservation’s local spring beauty are listed in Table 38 below.

Table 38: Principal local sources of spring beauty

Zone	Description	Percentage of Spring Beauty
382	Near the mouth of the San Poil River	41%
432	West of Inchelium	6%
330	Near Almira, Wilbur, or Creston	3%
300	Near Owhi Lake	3%

Zones each accounting for 1-3% of local spring beauty consumed are, in descending order, 381 (near the San Poil River, Jack Creek, or Louie Creek), 231 (around Omak Lake), 421 (near Hall Creek or Sitdown Creek), 291 (in or between Nespelem and Gold Lake), 423 (near Lynx Creek), and 221 (near Wanacut Creek). The zones or river reaches each accounting for 0.05 – 1% of local spring beauty consumed are, in descending order, 462, 223, 232, 371, 211, 311, 422, 431, 442, 312, R4B, 281, 233, 461, 292, 451, R3, and 482. 31% of local-sourcers recorded “999” for the area where their spring beauty was gathered. Their portion accounted for 28% of overall local spring beauty consumption.

Section 7.2.4: Lomatiums

Question: *In the past 12 months, did (you/SUBJECT) eat or drink tea made from any part of the Lomatiums, which includes White Camas, Canby's, Gray's or Barestem Lomatiums, Canby's or Gray's Biscuitroot, Gray's Desert Parsley, Indian or Wild Celery? This includes the roots, bulbs, or any other part.*

Percentage of reservation population who ate lomatiums last year:

- Yes: 14% (843 people)
 - Excludes 62 people who answered yes but subsequently provided no lomatium information
- Don't know/no answer recorded: 1%
- No: 85%

Question: *Did (you/SUBJECT) eat the Lomatiums, drink tea made from the Lomatiums, or both?*

Of the 843 people who had lomatiums last year, they consumed it in the following way:

- Ate part of the lomatium: 99%
- Drank tea made from part of the lomatium: < 1%
- Both ate and drank tea: < 1%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 843 people who had lomatiums last year, they consumed the following parts:

- Roots: >99%
- Some other part: < 1%. These consumers indicated the other part was the stem.

Question: *In the past 12 months, how often did (you/SUBJECT) eat Lomatiums or drink it in tea?*

Of the 843 lomatium consumers:

- 76% had them less than once a month
- 19% had them once a month
- 2% had them more than once a month, but not every week
- 1% had them once a week
- 2% had them more than once a week, but not every day
- 1% had them every day

On average, each lomatium consumer had the plant in some form 14 times per year.

Question: *How much of the Lomatiums (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 843 lomatium consumers:

- 82% said all of the lomatiums that they had were from within the local area
- 4% said most of the lomatiums that they had were from within the local area
- 1% said half of the lomatiums that they had were from within the local area
- 1% said that a little of the lomatiums that they had were from within the local area
- 5% said none of the lomatiums that they had were from within the local area
- 6% did not know whether the lomatiums that they had were from within the local area

Taking the source of lomatiums into account, we answered the question: how often did people who sourced their lomatiums from the local area have the lomatiums?

After removing from further analysis the 92 people who exclusively had lomatiums from outside the local area or who were unsure about where their lomatiums came from, there are 751 people who had lomatiums from within the local area last year. The average number of times these local-sourcers had lomatiums last year was 13.

Question: *Please look at this map and mark the areas where the lomatiums was gathered in the local area.*

Zones contributing more than 9% of the reservation’s local lomatiums are listed in Table 39 below.

Table 39: Principal local sources of lomatiums

Zone	Description	Percentage of Lomatiums
382	Near the mouth of the San Poil River	30%
330	Near Almira, Wilbur, or Creston	16%
291	In or between Nespelem and Gold Lake	12%
311	Near Rebecca Lake or Buffalo Lake	9%

Zones each accounting for 1-5% of local lomatiums consumed are, in descending order, 250 (near Banks Lake), 233 (near Coyote Creek), 242 (near the southwest bank of the Columbia River, immediately downstream of the Grand Coulee Dam), and 231 (around Omak Lake). The zones or river reaches each accounting for 0.005 – 1% of local lomatiums consumed are, in descending order, 221, 140, 232, 180, 320, 552, 422, 451, and 312. 28 % of local-sourcers recorded “999” for all or part of the area where their lomatiums was gathered. Their portion accounted for 19% of overall local lomatium consumption.

Section 7.2.5: Valerian

Question: *In the past 12 months, did (you/SUBJECT) eat or drink tea made from any type of Valerian, such as Edible or Mountain Valerian? This includes the roots, bulbs, or any other part.*

Percentage of reservation population who ate valerian last year:

- Yes: 1% (77 people)
 - Excludes 12 people who answered yes but subsequently provided no valerian information
- Don't know/no answer recorded: 2%
- No: 97%

Question: *Did (you/SUBJECT) eat the Valerian, drink tea made from the Valerian, or both?*

Of the 77 people who had valerian last year, they consumed it in the following way:

- Ate part of the valerian plant: 22%
- Drank tea made from part of the valerian plant: 73%
- Both ate and drank tea: 4%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 77 people who had valerian last year, they consumed the following parts:

- Roots: 71%
- Some other part: 24% (leaves and flower)
- Don't know/no answer recorded: 5%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Valerian or drink it in tea?*

Of the 77 valerian consumers:

- 71% had it less than once a month
- 7% had it once a month
- 5% had it once a week
- 17% had it more than once a week, but not every day

On average, each valerian consumer had the plant in some form 44 times per year.

Question: *How much of the Valerian (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 77 valerian consumers:

- 84% said all of the valerian that they had was from within the local area
- 16% said none of the valerian that they had was from within the local area

Taking the source of valerian into account, we answered the question: how often did people who sourced their valerian from the local area have the valerian?

After removing from further analysis the 12 people who exclusively had valerian from outside the local area, there are 65 people who had valerian from within the local area last year. The average number of times these local-sourcers had valerian last year was 51.

Question: *Please look at this map and mark the areas where the valerian was gathered in the local area.*

Zones contributing to the reservation’s local valerian are listed in Table 40 below.

Table 40: Local sources of valerian

Zone	Description	Percentage of Valerian
170	North of Omak	6%
311	Near Rebecca Lake or Buffalo Lake	5%
382	Near the mouth of the San Poil River	2%
351	West of Republic	2%
250	Near Banks Lake	1%
281	Near Haden Creek or Lost Creek	1%

21% of local-sourcers recorded “999” for the area where their valerian was gathered. Their portion accounted for 85% of overall local valerian consumption.

Section 7.3: Camas

Question: *In the past 12 months, did (you/SUBJECT) eat any Camas, which includes Black, Blue, Common and Sweet Camas, or drink tea made from any part of these plants? This includes roots, bulbs, or any other part. Please do not include White Camas.*

Percentage of reservation population who ate camas last year:

- Yes: 23% (1357 people)
- Don't know: 1%
- No: 76%

Question: *Did (you/SUBJECT) eat the Camas, drink tea made from the Camas, or both?*

Of the 1357 people who had camas last year, they consumed it in the following way:

- Ate part of the camas plant: 94%
- Drank tea made from part of the camas plant: 1%
- Both ate and drank tea: 5%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 1357 people who had camas last year, they consumed the following parts:

- Roots: >99%
- Some other part: 1% (stems or flowers)
- No answer recorded: < 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Camas or drink it in tea?*

Of the 1357 camas consumers:

- 84% had it less than once a month
- 8% had it once a month
- 4% had it more than once a month, but not every week
- 1% had it once a week
- 2% had it more than once a week, but not every day
- < 1% had it every day
- 1% didn't know or did not provide an answer

On average, each camas consumer had the plant in some form 14 times per year.

Question: *How much of the Camas (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 1357 camas consumers:

- 74% said all of the camas that they had was from within the local area
- < 1% said some of the camas that they had was from within the local area
- 7% said none of the camas that they had was from within the local area
- 20% did not know or did not provide this information

Taking the source of camas into account, we answered the question: how often did people who sourced their camas from the local area have the camas?

After removing from further analysis the 366 people who exclusively had camas from outside the local area, were unsure about where their camas came from, or did not provide answers to these questions, there are 991 people who had camas from within the local area last year. The average number of times these local-sourcers had camas last year was 13.

Question: *Please look at this map and mark the areas where the camas was gathered in the local area.*

Zones contributing more than 7% of the reservation’s local camas are listed in Table 41 below.

Table 41: Principal local sources of camas

Zone	Description	Percentage of Camas
382	Near the mouth of the San Poil River	20%
330	Near Almira, Wilbur, or Creston	14%
311	Near Rebecca Lake or Buffalo Lake	12%
233	Near Coyote Creek	8%

Zones each accounting for 1-4% of local camas consumed are, in descending order, 291 (in or between Nespelem and Gold Lake), 250 (near Banks Lake), 552 (between Davenport and Lake Roosevelt), 180 (southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River), and 242 (near the southwest bank of the Columbia River, immediately downstream of the Grand Coulee Dam). The zones or river reaches each accounting for 0.003 – 2% of local camas consumed are, in descending order, 470, 232, 300, 312, 320, 292, 231, 441, 452, 222, 190, 160, and 221. 34% of local-sourcers recorded “999” for the area where their camas was gathered. Their portion accounted for 31% of overall local camas consumption.

Section 7.4: Cattail

Question: *In the past 12 months, did (you/SUBJECT) eat Cattail, also known as Bulrush or Flag, or drink tea from any part of this plant? This includes the shoots, flower heads, roots, or any other part.*

Percentage of reservation population who ate cattail last year:

- Yes: 1% (73 people)
- Don't know: < 1%
- No: 98%

Question: *Did (you/SUBJECT) eat the Cattail, drink tea made from the Cattail, or both?*

Of the 73 people who had cattail last year, they consumed it in the following way:

- Ate part of the cattail plant: 46%
- Drank tea made from part of the cattail plant: 49%
- Don't know/no answer recorded: 4%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 73 people who had cattail last year, they consumed the following parts:

- Roots: 55%
- Shoots: 46%
- Don't know/no answer recorded: 4%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Cattail or drink it in tea?*

Of the 73 cattail consumers:

- 50% had it less than once a month
- 37% had it once a month
- 5% had it more than once a month, but not every week
- 5% had it more than once a week, but not every day
- 4% didn't know or did not provide an answer

On average, each cattail consumer had the plant in some form 19 times per year.

Question: *How much of the Cattail (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

All 73 cattail consumers said all of the cattail that they had was from within the local area.

Question: *Please look at this map and mark the areas where the cattail was gathered in the local area.*

Zones contributing more than 2% of the reservation's local cattail are listed in Table 42 below.

Table 42: Principal local sources of cattail

Zone	Description	Percentage of Cattail
292	North and west of Nespelem	57%
170	North of Omak	24%
311	Near Rebecca Lake or Buffalo Lake	6%
382	Near the mouth of the San Poil River	3%

Zones each accounting for less than 1% of local cattail consumed are, in descending order, 233, 232, 223, 432, 431, and 421. 23% of local-sourcers recorded "999" for the area where their cattail was gathered. Their portion accounted for 8% of overall local cattail consumption.

Section 7.5: Wild Berries

Section 7.5.1: Huckleberries

Question: *In the past 12 months, did (you/SUBJECT) eat Huckleberries, Wild Blueberries, or Bilberries or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who had huckleberries last year:

- Yes: 75% (4415 people)
 - Excludes 12 people who answered yes but provided no huckleberry information
- No answer recorded: < 1%
- No: 25%

Question: *Did (you/SUBJECT) eat the Huckleberries, drink tea made from the Huckleberries, or both?*

Of the 4415 people who had huckleberries last year, they consumed it in the following way:

- Ate part of the huckleberry plant: 93%
- Drank tea made from part of the huckleberry plant: < 1%
- Both ate and drank tea: 7%
- No answer recorded: < 1%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 4415 people who had huckleberries last year, they consumed the following parts:

- Berry or fruit: 99%
- Some other part: < 1%. These consumers indicated they consumed the plant's leaves.
- Don't know/no answer recorded: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Huckleberries or drink it in tea?*

Of the 4415 huckleberry consumers:

- 65% had them less than once a month
- 19% had them once a month
- 10% had them more than once a month, but not every week
- 3% had them once a week
- 2% had them more than once a week, but not every day
- < 1% had them every day
- 1% didn't know or did not provide an answer

On average, each huckleberry consumer had them 16 times per year.

Question: *How much of the Huckleberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 4415 huckleberry consumers:

- 82% said all of the huckleberries that they had were from within the local area
- 2% said most of the huckleberries that they had were from within the local area
- < 1% said half of the huckleberries that they had were from within the local area
- 1% said some of the huckleberries that they had were from within the local area
- < 1% said a little of the huckleberries that they had were from within the local area
- 5% said none of the huckleberries that they had were from within the local area
- 9% did not know or did not provide this information

Taking the source of huckleberries into account, we answered the question: how often did people who sourced their huckleberries from the local area have the huckleberries?

After removing from further analysis the 618 people who exclusively had huckleberries from outside the local area, were unsure about where their huckleberries came from, or did not provide answers to these questions, there are 3797 people who had huckleberries from within the local area last year. The average number of times these local-sourcers had huckleberries last year was 16.

Question: *Please look at this map and mark areas where huckleberries were gathered in the local area.*

Zones contributing more than 6% of the reservation’s local huckleberries are listed in Table 43 below.

Table 43: Principal local sources of huckleberries

Zone	Description	Percentage of Huckleberries
291	In or between Nespelem and Gold Lake	8%
223	Near Omak Creek or Swimptkin Creek	7%
431	Twin Lakes or nearby	6%
282	North of Gold Lake	6%

Zones each accounting for 2-3% of local huckleberries consumed are, in descending order, 421 (near Hall Creek or Sitdown Creek), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), and 382 (near the mouth of the San Poil River). The zones or river reaches each accounting for 0.002 – 2% of local huckleberries consumed are, in descending order, 422, 300, 180, 423, 312, 281, 170, 232, 363, 432, 381, 371, 120, 311, 451, 374, 110, 372, 411, 503, 413, 292, 393, 362, 441, 233, 272, 361, 330, 200, 261, 221, 352, 222, 344, 572, 402, 412, 461, 512, 100, 364, 332, 414, 404, 160, 521, R13, 241, 452, 262, 351, and 354 . 34% of local-sourcers recorded “999” for the area where their huckleberries was gathered. Their portion accounted for 41% of overall local huckleberry consumption.

Section 7.5.2: Wild Raspberries

Question: *In the past 12 months, did (you/SUBJECT) eat Wild Raspberries or drink tea made from part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who had wild raspberries last year:

- Yes: 22% (1293 people)
 - Excludes 13 people who answered yes but provided no wild raspberry information
- Don't know/no answer recorded: 1%
- No: 77%

Question: *Did (you/SUBJECT) eat the Wild Raspberries, drink tea made from them, or both?*

Of the 1293 people who had wild raspberries last year, they consumed it in the following way:

- Ate the wild raspberry: 97%
- Both ate and drank tea: 2%
- Don't know/no answer recorded: 1%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 1293 people who had wild raspberries last year, they consumed the following parts:

- Berry or fruit: 99%
- Some other part: 1%. Consumers indicated they consumed either the plant bush or leaves.
- Don't know/no answer recorded: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Wild raspberries or drink it in tea?*

Of the 1293 wild raspberry consumers:

- 78% had them less than once a month
- 15% had them once a month
- 4% had them more than once a month, but not every week
- 2% had them once a week
- 1% had them more than once a week, but not every day
- 1% didn't know or did not provide an answer

On average, each wild raspberry consumer had them 10 times per year.

Question: *How much of the Wild Raspberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 1293 wild raspberry consumers:

- 88% said all of the wild raspberries that they had were from within the local area
- < 1% said half of the wild raspberries that they had were from within the local area
- 2% said some of the wild raspberries that they had were from within the local area
- < 1% said a little of the wild raspberries that they had were from within the local area
- 5% said none of the wild raspberries that they had were from within the local area
- 5% did not know or did not provide this information

Taking the source of wild raspberries into account, we answered the question: how often did people who sourced their wild raspberries from the local area have the wild raspberries?

After removing from further analysis the 129 people who exclusively had wild raspberries from outside the local area, were unsure about where their wild raspberries came from, or did not provide answers to these questions, there are 1164 people who had wild raspberries from within the local area last year. The average number of times these local-sourcers had wild raspberries last year was 9.

Question: *Please look at this map and mark the areas where the wild raspberries were gathered in the local area.*

Zones contributing more than 6% of the reservation’s local wild raspberries are listed in Table 44 below.

Table 44: Principal local sources of wild raspberries

Zone	Description	Percentage of Wild Raspberries
382	Near the mouth of the San Poil River	14%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	8%
312	North bank of Lake Roosevelt between Coulee Dam and the San Poil River	8%
291	In or between Nespelem and Gold Lake	8%

Zones each accounting for 3-6% of local wild raspberries consumed are, in descending order, 311 (near Rebecca Lake or Buffalo Lake), 422 (near Hall Creek and Barnaby Creek), 431 (Twin Lakes or nearby), 421 (near Hall Creek or Sitdown Creek), 432 (west of Inchelium), and 282 (north of Gold Lake). The zones or river reaches each accounting for 0.02 – 3% of local wild raspberries consumed are, in descending order, 110, 300, 170, 221, 381, 423, 442, 281, 222, 130, 232, 250, 363, 120, 372, 451, 283, 362, 521, 441, R4B, 361, 272, R7, 404, 231, 452, 581, 413, 223, 342, 343, 344, 233, 292, and 373. 21% of local-sourcers recorded “999” for the area where their wild raspberries were gathered. Their portion accounted for 20% of overall local wild raspberry consumption.

Section 7.5.3: Wild Blackberries

Question: *In the past 12 months, did (you/SUBJECT) eat Wild Blackberries or drink tea made from part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate wild blackberries last year:

- Yes: 19% (1141 people)
 - Excludes 40 people who answered yes but provided no wild blackberry information
- Don't know/no answer recorded: 1%
- No: 79%

Question: *Did (you/SUBJECT) eat the Wild Blackberries, drink tea made from them, or both?*

Of the 1141 people who had wild blackberries last year, they consumed it in the following way:

- Ate the wild blackberry: 92%
- Both ate and drank tea: 6%
- Don't know/no answer recorded: 1%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 1141 people who had wild blackberries last year, they consumed the following parts:

- Berry or fruit: 98%
- Some other part: 1% (leaves)
- Don't know/no answer recorded: 2%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Wild blackberry or drink it in tea?*

Of the 1141 wild blackberry consumers:

- 70% had them less than once a month
- 16% had them once a month
- 5% had them more than once a month, but not every week
- 6% had them once a week
- 2% had them more than once a week, but not every day
- < 1% had them every day
- 1% didn't know how often they had blackberries

On average, each wild blackberry consumer had the plant in some form 15 times per year.

Question: *How much of the Wild Blackberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 1141 wild blackberry consumers:

- 76% said all of the wild blackberries that they had were from within the local area
- < 1% said most of the wild blackberries that they had were from within the local area
- < 1% said some of the wild blackberries that they had were from within the local area
- 1% said a little of the wild blackberries that they had were from within the local area
- 18% said none of the wild blackberries that they had were from within the local area
- 5% did not know or did not provide this information

Taking the source of wild blackberries into account, we answered the question: how often did people who sourced their wild blackberries from the local area have the wild blackberries?

After removing from further analysis the 262 people who exclusively had wild blackberries from outside the local area, were unsure about where their wild blackberries came from, or did not provide answers to these questions, there are 879 people who had wild blackberries from within the local area last year. The average number of times these local-sourcers had wild blackberries last year was 15.

Question: *Please look at this map and mark areas where blackberries were gathered in the local area.*

Zones contributing more than 3% of the reservation’s local wild blackberries are listed in Table 45.

Table 45: Principal local sources of wild blackberries

Zone	Description	Percentage of Wild Blackberries
311	Near Rebecca Lake or Buffalo Lake	41%
130	North of and near Brewster	11%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	8%
422	Near Hall Creek and Barnaby Creek	4%
382	Near the mouth of the San Poil River	3%

Zones each accounting for 1-3% of local wild blackberries consumed are, in descending order, 170 (north of Omak), 300 (near Owhi Lake), 110 (west of Conconully), 120 (west of Okanogan), 432 (west of Inchelium), and 421 (near Hall Creek or Sitdown Creek). The zones or river reaches each accounting for 0.05 – 1% of local wild blackberries consumed are, in descending order, 140, 312, 223, 442, 374, 291, 292, 282, 431, R4A, 441, R4B, 381, 423, 232, 351, 272, 242, 373, 531, 403, 250, 281, 361, 362, and 413. 11% of local-sourcers recorded “999” for the area where their wild blackberries were gathered. Their portion accounted for 16% of overall local wild blackberry consumption.

Section 7.5.4: Wild Thimbleberries

Question: *In the past 12 months, did (you/SUBJECT) eat wild thimbleberries or drink tea made from part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate thimbleberries last year:

- Yes: 10% (604 people)
 - Excludes 13 people who answered yes but provided no thimbleberry information and includes 15 people who answered no but provided information about thimbleberries.
- Don't know/no answer recorded: 1%
- No: 89%

Question: *Did (you/SUBJECT) eat the Thimbleberries, drink tea made from the Thimbleberries, or both?*

Of the 604 people who had thimbleberries last year, they consumed them in the following way:

- Ate part of the thimbleberry plant: 98%
- Both ate and drank tea: 2%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 604 people who had thimbleberries last year, they consumed the following parts:

- Berry or fruit: 100%
- Some other part: 1% (leaves)

Question: *In the past 12 months, how often did (you/SUBJECT) eat Thimbleberries or drink them in tea?*

Of the 604 thimbleberry consumers:

- 83% had them less than once a month
- 15% had them once a month
- 2% had them more than once a month, but not every week

On average, each thimbleberry consumer had the plant in some form 8 times per year.

Question: *How much of the Thimbleberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 604 thimbleberry consumers:

- 89% said all of the thimbleberries that they had were from within the local area
- 6% said none of the thimbleberries that they had were from within the local area
- 5% did not know whether the thimbleberries that they had were from within the local area

Taking the source of thimbleberries into account, we answered the question: how often did people who sourced their thimbleberries from the local area have the thimbleberries?

After removing from further analysis the 66 people who exclusively had thimbleberries from outside the local area or who were unsure about where their thimbleberries came from, there are 538 people who had thimbleberries from within the local area last year. The average number of times these local-sourcers had thimbleberries last year was 8.

Question: *Please look at this map and mark the areas where the thimbleberries were gathered in the local area.*

Zones contributing 7% or more of the reservation’s local thimbleberries are listed in Table 46 below.

Table 46: Principal local sources of thimbleberries

Zone	Description	Percentage of Thimbleberries
382	Near the mouth of the San Poil River	13%
233	Near Coyote Creek	9%
421	Near Hall Creek or Sitdown Creek	9%
431	Twin Lakes or nearby	9%
292	North and west of Nespelem	7%
432	West of Inchelium	7%
282	North of Gold Lake	7%

Zones each accounting for 3-4% of local thimbleberries consumed are, in descending order, 291 (in or between Nespelem and Gold Lake), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), 422 (near Hall Creek and Barnaby Creek), and 423 (near Lynx Creek). The zones or river reaches each accounting for 0.08 – 3% of local thimbleberries consumed are, in descending order, 381, 300, 372, 371, 441, 363, 180, 413, 281, 222, 414, 442, 531, 351, and 311. 10% of local-sourcers recorded “999” for the area where their thimbleberries were gathered. Their portion accounted for 10% of overall local thimbleberry consumption.

Section 7.5.5: Chokecherries

Question: *In the past 12 months, did (you/SUBJECT) eat Chokecherries, also known as Wild Cherries, or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate chokecherries last year:

- Yes: 14% (837 people)
 - Excludes 18 people who answered yes but subsequently provided no chokecherry information
- Don't know/no answer recorded: 1%
- No: 85%

Question: *Did (you/SUBJECT) eat the Chokecherries, drink tea made from the Chokecherries, or both?*

Of the 837 people who had chokecherries last year, they consumed it in the following way:

- Ate part of the chokecherries plant: 84%
- Drank tea made from part of the chokecherries plant: 1%
- Both ate and drank tea: 15%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 837 people who had chokecherries last year, they consumed the following parts:

- Berry or fruit: 98%
- Some other part: 1% (leaves)
- Don't know: 2%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Chokecherries or drink them in tea?*

Of the 837 chokecherry consumers:

- 70% had them less than once a month
- 20% had them once a month
- 2% had them more than once a month, but not every week
- 1% had them once a week
- 4 % had them more than once a week, but not every day
- 2 % didn't know

On average, each chokecherry consumer had them in some form 17 times per year.

Question: *How much of the Chokecherries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 837 chokecherry consumers:

- 85% said all of the chokecherries that they had were from within the local area
- < 1% said most of the chokecherries that they had were from within the local area
- 1% said some of the chokecherries that they had were from within the local area
- < 1% said a little of the chokecherries that they had were from within the local area
- 5% said none of the chokecherries that they had were from within the local area
- 9% did not know whether the chokecherries that they had were from within the local area

Taking the source of chokecherries into account, we answered the question: how often did people who sourced their chokecherries from the local area have the chokecherries?

After removing from further analysis the 117 people who exclusively had chokecherries from outside the local area, were unsure about where their chokecherries came from, or did not provide answers to these questions, there are 720 people who had chokecherries from within the local area last year. The average number of times these local-sourcers had chokecherries last year was 16.

Question: *Please look at this map and mark the areas where the chokecherries were gathered in the local area.*

Zones contributing more than 10% of the reservation’s local chokecherries are listed in Table 47 below.

Table 47: Principal local sources of chokecherries

Zone	Description	Percentage of Chokecherries
291	In or between Nespelem and Gold Lake	23%
311	Near Rebecca Lake or Buffalo Lake	16%
382	Near the mouth of the San Poil River	10%

Zones each accounting for 2-3% of local chokecherries consumed are, in descending order, 300 (near Owhi Lake), 432 (west of Inchelium), 222 (near Omak Creek or Haley Creek), and 233 (near Coyote Creek). The zones or river reaches each accounting for 0.003 – 2% of local chokecherries consumed are, in descending order, 381, 422, 180, 421, 373, 292, 452, 441, 403, 231, 363, 431, 223, 281, 100, 221, 411, 170, 414, 282, R8, 160, 413, 442, R4A, R4B, 110, 371, 241, 242, and 451. 28% of local-sourcers recorded “999” for the area where their chokecherries were gathered. Their portion accounted for 22% of overall local chokecherry consumption.

Section 7.5.6: Blue Elderberries

Question: *In the past 12 months, did (you/SUBJECT) eat Blue Elderberries or drink tea made from part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate blue elderberries last year:

- Yes: 7% (421 people)
 - Excludes 24 people who answered yes but provided no blue elderberry information and includes 2 people who answered no but provided information about blue elderberries.
- Don't know/no answer recorded: 1%
- No: 92%

Question: *Did (you/SUBJECT) eat the Blue Elderberries, drink tea made from them, or both?*

Of the 421 people who had blue elderberries last year, they consumed it in the following way:

- Ate part of the blue elderberry plant: 87%
- Drank tea made from part of the blue elderberry: 1%
- Both ate and drank tea: 8%
- Don't know/no answer recorded: 4%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 421 people who had blue elderberries last year, they consumed the following parts:

- Berry or fruit: 96%
- Don't know/no answer recorded: 4%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Blue elderberry or drink it in tea?*

Of the 421 blue elderberry consumers:

- 68% had them less than once a month
- 20% had them once a month
- 7% had them more than once a month, but not every week
- 2% had them once a week
- 4% had them more than once a week, but not every day

On average, each blue elderberry consumer had them in some form 17 times per year.

Question: *How much of the Blue Elderberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 421 blue elderberry consumers:

- 84% said all of the blue elderberries that they had were from within the local area
- 1% said most of the blue elderberries that they had were from within the local area
- 2% said some of the blue elderberries that they had were from within the local area
- 1% said a little of the blue elderberries that they had were from within the local area
- 4% said none of the blue elderberries that they had were from within the local area
- 8% did not know or did not provide this information

Taking the source of blue elderberries into account, we answered the question: how often did people who sourced their blue elderberries from the local area have the blue elderberries?

After removing from further analysis the 50 people who exclusively had blue elderberries from outside the local area, were unsure about where their blue elderberries came from, or did not provide answers to these questions, there are 371 people who had blue elderberries from within the local area last year. The average number of times these local-sourcers had blue elderberries last year was 18.

Question: *Please look at this map and mark the areas where the blue elderberries were gathered in the local area.*

Zones contributing more than 5% of the reservation’s local blue elderberries are listed in Table 48 below.

Table 48: Principal local sources of blue elderberries

Zone	Description	Percentage of Blue Elderberries
291	In or between Nespelem and Gold Lake	32%
311	Near Rebecca Lake or Buffalo Lake	15%
300	Near Owhi Lake	8%
222	Near Omak Creek or Haley Creek	6%

Zones each accounting for 2-5% of local blue elderberries consumed are, in descending order, 382 (near the mouth of the San Poil River), 431 (Twin Lakes or nearby), 421 (near Hall Creek or Sitdown Creek), and 180 (southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River). The zones or river reaches each accounting for 0.03 – 2% of local blue elderberries consumed are, in descending order, 292, 381, 223, 422, 160, 312, 250, 221, 363, 374, 432, 441, 231, 414, 120, 442, 170, 242. 14% of local-sourcers recorded “999” for the area where their blue elderberries were gathered. Their portion accounted for 9% of overall local blue elderberry consumption.

Section 7.5.7: Red or Black Hawthorn

Question: *In the past 12 months, did (you/SUBJECT) eat Red or Black Hawthorn, also known as Red or Black Thornberries, or Red or Black Haw, or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate hawthorn last year:

- Yes: 2% (116 people)
 - Excludes 14 people who answered yes but subsequently provided no hawthorn information
- Don't know/no answer recorded: 1%
- No: 97%

Question: *Did (you/SUBJECT) eat the Hawthorn, drink tea made from the Hawthorn, or both?*

Of the 116 people who had hawthorn last year, they consumed it in the following way:

- Ate part of the hawthorn plant: 68%
- Drank tea made from part of the hawthorn plant: 24%
- Both ate and drank tea: 7%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 116 people who had hawthorn last year, they consumed the following parts:

- Berry or fruit: 100%
- Some other part: 24%. These consumers only drank tea. They identified both the "berry or fruit" and "some other part," the plant's root, as parts of the plant they consumed.

Question: *In the past 12 months, how often did (you/SUBJECT) eat Hawthorn or drink it in tea?*

Of the 116 hawthorn consumers:

- 50% had it less than once a month
- 15% had it once a month
- 11% had it more than once a month, but not every week
- 24% had it once a week

On average, each hawthorn consumer had the plant in some form 21 times per year.

Question: *How much of the Hawthorn (you/SUBJECT) (ate/(or) made tea from) was from the local area?*

Of the 116 hawthorn consumers:

- 98% said all of the hawthorn that they had was from within the local area
- 2% said half of the hawthorn that they had was from within the local area

Question: Please look at this map and mark the areas where the hawthorn was gathered in the local area.

Zones contributing more than 4% of the reservation’s local hawthorn are listed in Table 49 below.

Table 49: Principal local sources of hawthorn

Zone	Description	Percentage of Hawthorn
231	Around Omak Lake	66%
222	Near Omak Creek or Haley Creek	9%
300	Near Owhi Lake	6%
221	Near Wanacut Creek	5%

Zones each accounting for 2-4% of local hawthorn consumed are, in descending order, 382 (near the mouth of the San Poil River), 422 (near Hall Creek and Barnaby Creek), and 232 (between Omak Lake and Nespelem). The zones each accounting for 0.15 – 2% of local hawthorn consumed are, in descending order, 431, 311, and 381. 8% of local-sourcers recorded “999” for the area where their hawthorn was gathered. Their portion accounted for 5% of overall local hawthorn consumption.

Section 7.5.8: Buckbrush

Question: *In the past 12 months, did (you/SUBJECT) eat Buckbrush or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate buckbrush last year:

- Yes: 1% (58 people)
 - Excludes 7 people who answered yes but provided no buckbrush information
- Don't know/no answer recorded: 1%
- No: 98%

Question: *Did (you/SUBJECT) eat the Buckbrush, drink tea made from the Buckbrush, or both?*

Of the 58 people who had buckbrush last year, they consumed it in the following way:

- Ate part of the buckbrush plant: 29%
- Drank tea made from part of the buckbrush plant: 71%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 58 people who had buckbrush last year, they consumed the following parts:

- Berry or fruit: 22%
- Some other part: 77%. These consumers indicated the other part consumed is the leaves.

Question: *In the past 12 months, how often did (you/SUBJECT) eat Buckbrush or drink it in tea?*

Of the 58 buckbrush consumers:

- 73% had it less than once a month
- 22% had it once a month
- 3% had it more than once a month, but not every week

On average, each buckbrush consumer had the plant in some form 8 times per year.

Question: *How much of the Buckbrush (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 58 buckbrush consumers:

- 86% said all of the buckbrush that they had was from within the local area
- 14% did not know whether the buckbrush that they had was from within the local area

Question: *Please look at this map and mark the areas where the buckbrush was gathered in the local area.*

Zones contributing more than 6% of the reservation's local buckbrush are listed in Table 50 below.

Table 50: Principal local sources of buckbrush

Zone	Description	Percentage of Buckbrush
300	Near Owhi Lake	48%
381	Near the San Poil River, Jack Creek, or Louie Creek	16%
431	Twin Lakes or nearby	13%
232	Between Omak Lake and Nespelem	7%
422	Near Hall Creek and Barnaby Creek	6%

Zones each accounting for 3-5% of local buckbrush consumed are, in descending order, 292 (north and west of Nespelem), 233 (near Coyote Creek), and 223 (near Omak Creek or Swimptkin Creek). 4% of local-sourcers recorded "999" for the area where their buckbrush was gathered. Their portion accounted for 3% of overall local buckbrush consumption.

Section 7.5.9: Sarvisberries

Question: *In the past 12 months, did (you/SUBJECT) eat Sarvisberries, also known as Serviceberry, Juneberry, Saskatoonberry, Wild Plum, Shadberry, or Shadbush, or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate sarvisberries last year:

- Yes: 16% (953 people)
 - Excludes 57 people who answered yes but provided no sarvisberry information and includes 6 people who answered no but provided sarvisberry information
- Don't know/no answer recorded: 1%
- No: 83%

Question: *Did (you/SUBJECT) eat the Sarvisberries, drink tea made from the Sarvisberries, or both?*

Of the 953 people who had sarvisberries last year, they consumed them in the following way:

- Ate part of the sarvisberries plant: 96%
- Both ate and drank tea: 4%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 953 people who had sarvisberries last year, they consumed the following parts:

- Berry or fruit: 99%
- Some other part: 1% (leaves)
- Don't know/no answer recorded: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Sarvisberries or drink it in tea?*

Of the 953 sarvisberry consumers:

- 83% had them less than once a month
- 8% had them once a month
- 5% had them more than once a month, but not every week
- 1% had them once a week
- 2% had them more than once a week, but not every day
- 1% had them every day

On average, each sarvisberry consumer had the plant in some form 14 times per year.

Question: *How much of the Sarvisberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 953 sarvisberry consumers:

- 87% said all of the sarvisberries that they had were from within the local area
- 1% said most of the sarvisberries that they had were from within the local area
- 1% said some of the sarvisberries that they had were from within the local area
- 11% did not know or did not provide this information

Taking the source of sarvisberries into account, we answered the question: how often did people who sourced their sarvisberries from the local area have the sarvisberries?

After removing from further analysis the 104 people who were unsure about where their sarvisberries came from, or who did not provide answers to these questions, there are 849 people who had sarvisberries from within the local area last year. The average number of times these local-sourcers had sarvisberries last year was 15.

Question: *Please look at this map and mark the areas where the sarvisberries were gathered in the local area.*

Zones contributing more than 4% of the reservation’s local sarvisberries are listed in Table 51 below.

Table 51: Principal local sources of sarvisberries

Zone	Description	Percentage of Sarvisberries
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	21%
291	In or between Nespelem and Gold Lake	13%
382	Near the mouth of the San Poil River	7%
374	Near the San Poil River and Bridge Creek	4%

Zones each accounting for 2-4% of local sarvisberries consumed are, in descending order, 311 (near Rebecca Lake or Buffalo Lake), 140 (Bridgeport and west and south of Bridgeport), 300 (near Owhi Lake), 432/R4B (west of Inchelium), and 422 (near Hall Creek and Barnaby Creek). The zones or river reaches each accounting for 0.07 – 2% of local sarvisberries consumed are, in descending order, 431, 421, 170, 231, 233, 441, 282, 423, 223, 292, 381, 281, 110, 323, 283, 442, 232, 363, 120, 272, 221, 531, 373, 453, 160, 222, 361, 362. 25% of local-sourcers recorded “999” for the area where their sarvisberries were gathered. Their portion accounted for 19% of overall local sarvisberry consumption.

Section 7.5.10: Bunchberries

Question: *In the past 12 months, did (you/SUBJECT) eat Bunchberries or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobbles.*

Percentage of reservation population who ate bunchberries last year:

- Yes: < 1% (12 people)
 - Excludes 9 people who answered yes but subsequently provided no bunchberry information
- Don't know/no answer recorded: 1%
- No: 99%

Question: *Did (you/SUBJECT) eat the Bunchberries, drink tea made from the Bunchberries, or both?*

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Question: *In the past 12 months, how often did (you/SUBJECT) eat Bunchberries or drink it in tea?*

Of the 12 people who had bunchberries last year, 100% reported eating only the berries less than once a month. No one reported drinking tea made from bunchberries.

Question: *How much of the Bunchberries (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 12 bunchberry consumers:

- 28% said all of the bunchberries that they had were from within the local area
- 29% said some of the bunchberries that they had were from within the local area
- 33% did not know whether the bunchberries that they had were from within the local area

Question: *Please look at this map and mark the areas where the bunchberries were gathered in the local area.*

All zones contributing to the reservation's local bunchberries are listed in Table 52 below.

Table 52: Local sources of bunchberries

Zone	Description	Percentage of Bunchberries
291	In or between Nespelem and Gold Lake	79%
382	Near the mouth of the San Poil River	11%
170	North of Omak	11%

No one recorded "999" for the area where their bunchberries were gathered.

Section 7.5.11: Oregon Grape

Question: *In the past 12 months, did (you/SUBJECT) eat Oregon Grape, also known as Barberry or Mahonia, or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobbles.*

Percentage of reservation population who ate Oregon grape last year:

- Yes: 3% (167 people)
 - Excludes 28 people who answered yes but provided no Oregon grape information and includes 2 people who answered no but did provide Oregon grape information.
- Don't know/no answer recorded: 1%
- No: 96%

Question: *Did (you/SUBJECT) eat the Oregon grape, drink tea made from the Oregon grape, or both?*

Of the 167 people who had Oregon grape last year, they consumed it in the following way:

- Ate part of the Oregon grape plant: 91%
- Both ate and drank tea: 9%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 167 people who had Oregon grape last year, they consumed the following parts:

- Berry or fruit: 100%
- Some other part: 4%. These consumers said leaves were consumed.

Question: *In the past 12 months, how often did (you/SUBJECT) eat Oregon grape or drink it in tea?*

Of the 167 Oregon grape consumers:

- 82% had it less than once a month
- 13% had it once a month
- 3% had it more than once a month, but not every week
- 3% had it once a week

On average, each Oregon grape consumer had the plant in some form 9 times per year.

Question: *How much of the Oregon grape (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 167 Oregon grape consumers:

- 93% said all of the Oregon grape that they had was from within the local area
- 2% said some of the Oregon grape that they had was from within the local area
- 5% said none of the Oregon grape that they had was from within the local area

Taking the source of Oregon grape into account, we answered the question: how often did people who sourced their Oregon grape from the local area have the Oregon grape?

After removing from further analysis the 8 people who exclusively had Oregon grape from outside the local area, there are 159 people who had Oregon grape from within the local area last year. The average number of times these local-sourcers had Oregon grape last year was 9.

Question: *Please look at this map and mark the areas where the Oregon grape was gathered in the local area.*

Zones contributing more than 3% of the reservation’s local Oregon grape are listed in Table 53 below.

Table 53: Principal local sources of Oregon grape

Zone	Description	Percentage of Oregon Grape
382	Near the mouth of the San Poil River	37%
311	Near Rebecca Lake or Buffalo Lake	25%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	4%
421	Near Hall Creek or Sitdown Creek	4%
432	West of Inchelium	4%

Zones each accounting for 2-3% of local Oregon grape consumed are, in descending order, 403 (west bank of the Kettle River north of Marcus Flats) and 452 (near Silver Creek Road between Keller and the Columbia River). The zones or river reaches each accounting for 0.11 – 2% of local Oregon grape consumed are, in descending order, 292, 414, R7, 422, 100, 150, 431, 261, 262, 263, 272, 170. 22% of local-sourcers recorded “999” for the area where their Oregon grape was gathered. Their portion accounted for 12% of overall local Oregon grape consumption.

Section 7.5.12: Wild Strawberries

Question: *In the past 12 months, did (you/SUBJECT) eat (BERRY) or drink tea made from any part of the plant? This includes eating fresh berries as well as all preparations such as jams, pies, or cobblers.*

Percentage of reservation population who ate wild strawberries last year:

- Yes: 27% (1562 people)
 - Excludes 99 people who answered yes but provided no wild strawberry information and includes 22 people who answered no but provided wild strawberry information.
- Don't know/no answer recorded: 1%
- No: 72%

Question: *Did (you/SUBJECT) eat the Wild strawberries, drink tea made from the Wild strawberries, or both?*

Of the 1562 people who had wild strawberries last year, they consumed it in the following way:

- Ate part of the wild strawberry plant: 96%
- Drank tea made from part of the wild strawberry plant: < 1%
- Both ate and drank tea: 3%
- Don't know/no answer recorded: < 1%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 1562 people who had wild strawberries last year, they consumed the following parts:

- Berry or fruit: 98%
- Some other part: 2% (leaves, stems, and whole)
- Don't know/no answer recorded: 2%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Wild strawberries or drink it in tea?*

Of the 1562 wild strawberry consumers:

- 83% had them less than once a month
- 10% had them once a month
- 6% had them more than once a month, but not every week
- 2% had them once a week
- < 1% had them more than once a week, but not every day
- < 1% did not provide an answer

On average, each wild strawberry consumer had the plant in some form 9 times per year.

Question: *How much of the Wild strawberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 1562 wild strawberry consumers:

- 88% said all of the wild strawberries that they had were from within the local area
- < 1% said most of the wild strawberries that they had were from within the local area
- 1% said half of the wild strawberries that they had were from within the local area
- 1% said some of the wild strawberries that they had were from within the local area
- 3% said none of the wild strawberries that they had were from within the local area
- 3% did not know whether the wild strawberries that they had were from within the local area

Taking the source of wild strawberries into account, we answered the question: how often did people who sourced their wild strawberries from the local area have the wild strawberries?

After removing from further analysis the 93 people who exclusively had wild strawberries from outside the local area or who were unsure about where their wild strawberries came from, there are 1469 people who had wild strawberries from within the local area last year. The average number of times these local-sourcers had wild strawberries last year was 9.

Question: *Please look at this map and mark areas where local wild strawberries were gathered.*

Zones contributing more than 6% of the reservation’s local wild strawberries are listed in Table 54.

Table 54: Principal local sources of wild strawberries.

Zone	Description	Percentage of Wild strawberries
130	North of and near Brewster	12%
382	Near the mouth of the San Poil River	11%
291	In or between Nespelem and Gold Lake	9%
421	Near Hall Creek or Sitdown Creek	6%
282	North of Gold Lake	6%
431	Twin Lakes or nearby	6%

Zones each accounting for 3-4% of local wild strawberries consumed are, in descending order, 300 (near Owhi Lake), 311 (near Rebecca Lake or Buffalo Lake), and 281 (near Haden Creek or Lost Creek). The zones or river reaches each accounting for 0.05 – 2% of local wild strawberries consumed are, in descending order, 422, 170, 432, 223, 381, 110, 373, 180, 100, 363, 232, 371, 442, 423, 441, 361, 272, 372, 212, 451, 231, 292, 283, 503, 572, 453, 414, 312, 404, 412, 521, 120, 362, 374, 211, 261, 262, and 263. 14% of local-sourcers recorded “999” for the area where their wild strawberries were gathered. Their portion accounted for 13% of overall local wild strawberry consumption.

Section 7.6: Soapberries

Question: *In the past 12 months, did (you/SUBJECT) eat any Soapberries or drink tea made from any part of the Soapberry plant also known as Foamberry, Russet Buffalo-Berry, or Soopolallie? This includes fresh berries as well as Indian ice cream, juice, jams, pies, or cobblers.*

Percentage of reservation population who ate soapberries last year:

- Yes: 8% (445 people)
 - Excludes 2 people who answered yes but provided no soapberry information
- Don't know: < 1%
- No: 92%

Question: *Did (you/SUBJECT) eat the Soapberries, drink tea made from the Soapberries, or both?*

Of the 445 people who had soapberries last year, they consumed it in the following way:

- Ate part of the soapberry plant: 93%
- Drank tea made from part of the soapberry plant: 6%
- Don't know: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Indian ice cream made from Soapberries?*

Of the 445 people who had soapberries last year:

- 12% did not have Indian ice cream in the past year
- 73% had it less than once a month
- 10% had it once a month
- 5% had it more than once a month, but not every week

Question: *How often did (you/SUBJECT) drink juice made from Soapberries?*

Of the 445 people who had soapberries last year:

- 67% did not have soapberry juice in the past year
- 23% had it less than once a month
- 9% had it once a month
- < 1% did not provide an answer

Question: *Which parts (did you/did SUBJECT) eat or use in tea? Please do not include Indian ice cream or juice that we just talked about.*

This sequence of questioning was confusing to many respondents, as consumers who only ate Indian ice cream or drank soapberry juice were unable to indicate that they ate no other parts of the plant. Therefore, the results are reported here but are considered uncertain data.

Of the 445 people who had soapberries last year, they consumed the following parts:

- Berry or fruit: 75%
- Some other part: 6% (roots)
- Don't know/no answer recorded: 25% (note – this is exceptionally high for this category of answer)

Question: *In the past 12 months, how often did (you/SUBJECT) eat Soapberries or drink it in tea?*

Respondents appeared to interpret this question inconsistently. A very high percentage gave no answer to this question. Therefore, the results are reported here but are considered uncertain data.

Other than as Indian ice cream or as juice, the 445 people who consumed soapberries last year ate them at the following frequency:

- 12% never had them
- 65% had them less than once a month
- 4% had them once a month
- 2% had them more than once a month, but not every week
- 6% had them once a week
- 11% did not provide an answer

Taken in all ways, how often did the 445 soapberry consumers have soapberries? On average, each soapberry consumer had the plant in some form 18 times per year.

Question: *How much of the Soapberries (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 445 soapberry consumers:

- 82% said all of the soapberries that they had were from within the local area
- 1% said some of the soapberries that they had were from within the local area
- 16% did not know whether the soapberries that they had were from within the local area

Taking the source of soapberries into account, we answered the question: how often did people who sourced their soapberries from the local area have the soapberries?

After removing from further analysis the 71 people who were unsure about where their soapberries came from, there are 374 people who had soapberries from within the local area last year. The average number of times these local-sourcers had soapberries last year was 18.

Question: *Please look at this map and mark the areas where the soapberries were gathered in the local area.*

Zones contributing more than 4% of the reservation's local soapberries are listed in Table 56 below.

Table 56: Principal local sources of soapberries

Zone	Description	Percentage of Soapberries
291	In or between Nespelem and Gold Lake	40%
432	West of Inchelium	8%
300	Near Owhi Lake	7%
612	Near Route 231 south of Springdale	5%
431	Twin Lakes or nearby	4%

Zones each accounting for 1-3% of local soapberries consumed are, in descending order, 423 (near Lynx Creek), 382 (near the mouth of the San Poil River), 223 (near Omak Creek or Swimptkin Creek), and 372 (near Twentythreemile Creek). The zones or river reaches each accounting for 0.05 – 1% of local soapberries consumed are, in descending order, 352, 371, 231, 421, 282, 292, 180, R4A, 281, 374, 272, 512, 170, 110, 120, 221, 222, 232, and 233. 29% of local-sourcers recorded “999” for the area where their soapberries was gathered. Their portion accounted for 20% of overall local soapberry consumption.

Section 7.7: Wild Rose

Question: *In the past 12 months, did (you/SUBJECT) eat any Wild Rose or drink tea from any part of the Wild Rose on any occasions other than funerals or spiritual ceremonies? This includes rose hips or any other part of the plant.*

Percentage of reservation population who ate wild rose last year:

- Yes: 10% (580 people)
 - Excludes 4 people who answered yes but provided no wild rose information
- Don't know: < 1%
- No: 90%

Question: *Did (you/SUBJECT) eat the Wild rose, drink tea made from the Wild rose, or both?*

Of the 580 people who had wild rose last year, they consumed it in the following way:

- Ate part of the wild rose plant: 13%
- Drank tea made from part of the wild rose plant: 73%
- Both ate and drank tea: 8%
- Don't know: 6%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 580 people who had wild rose last year, they consumed the following parts:

- Rose hips: 83%
- Some other part(s): 24%
 - Branches or stems: 11%
 - Leaves: 9%
 - Petals/flowers: 5%
 - Shoots: 1%
 - Whole: < 1%
- Don't know/no answer recorded: 3%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Wild rose or drink it in tea?*

Of the 580 wild rose consumers:

- 67% had it less than once a month
- 12% had it once a month
- 10% had it more than once a month, but not every week
- 48% had it once a week
- 6% had it more than once a week, but not every day
- 1% didn't know or did not provide an answer

On average, each wild rose consumer had the plant in some form 21 times per year.

Question: *How much of the Wild rose (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 580 wild rose consumers:

- 86% said all of the wild rose that they had was from within the local area
- 1% said some of the wild rose that they had was from within the local area
- 7% said none of the wild rose that they had was from within the local area
- 6% did not know or did not provide this information

Taking the source of wild rose into account, we answered the question: how often did people who sourced their wild rose from the local area have the wild rose?

After removing from further analysis the 75 people who exclusively had wild rose from outside the local area, were unsure about where their wild rose came from, or did not provide answers to these questions, there are 505 people who had wild rose from within the local area last year. The average number of times these local-sourcers had wild rose last year was 22.

Question: *Please look at this map and mark the areas where the wild rose was gathered in the local area.*

Zones contributing more than 4% of the reservation’s local wild rose are listed in Table 57 below.

Table 57: Principal local sources of wild rose

Zone	Description	Percentage of Wild Rose
300	Near Owhi Lake	32%
382	Near the mouth of the San Poil River	18%
291	In or between Nespelem and Gold Lake	8%
170	North of Omak	8%
160	Near Tonasket, between Loomis and the Reservation north boundary	4%

Zones each accounting for 2-3% of local wild rose consumed are, in descending order, 221 (near Wanacut Creek), 311 (near Rebecca Lake or Buffalo Lake), 442/R4B (south of Inchelium near Lake Roosevelt), and 180 (Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River). The zones or river reaches each accounting for 0.03 – 2% of local wild rose consumed are, in descending order, 292, 222, 232, 422/R4A, 211, 431, 212, 432, 223, 130, 100, 373, 374, 381, 423, 231, 481, 490, 613, and 282. 11% of local-sourcers recorded “999” for the area where their wild rose was gathered. Their portion accounted for 4% of overall local wild rose consumption.

Section 7.8: Sage

Question: *In the past 12 months, did (you/SUBJECT) eat any type of Sage, such as White Sage or Sagebrush, or drink tea from any part of the Sage plant? This does not include any Sage taken for medicinal reasons.*

Percentage of reservation population who ate sage last year:

- Yes: 7% (379 people)
 - Excludes 29 people who answered yes but subsequently reported that they did not eat the sage but used it for smudging.
- Don't know: < 1%
- No: 93%

Question: *Did (you/SUBJECT) eat the Sage, drink tea made from the Sage, or both?*

Of the 379 people who had sage last year, they consumed it in the following way:

- Ate part of the sage plant: 70%
- Drank tea made from part of the sage plant: 24%
- Both ate and drank tea: 6%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 379 people who had sage last year, they consumed the following parts:

- Leaves: 100%
- Some other part: 5%. These consumers said the other parts consumed were the sage buds.

Question: *In the past 12 months, how often did (you/SUBJECT) eat Sage or drink it in tea?*

Of the 379 sage consumers:

- 62% had it less than once a month
- 7% had it once a month
- 17% had it more than once a month, but not every week
- 3% had it once a week
- 9% had it more than once a week, but not every day
- 2% had it every day

On average, each sage consumer had the plant in some form 37 times per year.

Question: *How much of the Sage (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

Of the 379 sage consumers:

- 61% said all of the sage that they had was from within the local area
- 1% said half of the sage that they had was from within the local area
- 3% said a little of the sage that they had was from within the local area
- 15% said none of the sage that they had was from within the local area
- 20% did not know whether the sage that they had was from within the local area

Taking the source of sage into account, we answered the question: how often did people who sourced their sage from the local area have the sage?

After removing from further analysis the 132 people who exclusively had sage from outside the local area or who were unsure about where their sage came from, there are 247 people who had sage from within the local area last year. The average number of times these local-sourcers had sage last year was 33.

Question: *Please look at this map and mark the areas where the sage was gathered in the local area.*

Zones contributing more than 7% of the reservation’s local sage are listed in Table 58 below.

Table 58: Principal local sources of sage

Zone	Description	Percentage of Sage
120	West of Okanogan	38%
311	Near Rebecca Lake or Buffalo Lake	29%
130	North of and near Brewster	10%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	8%

Zones each accounting for 2-3% of local sage consumed are, in descending order, 312 (north bank of Lake Roosevelt between Coulee Dam and the San Poil River), 432 (west of Inchelium), and 170 (north of Omak). The zones or river reaches each accounting for 0.07 – 2% of local sage consumed are, in descending order, 211, 222, 382, 999, 291, 422/R4A, 231, 300, 221, 232, and 233. 5% of local-sourcers recorded “999” for the area where their sage was gathered. Their portion accounted for 1% of overall local sage consumption.

Section 7.9: Lichen (Moss)

Question: *This question is about a type of moss that is called Lichen and grows on trees. In the past 12 months, did (you/SUBJECT) eat this moss, drink tea made from it, or use it as a thickener, for example, in puddings?*

Percentage of reservation population who ate moss last year:

- Yes: 7% (396 people)
- Don't know: < 1%
- No: 93%

Question: *Did (you/SUBJECT) eat the Moss, drink tea made from the Moss, or both?*

Of the 396 people who had moss last year, they consumed it in the following way:

- Ate the moss: 90%
- Drank tea made from moss: 4%
- Both ate and drank tea: 4%
- No answer provided: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat dishes, such as pudding, that were thickened with Moss?*

Of the 396 moss consumers:

- 29% never had the moss as a thickener
- 63% had it less than once a month
- 4% had it once a month
- 1% had it more than once a month, but not every week
- 3% didn't know

Question: *Other than as a thickener, in the past 12 months, how often did (you/SUBJECT) eat Moss or drink it in tea?*

Of the 396 moss consumers:

- 25% never had moss, other than as a thickener
- 64% had it less than once a month
- 8% had it once a month
- 2% had it more than once a month, but not every week
- 1% didn't know

On average, each moss consumer had the plant in some form 10 times per year.

Question: *How much of the Moss (you/SUBJECT) (ate/used as a thickener/(or) made tea from) was gathered from the local area?*

Of the 396 moss consumers:

- 77% said all of the moss that they had was from within the local area
- 1% said half of the moss that they had was from within the local area
- 3% said none of the moss that they had was from within the local area
- 19% did not know or did not provide this information

Taking the source of moss into account, we answered the question: how often did people who sourced their moss from the local area have the moss?

After removing from further analysis the 85 people who exclusively had moss from outside the local area, were unsure about where their moss came from, or did not provide answers to these questions, there are 309 people who had moss from within the local area last year. The average number of times these local-sourcers had moss last year was 10.

Question: *Please look at this map and mark the areas where the moss was gathered in the local area.*

Zones contributing more than 6% of the reservation’s local moss are listed in Table 59 below.

Table 59: Principal local sources of moss

Zone	Description	Percentage of Moss
291	In or between Nespelem and Gold Lake	15%
432/R4B	West of Inchelium	10%
382	Near the mouth of the San Poil River	7%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	6%

Zones each accounting for 3-5% of local moss consumed are, in descending order, 300 (near Owhi Lake) and 221 (near Wanacut Creek). The zones or river reaches each accounting for 0.17 – 3% of local moss consumed are, in descending order, 130, 170, 223, 232, 373, 372, 281, 282, 222, 431, 311, 292, 233. 46% of local-sourcers recorded “999” for the area where their moss was gathered. Their portion accounted for 33% of overall local moss consumption.

Section 7.10: Wild Mushrooms

Question: *In the past 12 months, did (you/SUBJECT) eat any Wild Mushrooms, which include Morels, Puffballs, and Shaggy Manes, or drink tea made from any part of the Wild Mushroom?*

Percentage of reservation population who ate wild mushrooms last year:

- Yes: 17% (988 people)
- Don't know: < 1%
- No: 83%

Question: *Did (you/SUBJECT) eat the Wild mushrooms, drink tea made from the Wild mushrooms, or both?*

Of the 988 people who had wild mushrooms last year, they consumed it in the following way:

- Ate the wild mushrooms: 93%
- Both ate and drank tea made from wild mushrooms: 3%
- Don't know/no answer recorded: 4%

Question: *In the past 12 months, which of these types of Wild Mushrooms (did you/did SUBJECT) eat or use in tea?*

Of the 988 people who had wild mushrooms last year, they consumed the following types:

- Morels: 67%
- Shaggy manes: 48%
- Puffballs: 7%
- Some other mushroom: 2%. Consumers indicated other mushrooms consumed included boletes, king boletes, chanterelles, corals and meadow mushrooms.
- Don't know: 5%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Wild mushrooms or drink them in tea?*

Of the 988 wild mushroom consumers:

- 88% had them less than once a month
- 7% had them once a month
- 3% had them more than once a month, but not every week
- 2% had them more than once a week, but not every day
- 1% didn't know or did not provide an answer

On average, each wild mushroom consumer had them 11 times per year.

Question: *How much of the Wild mushrooms (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 988 wild mushroom consumers:

- 91% said all of the wild mushrooms that they had were from within the local area
- < 1% said most of the wild mushrooms that they had were from within the local area
- < 1% said some of the wild mushrooms that they had were from within the local area
- < 1% said a little of the wild mushrooms that they had were from within the local area
- 2% said none of the wild mushrooms that they had were from within the local area
- 6% did not know or did not provide this information

Taking the source of wild mushrooms into account, we answered the question: how often did people who sourced their wild mushrooms from the local area have the wild mushrooms?

After removing from further analysis the 79 people who exclusively had wild mushrooms from outside the local area, were unsure about where their wild mushrooms came from, or did not provide answers to these questions, there are 909 people who had wild mushrooms from the local area last year. The average number of times these local-sourcers had wild mushrooms last year was 11.

Question: *Please look at this map and mark areas where wild mushrooms were from in the local area.*

Zones contributing more than 7% of the reservation’s local wild mushrooms are listed in Table 60 below.

Table 60: Principal local sources of wild mushrooms

Zone	Description	Percentage of Wild mushrooms
232	Between Omak Lake and Nespelem	30%
382	Near the mouth of the San Poil River	9%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	7%
421	Near Hall Creek or Sitdown Creek	7%

Zones each accounting for 2-3% of local wild mushrooms consumed are, in descending order, 110 (west of Conconully), 291 (in or between Nespelem and Gold Lake), 423 (near Lynx Creek), and 373 (near the San Poil River, between Gold Lake and Thirtymile Creek). The zones or river reaches each accounting for 0.02 – 2% of local wild mushrooms consumed are, in descending order, 300, 223, 222, 431, 422, 451, 381, 432, 452, 212, 233, 441, 374, 263, 412, 351, 170, 453, 120, 221, 371, 311, 353, 354, 442, 481, R10, 261, 262, 281, 292, 271, and 272. 29% of local-sourcers recorded “999” for the area where their wild mushrooms were gathered. Their portion accounted for 17% of overall local wild mushroom consumption.

Section 7.11: Pine Nuts

Question: *In the past 12 months, did (you/SUBJECT) eat any Pine Nuts, also known as "Pinyon" nuts or drink tea made from Pine Nuts?*

Percentage of reservation population who ate pine nuts last year:

- Yes: 8% (477 people)
 - Excludes 3 people who answered yes but provided no pine nut information
- Don't know: < 1%
- No: 92%

Question: *Did (you/SUBJECT) eat the Pine nuts, drink tea made from the Pine nuts, or both?*

Of the 477 people who had pine nuts last year, they consumed it in the following way:

- Ate the pine nuts: 97%
- Drank tea made from the pine nuts: 1%
- No answer recorded: 2%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Pine nuts or drink them in tea?*

Of the 477 pine nut consumers:

- 79% had them less than once a month
- 11% had them once a month
- 1% had them more than once a month, but not every week
- 3% had them once a week
- 3% had them more than once a week, but not every day
- 2% didn't know or did not provide an answer

On average, each pine nut consumer had them in some form 14 times per year.

Question: *How much of the Pine nuts (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 477 pine nut consumers:

- 37% said all of the pine nuts that they had were from within the local area
- 39% said none of the pine nuts that they had were from within the local area
- 24% did not know whether the pine nuts that they had were from within the local area

Taking the source of pine nuts into account, we answered the question: how often did people who sourced their pine nuts from the local area have the pine nuts?

After removing from further analysis the 300 people who exclusively had pine nuts from outside the local area or who were unsure about where their pine nuts came from, there are 177 people who had

pine nuts from within the local area last year. The average number of times these local-sourcers had pine nuts last year was 15.

Question: *Please look at this map and mark the areas where the pine nuts were gathered in the local area.*

Zones contributing more than 3% of the reservation’s local pine nuts are listed in Table 61 below.

Table 61: Principal local sources of pine nuts

Zone	Description	Percentage of Pine nuts
382	Near the mouth of the San Poil River	29%
441	Near Wilmont Creek	4%
431	Twin Lakes or nearby	4%
311	Near Rebecca Lake or Buffalo Lake	4%
423	Near Lynx Creek	4%

Zones each accounting for 1-3% of local pine nuts consumed are, in descending order, 232 (between Omak Lake and Nespelem), 291 (in or between Nespelem and Gold Lake), 292 (north and west of Nespelem), and 222 (near Omak Creek or Haley Creek). 35% of local-sourcers recorded “999” for the area where their pine nuts was gathered. Their portion accounted for 48% of overall local pine nut consumption.

Section 7.12: Hazelnuts

Question: *In the past 12 months, did (you/SUBJECT) eat any Hazelnuts, also known as "Filberts" or drink tea made from any part of the Hazelnut?*

Percentage of reservation population who ate hazelnuts last year:

- Yes: 10% (576 people)
- Don't know: < 1%
- No: 90%

Question: *Did (you/SUBJECT) eat the Hazelnuts, drink tea made from the Hazelnuts, or both?*

Of the 576 people who had hazelnuts last year, they consumed them in the following ways:

- Ate the hazelnuts: 99%
- Both ate and drank tea: 1%

Question: *In the past 12 months, how often did (you/SUBJECT) eat Hazelnuts or drink it in tea?*

Of the 576 hazelnut consumers:

- 77% had them less than once a month
- 8% had them once a month
- 6% had them more than once a month, but not every week
- 2% had them once a week
- 2% had them more than once a week, but not every day
- 5% had them every day

On average, each hazelnut consumer had the plant in some form 32 times per year.

Question: *How much of the Hazelnuts (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

Of the 576 hazelnut consumers:

- 34% said all of the hazelnuts that they had were from within the local area
- 1% said half of the hazelnuts that they had were from within the local area
- 44% said none of the hazelnuts that they had were from within the local area
- 20% did not know whether the hazelnuts that they had were from within the local area

Taking the source of hazelnuts into account, we answered the question: how often did people who sourced their hazelnuts from the local area have the hazelnuts?

After removing from further analysis the 368 people who exclusively had hazelnuts from outside the local area or who were unsure about where their hazelnuts came from, there are 208 people who had

hazelnuts from within the local area last year. The average number of times these local-sourcers had hazelnuts last year was 9.

Question: *Please look at this map and mark the areas where the hazelnuts were gathered in the local area.*

Zones contributing more than 8% of the reservation’s local hazelnuts are listed in Table 62 below.

Table 62: Principal local sources of hazelnuts

Zone	Description	Percentage of Hazelnuts
130	North of and near Brewster	27%
311	Near Rebecca Lake or Buffalo Lake	16%
170	North of Omak	11%
382	Near the mouth of the San Poil River	9%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	9%

Zones each accounting for 3-4% of local hazelnuts consumed are, in descending order, 120 (west of Okanogan), 503 (near Clugston Creek or Mill Creek), and 312 (north bank of Lake Roosevelt between Coulee Dam and the San Poil River). The zones or river reaches each accounting for 0.13 – 3% of local hazelnuts consumed are, in descending order, 140, 291, 422, 432, and 160. 15% of local-sourcers recorded “999” for the area where their hazelnuts were gathered. Their portion accounted for 10% of overall local hazelnut consumption.

Section 7.13: Other Plants

Question: *Not including any of the plants we've already talked about, in the past 12 months, did (you/SUBJECT) eat any other plants or drink tea made from any plants that were gathered from the local area?*

Percentage of reservation population who ate other plants last year:

- Yes: 9% (531 people)
- Don't know: 1%
- No: 90%

Question: *What are the names of these other plants?*

Some of the plants named in this category could properly be included in previously mentioned categories (such as local fruits and vegetables), but for this report those data are not combined. None of the plants reported in this category were also reported in another part of the FQ (i.e. if the respondent reported "rhubarb" here, rhubarb was not additionally listed in their "fruits and vegetables" category). The 531 people who ate "other plants" last year reported the following:

- Walnuts or Black Walnuts: 29%
- Huss Huss: 11%
- Rosemary: 7%
- Tamarack or Tamarack Tips: 6%
- Mint, including Peppermint and Wild Mint: 6%
- Nettles or Stinging Nettles: 6%
- Yarrow: 6%
- Fir Boughs: 5%
- Dandelion: 5%

Plants eaten by fewer than 5% of "other plant" consumers include, in descending order, wild sunny flower, chamomile or wild chamomile, almonds, rhubarb, jumping cactus, flax seeds, basil, chives, parsley, lavender, gooseberries, mullein, bearberries, watercress, butterbur, larch tree, honey, comfrey, cedar, cherries, grapes, shooting star, wild onions, pine pitch, princess pine, echinacea, hyssop, mayflower potatoes, sunflower stems, twinberries, and apricots.

Further data regarding the two most frequently consumed plants (walnuts and huss huss) are provided below.

Section 7.13.1: Walnuts

Question: *Did (you/SUBJECT) eat the walnut, drink tea made from the walnut, or both?*

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 153 people who had walnuts last year, 2 people did not provide any further walnut information. The remaining 151 people only ate the nuts (seeds) of the walnuts.

Question: *In the past 12 months, how often did (you/SUBJECT) eat walnuts or drink it in tea?*

Of the 151 walnut consumers:

- 32% had them less than once a month
- 28% had them once a month
- 13% had them more than once a month, but not every week
- 13% had them once a week
- 2% had them more than once a week, but not every day
- 9% had them every day

On average, each walnut consumer had the walnuts 53 times per year.

Question: *How much of the walnuts (you/SUBJECT) (ate/(or) made tea from) were gathered from the local area?*

All 151 walnut consumers said that all of their walnuts were from the local area.

Question: *Please look at this map and mark areas where the walnuts were gathered in the local area.*

Zones contributing more than 6% of the reservation's local walnuts are listed in Table 63 below.

Table 63: Principal local sources of walnuts

Zone	Description	Percentage of Walnuts
320	Grand Coulee and the south bank of Lake Roosevelt between Grand Coulee Dam and the San Poil River	54%
311	Near Rebecca Lake or Buffalo Lake	25%
170	North of Omak	9%
231	Around Omak Lake	6%

Zones each accounting for less than 2% of local walnuts consumed are, in descending order, 531, 374, 382, 312, 130, and 250. 2% of local-sourcers recorded "999" for the area where their walnuts were gathered. Their portion accounted for 2% of overall local walnut consumption.

Section 7.13.2: Huss Huss

Question: *Did (you/SUBJECT) eat huss huss, drink tea made from huss huss, or both?*

Of the 58 people who had huss huss last year:

- Ate huss huss: 33%
- Drank tea made from huss huss: 4%
- Both ate and drank tea: 62%

Question: *Which parts (did you/did SUBJECT) eat or use in tea?*

Of the 58 people who had huss huss last year, all used the roots (bulb) of huss huss.

Question: *In the past 12 months, how often did (you/SUBJECT) eat huss huss or drink it in tea?*

Of the 58 huss huss consumers:

- 9% had it less than once a month
- 91% had it once a month

On average, each huss huss consumer had the huss huss 12 times per year.

Question: *How much of the huss huss (you/SUBJECT) (ate/(or) made tea from) was gathered from the local area?*

All 58 huss huss consumers said that all of their huss huss was from the local area.

Question: *Please look at this map and mark the areas where the huss huss was gathered in the local area.*

Zones contributing more than 4% of the reservation's local huss huss are listed in Table 64 below.

Table 64: Principal local sources of huss huss

Zone	Description	Percentage of Huss Huss
282	North of Gold Lake	35%
281	Near Haden Creek or Lost Creek	5%
222	Near Omak Creek or Haley Creek	5%

Zones each accounting for less than 1% of local huss huss consumed are, in descending order, 431, 423, and 412. 49% of local-sourcers recorded "999" for the area where their huss huss was gathered. Their portion accounted for 52% of overall local huss huss consumption.

Section 8: Use of Natural Materials in Food Preparation

Section 8.1: Pit Cooking, Smoking, and Drying Foods

Question: *OK, the last thing I want to ask (you/SUBJECT) about is how (your/SUBJECT's) food was prepared over the past 12 months. Over the past 12 months, did (you/SUBJECT) use any natural materials from the local area as fuel to pit cook, smoke, or dry any plants, fish, or meat that you ate?*

Percentage of reservation population who used local resources to cook, smoke, or dry food last year:

- Yes: 53% (3111 people)
- Don't know: 2%
- No: 45%

Question: *Which of the following materials were used to cook, smoke, or dry the food?*

Of the 3111 people who used local resources to cook, smoke, or dry food last year, they used:

- Alder: 64%
- Apple Wood: 61%
- Aspen: 5%
- Cottonwood: 5%
- Willow: 3%
- Tule: 1%
- Reed Canary Grass: < 1%
- Some other material: 10%
 - Tamarack: 3%
 - Pine: 2%
 - Fir: 2%
 - Cherry: 2%
 - Larch: 1%
 - Each of the following were used by less than 1% of people using local resources to cook, smoke or dry their food: birch, elm, hickory, sage, apricot, peach, maple, hawthorn, plum, Russian olive, cedar, juniper, and rye grass.
 - Several people reported resources that are not able to be categorized under this question: charcoal, propane, water, and bark.
- Don't know what material was used: 7%

Section 8.2: Wrapping and Stuffing Foods

Question: *Over the past 12 months, did (you/SUBJECT) eat any food that was wrapped or stuffed with natural materials gathered from the local area?*

Percentage of reservation population who used local resources to wrap or stuff food last year:

- Yes: 3% (192 people)
 - Excludes 9 people who answered yes but subsequently provided no information
- Don't know: 1%
- No: 96%

Question: *Which of the following materials were used to cook, smoke, or dry the food?*

Of the 192 people who used local resources to cook, smoke, or dry food last year, they used:

- Skunk Cabbage: 3%
- Ferns: 2%
- Fir: 1%
- Tule: 1%
- No one used cattail, reed canary grass, or sumac.
- Some other material:
 - Herbs including fennel seeds and lavender: 20%
 - Greens including spinach: 15%
 - Sage or sage seeds: 11%
 - Corn husks: 10%
 - Biscuitroot: 9%
 - Salmon or salmon skin: 9%
 - Onions: 5%
 - Each of the following was used by less than 3% of the people using resources to wrap or stuff their food: lily leaves, thimbleberry leaves, rye grass, and apples.
 - Some people reported resources that are not able to be categorized under this question: lemons, salt.
- Don't know what material was used: 23%

RESOURCE USE AND PRACTICES DATA REPORT

Upper Columbia River Resources Survey

June 12, 2012

Prepared for:



CONFEDERATED TRIBES OF THE COLVILLE RESERVATION

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Upper Columbia River Resources Survey Resource Use and Practices Data Report

Background

This report provides data collected from the Upper Columbia River Resources Survey (UCRRS) “Resource Use and Practices Questionnaire (REUP),” a paper survey administered to each UCRRS respondent over the age of 14 in person by a trained interviewer. This questionnaire is part of a larger survey effort which also included at least two 24-hour diet recall interviews and, for respondents over the age of 2, a “Food Questionnaire” (FQ) regarding dietary consumption of local resources.

The REUP asked for information regarding use over the preceding 12 months of specific resources in several categories: materials used in weaving, dyeing and coloring, construction, sweat lodges, medicines, and body paint. The survey also included questions on the locations and duration of outdoor activities and avoidance of local resources or activities. For each resource, data were collected regarding frequency of use and the amount sourced locally; for the amount sourced locally, the respondent was asked to indicate on a map specific areas from which the resource was obtained.

Overall Methodology

The Confederated Tribes of the Colville Reservation, with the support of their contractor, Environment International, Ltd. (EI), worked to administer the full REUP to as many UCRRS respondents as possible. These efforts resulted in responses from 874 people.

The REUP was designed by a tribal team, including staff and tribal members, and professional scientists and statisticians at EI, in cooperation with the US Environmental Protection Agency and Westat, Inc. Specific types of plants and materials used, as well as activities participated in by tribal members, were identified through interviews with local experts. Each category of questioning included an opportunity for respondents to identify other materials/activities not specifically called out in the REUP.

Maps presented to the respondent to be used for identifying the location of local activity or source of local material contained red outlines around the area considered “local.” The local area contained numerous zones, each of which was assigned a three-character alphanumeric code. The zones represented locations and river reaches within the local area. Respondents were shown a map of the entire local area and asked to indicate where their resources originated. Respondents were directed to draw up to five sourcing regions (each of which had the potential to encompass multiple zones) per each locally sourced food. If the food was gathered from a very large area, or if the respondent knew the food was locally sourced but did not know the exact location, the interviewer coded the zone as “999.”

Methodology – Reporting

The total number of people estimated for this study as living on the Colville Reservation was 6,037, and the population over the age of 14 (the pool responding to the REUP) was estimated at 4,728. The total number responding to the REUP was 874 people.

For this analysis, each of the 874 responses was multiplied by an individual respondent weighting factor, which was calculated by Westat, Inc. and is documented in their final report. The respondent weightings allow for the calculation of the percentage of reservation residents represented by each respondent's answers. These respondent weightings are used to more accurately account for variance in response rate across demographic categories, such as residence location and age. The respondent weightings vary from 1.3 to 39.2 (with a precision to 10 decimal places), and depend on a variety of factors. Therefore, the percentages and numbers of consumers provided in this report will always vary from the percentage of individual respondents reporting each answer.

Using respondent weights allowed the calculation of numbers and percentages of residents representing the entire population of the Colville Reservation over the age of 14, not just the REUP respondents. For example, Section 1 of this report states that 67.57% (3,195 people) answered “yes” to the question, *“Over the past 12 months, did (you/SUBJECT) take part in any activities in natural bodies of water?”*

This indicates that out of 4,728 Colville Reservation residents over the age of 14 (3,195 people, or 67.57%) took part in activities in natural bodies of water.

This does not indicate that 2,876 people answered yes to the question during the REUP.

Percentages used in this data analysis are reported to two decimal places, and when percentages are translated into numbers of people or a consumption frequency, the numbers are rounded up to the next whole number. When responses to questions are documented in a list of percentages of the population giving each response, this rounding may result in the percentages not adding up to precisely 100%.

Each REUP respondent received a participant ID, which can link use data to additional data about reservation residents collected during the screening process such as approximate residence location or district; age and gender; tribal enrollment status; and whether or not a respondent self-reported as a “heavy user” of local resources. Correlations to determine groups of resources used by similar groups of people, specific locations that are most heavily used as sources of multiple types of resources, and the correspondence between these data and data regarding dietary consumption of resources are not analyzed here but may be included in future analysis.

Many questions required respondents to indicate ordinal categories rather than exact numbers. For example, possible responses to the question, “How much of the (MATERIAL) (you/SUBJECT) worked with came from this area?” are: All, Most, Half, Some, Little, or None. In addition, questions about frequency of use provided categories rather than precise rates. Tables 1 and 2 below list the numbers chosen to translate these semi-quantitative categories into numerical data. These assumptions are based on common sense and professional judgment but are transparently applied to allow other analysts to test the impact of varying them.

Table 1: Translation of worded answers into comparable numbers for questions regarding frequency

Frequency	
Response	Assumed Numerical Equivalent
Less than 10 days	5 times per year
10-30 days	15 times per year
31-60 days	45 times per year
61-90 days	75 times per year
More than 90 days	180 times per year
Less than 1 hour	30 minutes
1-3 hours	120 minutes (2 hours)
4-7 hours	330 minutes (5.5 hours)
8 or more hours	600 minutes (10 hours)

Table 2: Translation of worded answers into comparable numbers for questions regarding amounts allocated to different sources

Amount	
Response	Assumed Numerical Equivalent
All	100%
Most	75%
Half	50%
Some	25%
Little	10%

In the following sections, when a question is printed in italics, it is written in the report as it was asked in the REUP. In many cases, for questions addressed to a subset of respondents, percentages of those respondents are reported rather than an overall population percentage.

For example, once we know the percentage of the reservation population that participates in sweat lodges, data regarding people’s habits related to sweats (frequency, duration, etc.) are reported relative to the subset of people who answered affirmatively to the lead-in question. When percentages are reported of a population subset, the context will be clear from the text preceding the results. A sub-population of interest for each resource is the percentage of reservation residents we termed “local-sourcers.” These are people who reported using a resource source wholly or partly from within the local area and provided interpretable location data on the origin of the resource (including the 999 code).

To determine the principal locations contributing local source areas of resources used, we applied an algorithm taking into account a respondent’s frequency of resource use, the amount of local resource he or she used, the number of sourcing areas he or she drew onto the local area map, the number of zones per sourcing area included, and the percentage of the resource sourced from each area. A more detailed description is given below.

To determine the principal locations contributing to locally sourced resources, we did the following for each resource.

1. From the entire population of survey respondents, we sorted out those who used a given resource and obtained the resource locally.
2. For these local sourcers, we converted their days per year and hours per day of use answers into single numbers as described in Table 1.
3. We then multiplied each local sourcer’s respondent weighting (how many reservation residents that respondent represents) by their frequency of use answers (hours per day and days per year). The product is each respondent’s **“Super Weight”**. The sum of all these super weights equals the total number of hours spent using the specific resource by all local sourcers.

$$\text{Super Weight}_{\text{respondent}} = \left(\text{respondent weighting} \times \frac{\text{hours}}{\text{day}} \times \frac{\text{days}}{\text{year}} \right)$$

4. To determine the zones from which the resources came, we summed the respondents’ super weights for each zone. “Areas” are defined to be the locations drawn on a map by the survey respondents corresponding to their resource use. “Zones” are defined to be the predetermined locations listed in Figures 1 and 2. If a respondent reported using more than one area and/or their area(s) consisted of multiple zones, the super weight was divided first by the number of areas and second by the number of zones used. The result of this division was then distributed among the different zones. When respondents indicated using different zones for different amounts of time, we used Table 2 to calculate the percentage of the super weight for each zone. This percentage of the super weight assigned to each zone is the “Weight Allocation” or **WA**. This was done for each respondent. For example, if a respondent indicated spending time in the following way: half of the time in area 1 (zones 100, 200, and 300) and half of the time in area 2 (zones 381 and 382), the calculation of weight allocation per zone would be as follows:

- a. $WA_{\text{Zone 100}} = \text{Super Weight}_{\text{respondent}} \times 1/3 \times 1/2$

- b. $WA_{\text{Zone 200}} = \text{Super Weight}_{\text{respondent}} \times 1/3 \times 1/2$

- c. $WA_{\text{Zone 300}} = \text{Super Weight}_{\text{respondent}} \times 1/3 \times 1/2$

- d. $WA_{\text{Zone 381}} = \text{Super Weight}_{\text{respondent}} \times 1/2 \times 1/2$

- e. $WA_{\text{Zone 382}} = \text{Super Weight}_{\text{respondent}} \times 1/2 \times 1/2$

5. We then summed the weight allocations for each zone and divided by the total number of hours spent using the resource. This provided the percentage of total use that each zone contributed. These percentages are presented at the end of each resource description in the following sections of the report. Qualitative descriptions are given of the local source zones for reference in each section; the actual boundaries of each zone are shown in Figure 1 below. River reaches are depicted in Figure 2.

Figure 1: Zone identifiers.

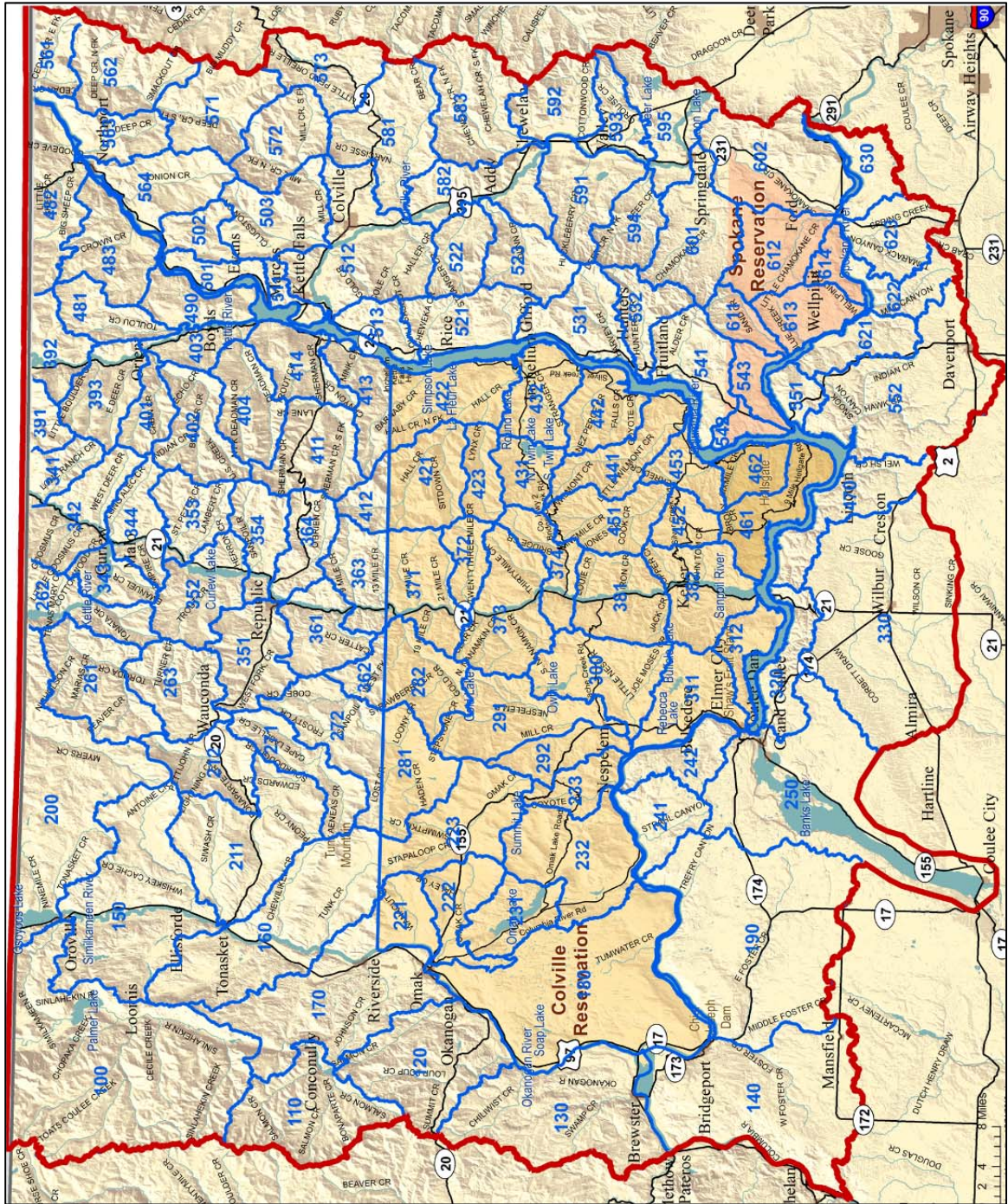
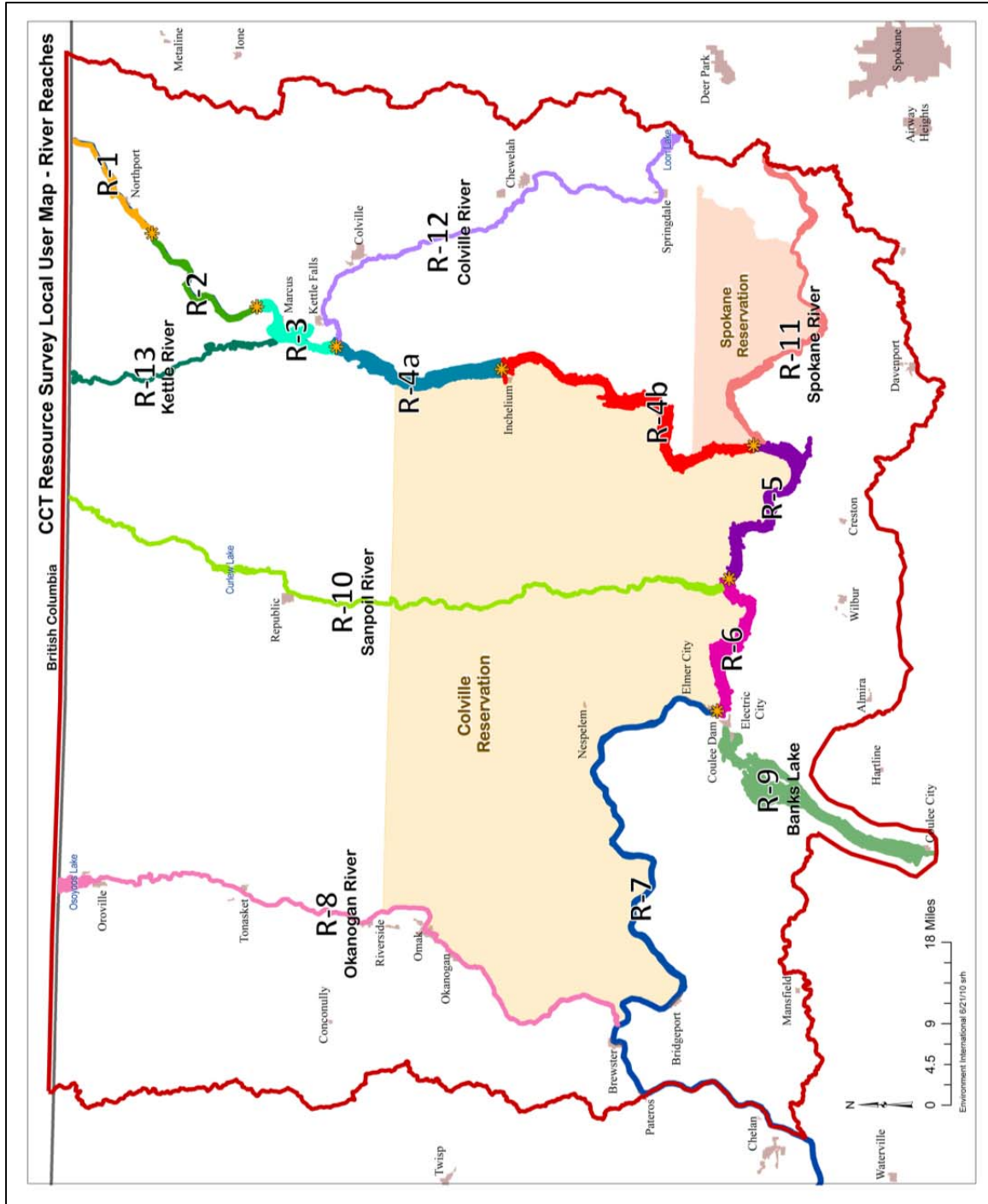


Figure 2: River Reach identifiers.



Definitions

For the purpose of this report, the following definitions apply:

Local Area: Region within and surrounding the Colville Reservation as delineated by the red line in Figures 1 and 2.

Local-sourcers: People obtaining some or all of a specific resource from within the local area.

Average: The mean of a set of numbers.

Mean: The sum of responses divided by the number of people in the population of interest.

Introduction

The following is text from the REUP: *This interview includes questions about your use of natural resources and local activities. Together with the other information we're collecting for this study, your answers will help us learn about how people living in this area make use of their local resources.*

First, I am going to ask you about three different types of outdoor activities: those activities that (you do/SUBJECT does) in the water such as swimming, activities on the water such as boating and fishing, and activities on the land such as hunting, gathering and camping.

Section 1: Activities in the Water

Question: *First, I would like to ask about (your/SUBJECT's) activities in the water throughout the year.*

Over the past 12 months, did (you/SUBJECT) take part in any activities in natural bodies of water? This includes swimming, wading, gathering plants, hunting or fishing when standing or wading in streams, creeks, rivers, or lakes. Do not include fishing from a boat, kayaking, canoeing or other activities that are on, but not in, the water.

Percentage of reservation population who took part in activities in the water in the last year:

- Yes: 67.57% (3,195 people)
- No: 32.43%

Question: *What kinds of activities in the water (have you/has SUBJECT) done in the past 12 months?*

Of the reservation residents who engaged in in-water activities last year, they did the following:

- 83.09% reported swimming
- 46.29% reported wading
- 34.08% reported fishing
- 10.49% reported hunting
- 8.71% reported gathering plants
- 2.1% reported other
 - Of reservation residents who engaged in in-water activities last year, less than 1% participated in each of the following, in descending order: Water skiing and tubing, snorkeling, finding rocks, work, crawdad hunting, bathing, education program (water sampling), and gathering clams
- 1.42% did not answer the question.

Question: *Did (you/SUBJECT) take part in these activities in the water anywhere in this area?(SHOW LOCAL AREA MAP)*

- Yes: 99.11% 3,166 people)
- No: 0.72%
- Don't know: 0.17%

Section 1.1: Activities in the Water in Winter

Respondents who indicated they took part in activities in the water in the local area were asked the following question:

Question: *Now I'd like to ask you how much time (you/SUBJECT) spent doing these activities in the water in the local area during different times of the year. First, let's start with winter. During the winter months of December, January, and February, what is the total number of days that (you/SUBJECT) spent time in the water?*

- 91.08% spent no days,
- 5.21% spent 1-7 days,
- 2.39% spent 8-30 days,
- 0.10% spent 31-60 days,
- 1.22% did not know or did not provide an answer to this question.

The 246 people who participated in in-water activities in the winter did so on average 8.87 out of 90 days.

Respondents who indicated they participated in in-water activities in the winter were asked the following questions:

Question: *On the days (you/SUBJECT) took part in these activities during the winter, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 5.79% spent less than 1 hour,
- 35.97% spent 1-3 hours,
- 19.00% spent 4-7 hours,
- 39.25% spent 8 or more hours
- 2.4% did not know or did not provide an answer to this question.

Those who participated in in-water activities in the winter did so an average 5.76 hours each day they were in the water.

For those who participated in in-water activities in the winter, the maximum participation was 200 hours per winter. Eight people spent this maximum amount of time in the water in winter.

Question: *OK, now I'd like to ask about where you spent time in the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the winter.*

Zones or river reaches where people spent more than 5% of their time in the water in the winter are listed in Table 3 below.

Table 3: Principal locations of reservation residents' winter in-water activities.

Zone or River Reach	Description	Percentage of Time Spent in Winter In-Water Activities
300	Near Owhi Lake	23.22%
291	In or between Nespelem and Gold Lake	11.57%
R8	Okanogan River between the Canadian Border and the Columbia River	7.60%
R7	Columbia River downstream of the Grand Coulee Dam	6.91%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	Up to 5%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 1%
R1	Columbia River between US-Canada border and Onion Creek	< 1%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	< 1%

Zones or river reaches each accounting for 1-5% of winter in-water activities are, in descending order: 232 (between Omak Lake and Nespelem), 223 (near Omak Creek or Swimptkin Creek), 311 (Rebecca Lake, Buffalo Lake, or nearby), 431 (Twin Lakes or nearby), 160 (near Tonasket, between Loomis and the Reservation north boundary), 110 (west of Conconully), and 233 (near Coyote Creek).

The zones or river reaches accounting for less than 1% of winter in-water activities are, in descending order, 421, 170, R10, 888, 221, 231, 432, 422, 441, 442, and 461.

9.17% of winter in-water activity participants recorded "999" (indefinite location within the local area) for the area in which their winter in-water activities occurred. Their portion accounted for 7.58% of overall winter in-water activities.

Section 1.2: Activities in the Water in Spring

Respondents who indicated they took part in activities in the water in the local area were asked the following question:

Question: *During the spring months of March, April, and May, what is the total number of days that (you/SUBJECT) spent time in the water?*

- 65.58% spent no days,
- 22.30% spent 1-7 days,
- 7.33% spent 8-30 days,
- 2.14% spent 31-60 days,
- 0.53% spent 61-90 days,
- 1.71% did not know or did not provide an answer to this question

Of the 1,032 people who participated in in-water activities in the spring at all, they did so on average 11 out of 92 days.

Respondents who indicated they participated in in-water activities in the spring were asked the following questions:

Question: *On the days (you/SUBJECT) took part in these activities during the spring, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 23.79% spent less than 1 hour,
- 41.11% spent between 1 and 3 hours,
- 21.73% spent between 4 and 7 hours,
- 13.19% spent 8 or more hours and
- 1.73% did not know or provided no answer to this question.

Of those who participated in in-water activities in the spring at all, they did so an average 3.46 hours each day they were in the water.

Of those who participated in in-water activities in the spring at all, the maximum participation was 450 hours per spring. Seven people spent this maximum amount of time in the water in spring.

Question: *OK, now I'd like to ask about where you spent time in the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the spring.*

Zones or river reaches where people spent more than 4% of their time in the water in the spring are listed in Table 4 below.

Table 4: Principal locations of reservation residents' springtime in-water activities.

Zone or River Reach	Description	Percentage of Spring In-Water Activities
R7	Columbia River downstream of the Grand Coulee Dam	13.75%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	9.84%
231	Around Omak Lake	8.33%
291	In or between Nespelem and Gold Lake	5.62%
300	Near Owhi Lake	4.96%
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	4.37%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 4%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 4%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 1%
R3	Columbia River between Evans and the Colville River (Marcus Flats area)	< 1%
R1	Columbia River between US-Canada border and Onion Creek	< 1%

Zones or river reaches each accounting for 1-4% of spring in-water activities are, in descending order, R8 (Okanogan River between the Canadian Border and the Columbia River), R10 (San Poil River between the Canadian Border and Lake Roosevelt), 110 (west of Conconully), 311 (Rebecca Lake, Buffalo Lake, or nearby), 223 (near Omak Creek or Swimptkin Creek), 431 (Twin Lakes or nearby), 170 (north of Omak), 160 (near Tonasket, between Loomis and the Reservation north boundary), 382 (near the mouth of the San Poil River), 120 (lakes or creeks west of Okanogan), and R9 (Banks Lake or nearby).

The zones or river reaches each accounting for 0.01 – 1% of spring in-water activities are, in descending order, 232, 221, 422, 421, 381, 271, 373, 100, 241, 282, 150, 222, 374, 441, 432, R11, 371, 320, 330, 552, 423, 281, 261, 262, 263, 233, 292, and 200.

4.28% of spring in-water activity participants recorded “999” for the area in which their spring in-water activities occurred. Their portion accounted for 6.25% of overall spring in-water activities.

Section 1.3: Activities in the Water in Summer

Respondents who indicated they took part in activities in the water in the local area were asked the following question:

Question: *During the summer months of June, July, and August, what is the total number of days that (you/SUBJECT) spent time in the water?*

- 2.30% spent no days,
- 29.58% spent 1-7 days,
- 37.13% spent 8-30 days,
- 18.36% spent 31-60 days,
- 6.79% spent 61-90 days,
- 4.01% spent every day,
- 0.60% did not know or did not answer the question.

Of the 3,062 people who participated in in-water activities in the summer at all, they did so on average 27 out of 92 days.

Question: *On the days (you/SUBJECT) took part in these activities during the summer, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 16.36% spent less than 1 hour
- 46.72% spent 1-3 hours
- 22.43% spent 4-7 hours
- 13.43% spent 8 or more hours
- 1.05% did not provide an answer to this question.

Of the 3,062 people who participated in in-water activities in the summer at all, they did so an average 3.63 hours each day they were in the water.

Of those who participated in in-water activities in the summer at all, the maximum participation was 920 hours per summer. Twenty-five people spent this maximum amount of time in the water in summer.

Question: *OK, now I'd like to ask about where you spent time in the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the summer.*

Zones or river reaches where people spent more than 5% of their time in the water in the summer are listed in Table 5 below.

Table 5: Principal locations of reservation residents’ summertime in-water activities.

Zone or River Reach	Description	Percentage of Summer In-Water Activities
231	Around Omak Lake	16.15%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	9.10%
311	Rebecca Lake, Buffalo Lake, or nearby	6.97%
382	Near the mouth of the San Poil River	6.90%
431	Twin Lakes or nearby	6.45%
170	North of Omak	5.15%
291	In or between Nespelem and Gold Lake	5.09%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	< 1%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 1%
R3	Columbia River between Evans and the Colville River (Marcus Flats area)	< 1%
R2	Columbia River between Onion Creek and Evans	< 1%

The zones or river reaches each accounting for 1-5% of summer in-water activities are, in descending order, R7 (Columbia River downstream of the Grand Coulee Dam), 110 (west of Conconully), 180 (lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River), R10 (San Poil River between the Canadian Border and Lake Roosevelt), 300 (near Owhi Lake), R8 (Okanogan River between the Canadian Border and the Columbia River), R9 (Banks Lake or nearby), 223 (near Omak Creek or Swimptkin Creek), 232 (between Omak Lake and Nespelem), and 320 (near the south bank of Lake Roosevelt between Grand Coulee Dan and the San Poil River).

The zones or river reaches each accounting for less than 1% of summer in-water activities are, in descending order, 120, 432, 130, 282, 422, 312, R13, 441, 281, R11, 150, 100, 250, 452, 361, 330, 222, 221, 373, 271, 140, 421, 381, 371, 241, 423, 442, 242, 374, 392, 200, 481, 262, 261, 263, 521, 190, 363, 453, 342, 343, 413, 414, 512, 531, 541, 451, 372, and 611.

0.91% of summer in-water activity participants recorded “999” for the area from which their summer in-water activities occurred. Their portion accounted for 1.10% of overall summer in-water activities.

2.23% of summer in-water activity participants did not provide an area in which their summer in-water activities occurred. Their portion accounted for 4.11% of overall summer in-water activities.

Section 1.4: Activities in the Water in Fall

Question: *During the fall months of September, October, and November, what is the total number of days that (you/SUBJECT) spent time in the water?*

- 65.25% spent no days,
- 20.20% spent 1-7 days,
- 9.76% spent 8-30 days,
- 1.94% spent 31-60 days, and
- 0.11% spent every day.

Of the 1,022 people who participated in in-water activities in the fall at all, they did so on average 11.67 out of 91 days.

Question: *On the days (you/SUBJECT) took part in these activities during the fall, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 22.74% spent less than 1 hour,
- 45.71% spent 1-3 hours,
- 17.51% spent 4-7 hours, and
- 12.94% spent 8 or more hours
- 0.29% did not know or did not answer.

Of the 1,022 people who participated in in-water activities in the fall at all, they did so an average 3.31 hours each day they were in the water.

Of those who participated in in-water activities in the spring at all, the maximum participation was 450 hours per fall. Four people spent this maximum amount of time in the water in fall.

Question: *OK, now I'd like to ask about where you spent time in the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the fall.*

Zones or river reaches where people spent more than 5% of their time in the water in the fall are listed in Table 6 below.

Table 6: Principal locations of reservation residents’ fall in-water activities.

Zone or River Reach	Description	Percentage of Fall In-Water Activities
R7	Columbia River downstream of Grand Coulee Dam	16.31%
231	Around Omak Lake	8.30%
223	Near Omak Creek or Swimptkin Creek	8.00%
291	In or between Nespelem and Gold Lake	7.20%
232	Between Omak Lake and Nespelem	5.09%
R6	Columbia River between the mouth of the San Poil and Grand Coulee Dam	Up to 5%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	< 1%
R2	Columbia River between Onion Creek and Evans	< 1%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 1%
R3	Columbia River between Evans and the Colville River (Marcus Flats area)	< 1%

Zones or river reaches each accounting for 1-5% of fall in-water activities are, in descending order, 300, 431, 311, 282, 263, 110, 180, 382, R8, 320, R10, 120, R9, 221, 281, and 150.

The zones or river reaches each accounting for 0.01 – 1% of fall in-water activities are, in descending order, 373, 211, 170, 422, 271, 432, 421, 442, 461, 272, 250, 481, 330, 441, 374, R11, 423, 452, 381, 242, and 312 .

0.65% of fall in-water activity participants recorded “999” for the area in which their fall in-water activities occurred. Their portion accounted for 2.06% of overall fall in-water activities.

3.69% of fall in-water activity participants did not provide an area in which their fall in-water activities occurred. Their portion accounted for 4.06% of overall fall in-water activities.

Section 2: Activities on the Water

Question: *Over the past 12 months, did (you/SUBJECT) take part in activities on the water, such as kayaking, canoeing, fishing from a boat, or other activities on the water? Do not include activities in the water.*

Percentage of reservation population who took part in activities on the water at all in the last year:

- Yes: 34.49% (1,631 people)
- No: 65.46%
- Don't know: 0.05%

Question: *What kinds of activities on the water (have you/has SUBJECT) done in the past 12 months?*

Of the reservation residents who engaged in on-water activities last year, they did the following:

- 63.00% reported fishing from a boat
- 8.96% reported canoeing
- 8.43% reported kayaking
- 39.19% reported other
 - 64.52% of those who said "other" engaged in boating. Riding the ferry, tubing, fishing, river rafting, sailing, jet skiing, and work were among other responses.

Question: *Did (you/SUBJECT) take part in these activities on the water anywhere in this area?(SHOW LOCAL AREA MAP)*

- Yes: 97.19% (1,631 people)
- No: 2.81%

Section 2.1: Activities on the Water in Winter

The 1,631 respondents who indicated they took part in activities on the water in the local area were asked the following question:

Question: *Now I'd like to ask you how much time (you/SUBJECT) spent doing these activities on the water in the local area during different times of the year. First, let's start with winter. During the winter months of December, January, and February, what is the total number of days that (you/SUBJECT) spent time on the water?*

- 80.16% spent no days
- 16.31% spent 1-7 days,
- 2.12% spent 8-30 days,
- 0.41% spent 31-60 days,
- 0.13% spent 61-90 days,
- 0.87% did not know or did not answer.

Of the 301 people who participated in on-water activities in the winter at all, they did so on average 7.15 out of 90 days.

Question: *On the days (you/SUBJECT) took part in these activities during the winter, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 15.89% spent less than 1 hour,
- 22.28% spent 1-3 hours,
- 54.06% 4-7 hours
- 3.68% spent 8 or more hours
- 3.37% did not know or did not answer.

Of those who participated in on-water activities in the winter at all, they did so an average 4.02 hours each day they were on the water.

The maximum time spent partaking in on-water activities in the winter was 750 hours. Two people spent this maximum amount of time on the water in winter.

Question: *OK, now I'd like to ask about where you spent time on the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the winter.*

Zones or river reaches where people spent more than 5% of their time on the water in the winter are listed in Table 7 below.

Table 7: Principal locations of reservation residents' winter on-water activities.

Zone or River Reach	Description	Percentage of Winter On-water Activities
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	33.09%
R7	Columbia River downstream of the Grand Coulee Dam	19.96%
431	Twin Lakes or nearby	14.31%
300	Near Owhi Lake	6.51%
170	North of Omak	6.21%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 5%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	Up to 5%

Zones or river reaches each accounting for 1-5% of winter on-water activities are, in descending order, 110 (west of Conconully), 291 (in or between Nespelem and Gold Lake), 382 (near the mouth of the San Poil River), and R8 (Okanogan River between the Canadian Border and the Columbia River).

The zones or river reaches each accounting for 0.08 – 1% of winter on-water activities are, in descending order, 233, 311, 422, 250, 320, 330, 432, and 423.

Section 2.2: Activities on the Water in Spring

Respondents who indicated they took part in activities on the water in the local area were asked the following question:

Question: *During the spring months of March, April, and May, what is the total number of days that (you/SUBJECT) spent time on the water?*

- 48.93% spent no days,
- 31.46% spent 1-7 days,
- 11.70% spent 8-30 days,
- 2.82% spent 31-60 days,
- 0.79% spent 61-90 days, and
- 4.31% did not know or did not answer.

Of the 762 people who participated in on-water activities in the spring at all, they did so on average 11.67 out of 92 days.

Question: *On the days (you/SUBJECT) took part in these activities during the spring, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 6.64% spent less than 1 hour,
- 52.29% spent 1-3 hours,
- 31.86% spent 4-7 hours,
- 9.21% spent 8 or more hours and
- 3.35% did not know or did not answer.

Of those who participated in on-water activities in the spring at all, they did so an average 3.75 hours each day they were on the water.

The maximum time spent partaking in on-water activities in the spring was 750 hours. Two people spent this maximum amount of time on the water in spring.

Question: *OK, now I'd like to ask about where you spent time on the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the spring.*

Zones or river reaches where people spent more than 5% of their time on the water in the spring are listed in Table 8 below.

Table 8: Principal locations of reservation residents' springtime on-water activities.

Zone or River Reach	Description	Percentage of Spring On-water Activities
R7	Columbia River downstream of the Grand Coulee Dam	19.97%
431	Twin Lakes or nearby	15.30%
231	Around Omak Lake	12.10%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	8.97%
311	Rebecca Lake, Buffalo Lake, or nearby	8.23%
170	North of Omak	6.41%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 5%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	Up to 5%

Zones or river reaches each accounting for 1-5% of spring on-water activities are, in descending order, 120 (lakes or creeks west of Okanogan), R9 (Banks Lake or nearby), R10 (San Poil River between the Canadian Border and Lake Roosevelt), 110 (west of Conconully), 291 (in or between Nespelem and Gold Lake), R8 (Okanogan River between the Canadian Border and the Columbia River) and 180 (lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River).

The zones or river reaches each accounting for 0.02 – 1% of spring on-water activities are, in descending order, 300, 250, 422, 432, 320, 330, 382, 150, 160, 352, 100, 130, 212, 441, 312, 221, 262 and 263.

0.43% of spring on-water activity participants recorded “999” for the area in which their spring on-water activities occurred. Their portion accounted for 0.29% of overall spring on-water activities.

2.04% of spring on-water activity participants did not provide an area in which their spring on-water activities occurred. Their portion accounted for 2.00% of overall spring on-water activities.

Section 2.3: Activities on the water in Summer

Question: *During the summer months of June, July, and August, what is the total number of days that (you/SUBJECT) spent time on the water?*

- 6.62% spent no days,
- 46.53% spent 1-7 days,
- 27.05% spent 8-30 days,
- 7.78% spent 31-60 days,
- 5.06% spent 61-90 days,
- 2.14% spent every day and
- 2.80% did not know or did not answer.

Of the 1,630 people who participated in on-water activities in the summer at all, they did so on average 18.68 out of 92 days.

Question: *On the days (you/SUBJECT) took part in these activities during the summer, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 3.11% spent less than 1 hour,
- 41.47% spent 1-3 hours,
- 35.90% spent 4-7 hours,
- 15.42% spent 8 or more hours and
- 4.10% did not know or did not answer.

Of those who participated in on-water activities in the summer at all, they did so an average 4.55 hours each day they were on the water.

The maximum time spent partaking in on-water activities in the summer was 920 hours. Four people spent this maximum amount of time on the water in the summer.

Question: *OK, now I'd like to ask about where you spent time on the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the summer.*

Zones or river reaches where people spent more than 5% of their time on the water in the summer are listed in Table 9 below.

Table 9: Principal locations of reservation residents’ summertime on-water activities.

Zone or River Reach	Description	Percentage of Summer On-Water Activities
431	Twin Lakes or nearby	13.00%
231	Around Omak Lake	11.27%
R7	Columbia River downstream of the Grand Coulee Dam	11.23%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	9.98%
382	Mouth of the San Poil River or nearby creeks)	8.97%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	8.78%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 5%
R3	Columbia River between Evans and the Colville River (Marcus Flats area)	< 1%

Zones or river reaches each accounting for 1-5% of summer on-water activities are, in descending order, 170 (lakes or creeks north of Omak), R9 (Banks Lake or nearby), 311 (Rebecca Lake, Buffalo Lake, or nearby), R8 (Okanogan River between the Canadian Border and the Columbia River), 291 (in or between Nespelem and Gold Lake), R10 (San Poil River between the Canadian Border and Lake Roosevelt), 300 (near Owhi Lake), and 263 (lakes or creeks near Wauconda).

The zones or river reaches each accounting for 0.005 – 1% of summer on-water activities are, in descending order, 120, 110, 422, R13, 212, 180, 250, R11, 432, 999, 330, 320, 282, 223, 211, 150, R12, 441, 271, 130, 261, 262, 442, 312, 373, 374, 140, 461, 462, 421, and 481.

0.22% of summer on-water activity participants recorded “999” for the area in which their summer on-water activities occurred. Their portion accounted for 0.26% of overall summer on-water activities.

3.42% of summer on-water activity participants did not provide an area in which their summer on-water activities occurred. Their portion accounted for 2.65% of overall summer on-water activities.

Section 2.4: Activities on the Water in Fall

Question: *During the fall months of September, October, and November, what is the total number of days that (you/SUBJECT) spent time on the water?*

- 57.54% spent no days,
- 24.58% spent 1-7 days,
- 5.94% spent 8-30 days,
- 0.76% spent 31-60 days,
- 0.14% spent 61-90 days,
- 0.13% spent every day and
- 10.92% did not know or did not answer.

Of the 500 people who participated in on-water activities in the fall at all, they did so on average 8.66 out of 91 days.

Question: *On the days (you/SUBJECT) took part in these activities during the fall, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 5.80% spent less than 1 hour,
- 50.96% spent 1-3 hours,
- 36.84% spent 4-7 hours,
- 4.96% spent 8 or more hours and
- 1.42% did not know or did not answer.

Of those who participated in on-water activities in the fall at all, they did so an average 3.74 hours each day they were on the water.

The maximum time spent partaking in on-water activities in the fall was 910 hours. Two people spent this maximum amount of time on the water in fall.

Question: *OK, now I'd like to ask about where you spent time on the water. Please look at this map and mark the areas where (you/SUBJECT) did these things in the fall.*

Zones or river reaches where people spent more than 5% of their time on the water in the fall are listed in Table 10 below.

Table 10: Principal locations of reservation residents’ fall on-water activities.

Zone or River Reach	Description	Percentage of Fall On-Water Activities
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	19.88%
431	Twin Lakes or nearby	19.27%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	11.53%
R7	Columbia River downstream of the Grand Coulee Dam	10.61%
R8	Okanogan River between the Canadian Border and the Columbia River	6.11%
R9	Banks Lake or nearby	5.91%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	Up to 5%
R3	Columbia River between Evans and the Colville River (Marcus Flats area)	< 1%

Zones or river reaches each accounting for 1-5% of fall on-water activities are, in descending order, 311 (near Rebecca Lake or Buffalo Lake), 231 (around Omak Lake), 432 (lakes or creeks west of Inchelium), 170 (north of Omak), 250 (near Banks Lake), 120 (west of Okanogan), and R10 (San Poil River between the Canadian Border and Lake Roosevelt).

The zones or river reaches each accounting for 0.03 – 1% of fall on-water activities are, in descending order, 320, 382, 300, 330, 271, 130, 422, 291, 212, R11, and R13.

0.61% of fall on-water activity participants recorded “999” for the area in which their fall on-water activities occurred. Their portion accounted for 0.15% of overall fall on-water activities.

1.92% of fall on-water activity participants did not provide an area in which their fall on-water activities occurred. Their portion accounted for 3.74% of overall fall on-water activities.

Section 3: Activities on the Land

Question: *Over the past 12 months, did (you/SUBJECT) go hunting, root digging or gathering other natural materials, or take part in any other outdoor activities on the land, such as hiking, gardening or camping? Do not include any swimming or boating activities that we just talked about.*

Percentage of reservation population who took part in activities on the land at all in the last year:

- Yes: 73.59%
- No: 26.41%

Question: *What kinds of outdoor activities on the land (have you/has SUBJECT) done in the past 12 months?*

Of the 3,479 reservation residents who engaged in land-based activities last year, they did the following:

- 48.25% reported camping
- 45.59% reported hiking
- 43.27% reported gardening
- 40.79% reported hunting
- 26.81% reported gathering natural materials
- 5.55% reported root digging
- 12.41% reported other:
 - 2.08% indicated doing work or yardwork
 - 1.97% indicated horse-riding
 - 1.85% indicated fishing from shore
 - 1.22% indicated walking
 - 0.84% indicated cutting wood or gathering firewood
 - 0.80% indicated antler hunting
 - Less than 0.80% indicated each of the following, in descending order: berry picking, ATV riding or motor-sports, skiing or snowshoeing, sports, golf, firefighting, sitting in the car, hunting or trapping, biking, farming, mushroom picking, landscaping, horseshoes, gathering cedar for funerals, running, leading school programs, socializing and bird watching.

Question: *Did (you/SUBJECT) take part in these outdoor activities anywhere in this area?(SHOW LOCAL AREA MAP)*

- Yes: 97.23% (3,383 people)
- No: 2.24%
- Don't know: 0.53%

Section 3.1: Activities on the Land in Winter

Question: Now I'd like to ask you how much time (you/SUBJECT) spent doing these outdoor activities in the local area during different times of the year. First, let's start with winter. During the winter months of December, January, and February, what is the total number of days that (you/SUBJECT) took part in any of these outdoor activities?

- 63.09% spent no days,
- 18.09% spent 1-7 days,
- 11.22% spent 8-30 days,
- 1.90% spent 31-60 days,
- 1.39% spent 61-90 days,
- 3.20% spent every day and
- 1.08% did not know or did not answer.

Of the 1,212 people who participated in land-based activities in the winter at all, they did so on average 23.19 out of 90 days.

Question: On the days (you/SUBJECT) took part in these activities during the winter, how many hours per day did (you/SUBJECT) usually spend doing them?

- 12.50% spent less than 1 hour,
- 35.48% spent 1-3 hours,
- 33.70% spent 4-7 hours,
- 15.53% spent 8 or more hours and
- 2.79% did not know or did not answer

Of those who participated in land-based activities in the winter at all, they did so an average 4.32 hours each day they were on the land.

The maximum time spent partaking in on-land activities in the winter was 920 hours. Four people spent this maximum amount of time on the land in the winter.

Question: OK, now I'd like to ask about where you spent time on the land. Please look at this map and mark the areas where (you/SUBJECT) did these things in the winter.

Zones or river reaches where people spent more than 5% of their time on the land in the winter are listed in Table 11 below.

Table 11: Principal locations of reservation residents' winter land-based activities.

Zone or River Reach	Description	Percentage of Winter Land-Based Activities
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	17.39%
432	Lakes or creeks west of Inchelium	6.49%
311	Near Rebecca Lake or Buffalo Lake	5.69%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	< 1%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	< 1%

Zones each accounting for 1-5% of winter land-based activities are, in descending order, 382 (Near the mouth of the San Poil River), 381 (near the San Poil River, Jack Creek, or Louie Creek), 222 (near Omak Creek or Haley Creek), 300 (near Owhi Lake), 110 (west of Conconully), 232 (between Omak Lake and Nespelem), 431 (Twin Lakes or nearby), 291 (in or between Nespelem and Gold Lake), 233 (near Coyote Creek), 371 (near the San Poil River, 17 Mile Creek, or 21 Mile Creek), 120 (lakes or creeks west of Okanogan), 170 (north of Omak), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), 452 (near Silver Creek Road between Keller and the Columbia River), 421 (near Hall Creek or Sitdown Creek), 282 (north of Gold Lake), 422 (lakes or creeks near Hall Creek and Barnaby Creek), 140 (west and south of Bridgeport), 441 (Wilmont Creek or nearby), 231 (around Omak Lake), 423 (near Lynx Creek), 442 (south of Inchelium near Lake Roosevelt), 330 (near Almira, Wilbur, or Creston), and 130 (north of and near Brewster).

The zones or river reaches each accounting for 0.002 – 1% of winter land-based activities are, in descending order, 372, 453, 281, 374, 462, 411, 312, 292, 403, 552, R10, 461, 250, 223, 451, 221, 351, R7, 888, 483, 482, 200, 413, 272, 271, 212, 363, 412, 190, 521, 531, 592, 160, 261, 262, 343 and 481.

8.30% of winter land-based activity participants recorded “999” for the area in which their winter land-based activities occurred. Their portion accounted for 10.61% of overall winter land-based activities.

1.65% of winter land-based activity participants did not provide an area in which their winterland-based activities occurred. Their portion accounted for 0.83% of overall winter land-based activities.

Section 3.2: Activities on the Land in Spring

Question: *During the spring months of March, April, and May, what is the total number of days that (you/SUBJECT) took part in any of these outdoor activities?*

- 29.59% spent no days,
- 32.10% spent 1-7 days,
- 20.43% spent 8-30 days,
- 7.34% spent 31-60 days,
- 4.24% spent 61-90 days,
- 5.35% spent every day and
- 0.94% did not know or did not answer.

Of those who participated in land-based activities in the spring at all, they did so on average 24.07 out of 92 days.

Question: *On the days (you/SUBJECT) took part in these activities during the spring, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 6.57% spent less than 1 hour,
- 45.32% spent 1-3 hours,
- 29.75% spent 4-7 hours, or
- 17.47% spent 8 or more hours and
- 2.25% did not know or did not answer.

Of those who participated in land-based activities in the spring at all, they did so an average 4.36 hours each day they were on the land.

The maximum time spent partaking in on-land activities in the spring was 920 hours. Twenty-one (21) people spent this maximum amount of time on the land in the spring.

Question: *OK, now I'd like to ask about where you spent time on the land. Please look at this map and mark the areas where (you/SUBJECT) did these things in the spring.*

Zones or river reaches where people spent more than 5% of their time on the land in the spring are listed in Table 12 below.

Table 12: Principal locations of reservation residents’ springtime land-based activities.

Zone or River Reach	Description	Percentage of Spring Land-Based Activities
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	29.87%
311	Near Rebecca Lake or Buffalo Lake	6.42%
170	North of Omak	5.18%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	Up to 5%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	< 1%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	< 1%

Zones or river reaches each accounting for 1-5% of spring land-based activities are, in descending order, 120 (west of Okanogan), 382 (near the mouth of the San Poil River), 222 (near Omak Creek or Haley Creek), 432 (lakes or creeks west of Inchelium), 431 (Twin Lakes or nearby), 300 (near Owhi Lake), 110 (west of Conconully), 422 (lakes or creeks near Hall Creek and Barnaby Creek), 442 (south of Inchelium near Lake Roosevelt), 223 (near Omak Creek or Swimptkin Creek), 292 (north and west of Nespelem), 281 (near Haden Creek or Last Creek), 231 (around Omak Lake), 250 (near Banks Lake), 381 (near the San Poil River, Jack Creek, or Louie Creek), 330 (near Almira, Wilbur, or Creston), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), and 282 (north of Gold Lake).

The zones or river reaches each accounting for 0.003 – 1% of spring land-based activities are, in descending order, 312, R10, 140, 291, 371, 130, 441, 232, 363, 423, 211, R8, 421, 263, 453, 374, 452, 100, 462, 233, 461, 888, 364, 411, 160, 150, 552, 403, R9, 451, 481, R7, 221, 261, 242, 212, 320, 262, 343, 413, 470, 372, and 483.

4.35% of spring land-based activity participants recorded “999” for the area in which their spring land-based activities occurred. Their portion accounted for 4.65% of overall spring land-based activities.

0.97% of spring land-based activity participants did not provide an area in which their spring land-based activities occurred. Their portion accounted for 1.30% of overall spring land-based activities.

Section 3.3: Activities on the Land in Summer

Question: *During the summer months of June, July, and August, what is the total number of days that (you/SUBJECT) took part in any of these outdoor activities?*

- 10.99% spent no days,
- 26.33% spent 1-7 days,
- 27.33% spent 8-30 days,
- 12.74% spent 31-60 days,
- 10.66% spent 61-90 days,
- 10.90% spent every day and
- 0.90% did not know or did not answer.

Of those who participated in land-based activities in the summer at all, they did so on average 34.29 out of 92 days.

Question: *On the days (you/SUBJECT) took part in these activities during the summer, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 4.42% spent less than 1 hour,
- 35.56% spent 1-3 hours,
- 29.50% spent 4-7 hours,
- 30.28% spent 8 or more hours and
- 1.43% did not know or did not answer.

Of those who participated in land-based activities in the summer at all, they did so an average 5.40 hours each day they were on the land.

The maximum time spent partaking in on-land activities in the summer was 920 hours. Sixty-two (62) people spent this maximum amount of time on the land in the summer.

Question: *OK, now I'd like to ask about where you spent time on the land. Please look at this map and mark the areas where (you/SUBJECT) did these things in the summer.*

Zones or river reaches where people spent more than 5% of their time on the land in the summer are listed in Table 13 below.

Table 13: Principal locations of reservation residents’ summertime land-based activities.

Zone or River Reach	Description	Percentage of Summer Land-Based Activities
382	Near the mouth of the San Poil River	10.81%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	8.87%
110	West of Conconully	6.51%
120	West of Okanogan	5.47%
291	In or between Nespelem and Gold Lake	5.44%
R4B	Lake Roosevelt between Incheilium and the mouth of the Spokane River	Up to 5%
R4A	Lake Roosevelt between the mouth of the Colville River and Incheilium	Up to 5%
R5	Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River	< 1%
R2	Columbia River between Onion Creek and Evans	< 1%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	< 1%

Zones or river reaches each accounting for 1-5% of summer land-based activities are, in descending order, 431 (Twin Lakes or nearby), 311 (near Rebecca Lake or Buffalo Lake), 130 (north of and near Brewster), 421 (near Hall Creek or Sitdown Creek), 170 (north of Omak), , 432 (lakes or creeks west of Incheilium), 374 (near the San Poil River or Bridge Creek), 422 (near Hall Creek and Barnaby Creek), 282 (north of Gold Lake), 441 (Wilmont Creek or nearby), 281 (near Haden Creek or Last Creek), 222 (near Omak Creek or Haley Creek), 381 (near the San Poil River), and 300 (near Owhi Lake).

The zones or river reaches each accounting for 0.01 – 1% of summer land-based activities are, in descending order, 363, 232, 100, 231, 442, 373, 312, 371, R10, 351, 352, 423, 223, 452, 372, 221, 462, 453, 150, 451, 403, 531, 411, 552, 521, 250, 483, 461, 212, 613, and 888.

4.51% of summer land-based activity participants recorded “999” for the area in which their summer land-based activities occurred. Their portion accounted for 3.77% of overall summer land-based activities.

1.70% of summer land-based activity participants did not provide an area in which their summer land-based activities occurred. Their portion accounted for 2.70% of overall summer land-based activities.

Section 3.4: Activities on the Land in Fall

Question: *During the fall months of September, October, and November, what is the total number of days that (you/SUBJECT) took part in any of these outdoor activities?*

- 31.76% spent no days,
- 24.73% spent 1-7 days,
- 25.36% spent 8-30 days,
- 8.36% spent 31-60 days,
- 4.3% spent 61-90 days,
- 3.59% spent every day and
- 1.56% did not know or did not answer.

Of those who participated in land-based activities in the fall at all, they did so on average 24.57 out of 91 days.

Question: *On the days (you/SUBJECT) took part in these activities during the fall, how many hours per day did (you/SUBJECT) usually spend doing them?*

- 6.32% spent less than 1 hour,
- 43.37% spent 1-3 hours,
- 28.52% spent 4-7 hours,
- 20.37% spent 8 or more hours and
- 3.74% did not know or did not answer

Of those who participated in land-based activities in the fall at all, they did so an average 4.57 hours each day they were on the land.

The maximum time spent partaking in on-land activities in the fall was 920 hours. Eleven people spent this maximum amount of time on the land in the fall.

Question: *OK, now I'd like to ask about where you spent time on the land. Please look at this map and mark the areas where (you/SUBJECT) did these things in the fall.*

Zones or river reaches where people spent more than 3% of their time on the land in the fall are listed in Table 14 below.

Table 14: Principal locations of reservation residents' fall land-based activities.

Zone or River Reach	Description	Percentage of Fall Land-Based Activities
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	14.98%
382	Near the mouth of the San Poil River	8.47%
311	Near Rebecca Lake or Buffalo Lake	5.52%
291	In or between Nespelem and Gold Lake	3.50%
432	Lakes or creeks west of Inchelium	3.41%
130	North of and near Brewster	3.21%
300	Near Owhi Lake	3.01%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	< 1%
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	< 1%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	< 1%

Zones or river reaches each accounting for 1-3% of fall land-based activities are, in descending order, 441 (Wilmont Creek or nearby), 422 (near Hall Creek and Barnaby Creek), 431 (Twin Lakes or nearby), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), 120 (west of Okanogan), 381 (near the San Poil River, Jack Creek, or Louie Creek), 282 (north of Gold Lake), 442 (south of Inchelium near Lake Roosevelt), 222 (near Omak Creek or Haley Creek), 231 (around Omak Lake), 170 (north of Omak), 421 (near Hall Creek or Sitdown Creek), 190 (south of the Columbia River between Bridgeport and Banks Lake), 374 (near the San Poil River or Bridge Creek), 281 (near Haden Creek or Last Creek), 453 (north of Hellsgate along Lake Roosevelt), 232 (between Omak Lake and Nespelem), 361 (south of Republic), 110 (west of Conconully), and 371 (near the San Poil River).

The zones or river reaches each accounting for 0.006 – 1% of fall land-based activities are, in descending order, 363, 223, 451, 140, 452, 263, 423, 351, 233, 312, 292, 250, R10, 462, 211, 411, 242, 461, 403, 552, 613, 272, 261, 320, 330, 160, 271, 372, 614, 413, 482, 541, 352, 150, R7, 262, 212, R9, 353, 412, 414, 481, 100, 221, 483, 612, 512, 551, 622, 623, 470, 200, and 362.

5.51% of fall land-based activity participants recorded “999” for the area in which their fall land-based activities occurred. Their portion accounted for 5.83% of overall fall land-based activities.

0.57% of fall land-based activity participants did not record an area in which their fall land-based activities occurred. Their portion accounted for 0.19% of overall fall land-based activities.

Section 4: Materials Used for Weaving

Question: *The next questions are about weaving, carving and tool making. Some people carve or shape bone, antler or wood, or use natural resources to weave things like mats, baskets, fish nets, or baby boards. Over the past 12 months, did (you/SUBJECT) prepare or use any natural materials to weave or carve? (IF NEEDED:) By "prepare" we mean to cut, soak, mellow, split, thin, break, smoke or tan the materials prior to using them.*

The percentages of the reservation population who prepared or used natural materials for weaving or carving in the last year, and those who did not, are:

- Yes: 7.21% (342 people)
- No: 92.79%

These percentages exclude 15 people who replied yes but provided no further information.

Question: *What kinds of things (did you/did SUBJECT) weave or carve over the past 12 months?*

Of the 342 people who wove or carved, they made the following:

- 36.76% made baskets
- 26.47% made baby boards
- 22.10% made mats
- No one reported making fish nets
- 49.70% indicated they made something else, or 'other'
 - 12.75% - antlers
 - 8.91% - walking sticks
 - 8.32% - bow
 - 7.7% - baby hoops and keychains
 - 6.53% - necklace, broach
 - 4.80% - driftwood
 - 3.42 - bones
 - 20.19% - were not ascertained
 - Less than 3% of those that replied "other" indicated the following: sculpture work, birdhouses, scarves, buttons, bags, hair accessories, pine needle baskets, blankets/towels, statues, wood staff pole, cedar, drum, corn husk basket, and wood.

Question: *Did any of the natural materials that (you/SUBJECT) used come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 342 people who wove or carved, the following used local resources:

- Yes: 90.02% (307 people)
- No: 7.27%
- Don't Know: 2.71%

Section 4.1: Animal Parts

Question: *In the past 12 months, did (you/SUBJECT) prepare or use animal parts to weave or carve things?*

Of the 307 people who wove or carved using local resources, 40.29% (124 people) used animal parts.

The people who wove or carved with animal parts used animal parts in the list below. The animals from which the parts were derived are also listed, in decreasing order of frequency.

- Antlers: 70.43%. From deer, elk, and moose.
- Bones: 37.62%. From deer, coyote, moose, bear, cow, and unknown.
- Brains: 20.35%. From deer and elk.
- Feathers: 34.46%. From eagle, hawk, turkey, grouse, pheasant, crow, osprey, sparrow, finch and peacock.
- Hides: 52.23%. From deer, elk, horse, moose, cougar, coyote, bobcat, and goat.
- Hooves: 23.59%. From deer and elk.
- Sinew: 36.77%. From deer, elk and moose.
- Teeth: 20.90%. From elk, cougar, bobcat, deer, badger, and bear.
- Other parts: 11.28%. These parts were bear claws, eagle claws, sheep wool and goat wool.
- No one reported using bladders or stomachs.

Question: *Did (you/SUBJECT) ever put the animal parts in (your/his/her) mouth when working with it?*

Of the people who used animal parts in weaving or carving small objects, 48.67% (61 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use these animal parts for weaving or carving?*

Of the people who used animal parts in weaving or carving small objects:

- 38.97% worked with the animal parts fewer than 10 days over the past year
- 33.87% worked with the animal parts 10-30 days over the past year
- 18.67% worked with the animal parts 31-60 days over the past year
- No one worked with the animal parts 61-90 days over the past year
- 8.46% worked with the animal parts more than 90 days over the past year.

Question: *On the days (you/SUBJECT) worked with animal parts, how many hours per day did (you/he/she) usually spend working with them?*

Of the people who used animal parts in weaving or carving small objects:

- 4.84% worked with the animal parts for less than an hour at a time
- 49.35% worked with the animal parts for 1-3 hours at a time
- 43.13% worked with the animal parts for 4-7 hours at a time

- 2.68% worked with the animal parts for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using animal parts for weaving or carving small objects did so for a total of 110.37 hours last year.

Question: *Please look at this map and mark the areas where the animal parts came from the local area.*

Zones or river reaches contributing more than 5% to the reservation’s local animal parts used in weaving or carving small objects are listed in Table 15 below.

Table 15: Locations contributing to animal parts used for weaving or carving small objects.

Zone or River Reach	Description	Percentage of Animal Parts
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	43.53%
382	Near the mouth of the San Poil River	9.28%
222	Near Omak Creek or Haley Creek	8.24%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	5.99%

Zones or river reaches each accounting for 1-5% of local animal parts used in weaving or carving small objects are, in descending order, 431 (Twin Lakes or nearby), 423 (near Lynx Creek), 432 (west of Inchelium), 441 (Wilmont Creek or nearby), 451 (near Ninemile Creek, Jones Creek, and Cook Creek), 452 (near Silver Creek Road between Keller and the Columbia River), R4A (Lake Roosevelt between the mouth of the Colville River and Inchelium), 442 (south of Inchelium near Lake Roosevelt), and 422 (lakes or creeks near Hall Creek and Barnaby Creek).

Zones or river reaches each accounting for less than 1% of local animal parts used in weaving or carving small objects are, in descending order, 421, 282, 372, 110, 453, 300, 291, 292, and 231.

15.24% of users recorded “999” for the area from which their animal parts used in weaving or carving small objects were collected. Their portion accounted for 5.71% of overall local animal parts used in weaving or carving small objects.

Section 4.2: Plant Materials

Question: *Over the past 12 months, did (you/SUBJECT) prepare or use any of the following materials to weave or carve things?*

Twenty-eight people responded “yes” to weaving or carving with local materials but provided no further detail. Percentages of the 279 people who prepared or used plant-based materials to weave or carve small objects in the last year are presented below in Table 16, along with the plant material used:

Table 16: Wild plants sorted by percent of weavers/carvers who use each type.

Plant	Percentage of Weavers/Carvers Using	Average Use Frequency (hours per year)	Users Processing Material by Mouth
Red Willow	42.85%	51.27	22.12%
Birch Bark	30.16%	65.68	7.64%
Cedar Bark	29.80%	105.24	18.22%
Cedar Root	20.94%	131.01	18.73%
Pine Needles	20.47%	125.02	20.09%
Wild Rose	19.73%	114.66	12.63%
Maple	19.33%	94.47	52.70%
Yew	16.52%	84.82	0%
Green Willow	14.61%	92.72	27.25%
Indian Hemp	14.03%	229.31	62.89%
Cattails	13.78%	20.65	28.44%
Tule	12.08%	39.85	18.06%
Gray Willow	11.32%	36.90	0%
Fir	10.22%	141.44	15.80%
Cottonwood	9.16%	206.20	19.93%
Ocean Spray	5.74%	15.91	0%
Sumac	5.63%	14.07	0%
Bunchgrass	4.36%	15.26	0%
Syringa	1.91%	2.5	0%
Reed Canary Grass	0%	N/A	N/A

“Other materials” were reported by 31.63% of the 279 weaver/carvers. These materials include:

- Lavender: 4.57%
- Thistle Twine: 3.87%
- Western Larch: 3.80%
- Driftwood: 2.85%
- Lodge Pole Pine: 2.43%
- Beargrass: 2.09%
- Corn Husks: 2.01%
- Materials used rarely included applewood, moss, elm, pine branches, pine, and lilac.

Section 4.2.1: Red Willow

Question: *Did (you/SUBJECT) ever put the red willow in (your/his/her) mouth when working with it?*

Of the 119 people who used red willow in weaving or carving small objects, 22.12% (27 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use red willow for weaving or carving?*

Of the people who used red willow in weaving or carving small objects:

- 68.69% worked with red willow fewer than 10 days over the past year
- 24.98% worked with red willow 10-30 days over the past year
- 3.17% worked with red willow 61-90 days over the past year
- 3.17% did not know

Question: *On the days (you/SUBJECT) worked with red willow, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used red willow in weaving or carving small objects:

- 6.89% worked with red willow for less than an hour at a time
- 53.39% worked with red willow for 1-3 hours at a time
- 31.65% worked with red willow for 4-7 hours at a time
- 8.06% worked with red willow for 8 or more hours at a time
- 4.29% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using red willow for weaving or carving small objects did so for a total of 51.27 hours last year.

Question: *Please look at this map and mark the areas where the red willow came from the local area.*

Zones contributing more than 4% to the reservation's local red willow used in weaving or carving small objects are listed in Table 17 below.

Table 17: Locations contributing to red willow used for weaving or carving small objects.

Zone	Description	Percentage of Red Willow
382	Near the mouth of the San Poil River	17.16%
432	West of Inchelium	4.02%

Zones or river reaches each accounting for 1- 4% of local red willow used in weaving or carving small objects are, in descending order, 431 (Twin Lakes or nearby), 223 (near Omak Creek or Swimptkin Creek), 233 (near Coyote Creek), 291 (in or between Nespelem and Gold Lake), 282 (north of Gold Lake), R1 (Columbia River between US-Canada border and Onion Creek), R4A (Lake Roosevelt between the

mouth of the Colville River and Inchelium), 300 (near Owhi Lake), and 422 (lakes or creeks near Hall Creek and Barnaby Creek), and 423 (near Lynx Creek).

Zones or river reaches each accounting for less than 1% of local red willow used in weaving or carving small objects are, in descending order, R10, 421, 180, and 231.

7.71% of users recorded "999" for the area from which their red willow used in weaving or carving small objects was collected. Their portion accounted for 52.46% of overall local red willow used in weaving or carving small objects.

Section 4.2.2: Gray Willow

Question: *Did (you/SUBJECT) ever put the gray willow in (your/his/her) mouth when working with it?*

Of the 31 people who used gray willow in weaving or carving small objects, no one definitely used their mouths when working with the material, and 12.25% did not know if they had used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use gray willow for weaving or carving?*

Of the people who used gray willow in weaving or carving small objects:

- 47.68% worked with gray willow fewer than 10 days over the past year
- 40.34% worked with gray willow 10-30 days over the past year
- 11.98% did not answer

Question: *On the days (you/SUBJECT) worked with gray willow, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used gray willow in weaving or carving small objects:

- 19.32% worked with gray willow for less than an hour at a time
- 28.36% worked with gray willow for 1-3 hours at a time
- 40.34% worked with gray willow for 4-7 hours at a time
- 11.98% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using gray willow for weaving or carving small objects did so for a total of 36.90 hours last year.

Question: *Please look at this map and mark the areas where the gray willow came from the local area.*

Zones contributing to the reservation's local gray willow used in weaving or carving small objects are listed in Table 18 below.

Table 18: Locations contributing to gray willow used for weaving or carving small objects.

Zone	Description	Percentage of Gray Willow
382	Near the mouth of the San Poil River	90.20%
432	West of Inchelium	7.68%
233	Near Coyote Creek	0.81%
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	0.50%

Section 4.2.3: Green Willow

Question: *Did (you/SUBJECT) ever put the green willow in (your/his/her) mouth when working with it?*

Of the 41 people who used green willow in weaving or carving small objects, 27.25% (12 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use green willow for weaving or carving?*

Of the people who used green willow in weaving or carving small objects:

- 72.76% worked with green willow fewer than 10 days over the past year
- 17.95% worked with green willow 10-30 days over the past year
- 9.28% worked with green willow 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with green willow, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used green willow in weaving or carving small objects:

- 20.77% worked with green willow for less than an hour at a time
- 37.33% worked with green willow for 1-3 hours at a time
- 32.61% worked with green willow for 4-7 hours at a time
- 9.28% worked with green willow for 8 or more hours at a time

Based on the number of days and hours per day spent working with the material, the average resident using green willow for weaving or carving small objects did so for a total of 92.72 hours last year.

Question: *Please look at this map and mark the areas where the green willow came from the local area.*

Zones or river reaches contributing more than 3% to the reservation's local green willow used in weaving or carving small objects are listed in Table 19 below.

Table 19: Locations contributing to green willow used for weaving or carving small objects.

Zone or River Reach	Description	Percentage of Green Willow
R4A	Lake Roosevelt between the mouth of the Colville River and Inchelium	5.98%
431	Twin Lakes or nearby	4.35%
311	Near Rebecca Lake or Buffalo Lake	3.31%

Zones each accounting for less than 1% of local green willow used in weaving or carving small objects are, in descending order, 382, 233, 422, and 180.

20.42% of users recorded "999" for the area from which their green willow used in weaving or carving small objects was collected. Their portion accounted for 85.08% of overall local green willow used in weaving or carving small objects.

Section 4.2.4: Tule

Question: *Did (you/SUBJECT) ever put the tule in (your/his/her) mouth when working with it?*

Of the 71 people who used tule in weaving or carving small objects, 18.06% (13 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use tule for weaving or carving?*

Of the people who used tule in weaving or carving small objects:

- 71.30% worked with tule fewer than 10 days over the past year
- 20.79% worked with tule 10-30 days over the past year
- 2.56% worked with tule 31-60 days over the past year

Question: *On the days (you/SUBJECT) worked with tule, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used tule in weaving or carving small objects:

- 8.36% worked with tule for less than an hour at a time
- 34.68% worked with tule for 1-3 hours at a time
- 42.31% worked with tule for 4-7 hours at a time
- 9.30% worked with tule for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using tule for weaving or carving small objects did so for a total of 39.85 hours last year.

Question: *Please look at this map and mark the areas where the tule came from the local area.*

Zones contributing more than 4% to the reservation's local tule used in weaving or carving small objects are listed in Table 20 below.

Table 20: Locations contributing to tule used for weaving or carving small objects.

Zone	Description	Percentage of Tule
431	Twin Lakes or nearby	5.68%
432	West of Inchelium	5.67%
481	East of the Kettle River near Toulou Creek	5.14%
413	Near Lake Roosevelt, Mink Creek, or Barnaby Creek just north of the Colville Reservation boundary	4.86%

Zones each accounting for 2 - 4% of local tule used in weaving or carving small objects are, in descending order, 223 (near Omak Creek or Swimptkin Creek), 231 (around Omak Lake), 291 (in or between Nespelem and Gold Lake), 422 (lakes or creeks near Hall Creek and Barnaby Creek), and 311 (near Rebecca Lake or Buffalo Lake).

Zones each accounting for less than 2% of local tule used in weaving or carving small objects are, in descending order, 170, 180, and 233.

33.88% of users recorded “999” for the area from which their tule used in weaving or carving small objects was collected. Their portion accounted for 58.32% of overall local tule used in weaving or carving small objects.

3.12% of users did not provide an area from which their tule used in weaving or carving small objects was collected. Their portion accounted for 3.94% of overall local tule used in weaving or carving small objects.

Section 4.2.5: Bunch Grass

Question: *Did (you/SUBJECT) ever put the bunch grass in (your/his/her) mouth when working with it?*

Of the 13 people who used bunch grass in weaving or carving small objects, no one definitely used their mouths when working with the material, although 61.54% (8 people) did not answer the question.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use bunch grass for weaving or carving?*

Of the people who used bunch grass in weaving or carving small objects:

- 73.68% worked with bunch grass fewer than 10 days over the past year
- 26.32% worked with bunch grass 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with bunch grass, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used bunch grass in weaving or carving small objects worked with it for 1-3 hours at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using bunch grass for weaving or carving small objects did so for a total of 15.26 hours last year.

Question: *Please look at this map and mark the areas where the bunch grass came from the local area.*

Zones contributing to the reservation's local bunch grass used in weaving or carving small objects are listed in Table 21 below.

Table 21: Locations contributing to bunch grass used for weaving or carving small objects.

Zone	Description	Percentage of Bunch Grass
432	West of Inchelium	48.26%
231	Around Omak Lake	25.87%
222	Near Omak Creek or Haley Creek	25.87%

Section 4.2.6: Cattails

Question: *Did (you/SUBJECT) ever put the cattails in (your/his/her) mouth when working with it?*

Of the 39 people who used cattails in weaving or carving small objects, 28.44% (11 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use cattails for weaving or carving?*

Of the people who used cattails in weaving or carving small objects:

- 64.38% worked with cattails fewer than 10 days over the past year
- 25.78% worked with cattails 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with cattails, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cattails in weaving or carving small objects:

- 9.42% worked with cattails for less than an hour at a time
- 64.91% worked with cattails for 1-3 hours at a time
- 15.83% worked with cattails for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cattails for weaving or carving small objects did so for a total of 20.65 hours last year.

Question: *Please look at this map and mark the areas where the cattails came from the local area.*

Zones or river reaches contributing to the reservation’s local cattails used in weaving or carving small objects are listed in Table 22 below.

Table 22: Locations contributing to cattails used for weaving or carving small objects.

Zone or River Reach	Description	Percentage of Cattails
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	21.27%
422	Near Hall Creek and Barnaby Creek	20.16%
432	Lakes or creeks west of Inchelium	5.23%
442	South of Inchelium near Lake Roosevelt	3.45%
R8	Okanogan River between the Canadian Border and the Columbia River	1.14%

12.82% of users recorded “999” for the area from which their cattails used in weaving or carving small objects were collected. Their portion accounted for 47.56% of overall local cattails used in weaving or carving small objects.

Section 4.2.7: Birch Bark

Question: *Did (you/SUBJECT) ever put the birch bark in (your/his/her) mouth when working with it?*

Of the 78 people who used birch bark in weaving or carving small objects, 7.64% (6 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use birch bark for weaving or carving?*

Of the people who used birch bark in weaving or carving small objects:

- 43.14% worked with birch bark fewer than 10 days over the past year
- 51.98% worked with birch bark 10-30 days over the past year
- 4.88% worked with birch bark 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with birch bark, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used birch bark in weaving or carving small objects:

- 4.70% worked with birch bark for less than an hour at a time
- 68.90% worked with birch bark for 1-3 hours at a time
- 21.52% worked with birch bark for 4-7 hours at a time
- 4.88% worked with birch bark for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using birch bark for weaving or carving small objects did so for a total of 65.68 hours last year.

Question: *Please look at this map and mark the areas where the birch bark came from the local area.*

Zones contributing more than 1% to the reservation’s local birch bark used in weaving or carving small objects are listed in Table 23 below.

Table 23: Locations contributing to birch bark used for weaving or carving small objects.

Zone	Description	Percentage of Birch Bark
382	Mouth of the San Poil River or nearby creeks	20.65%
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	13.09%
431	Twin Lakes or nearby	5.27%
413	Near Lake Roosevelt, Mink Creek, or Barnaby Creek just north of the Colville Reservation boundary	2.08%

Zones each accounting for less than 1% of local birch bark used in weaving or carving small objects are, in descending order, 482, 422, 282, and 432. 5.02% of users recorded “999” for the area from which their birch bark was collected, accounting for 58.19% of local birch bark used in weaving or carving.

Section 4.2.8: Cedar Bark

Question: *Did (you/SUBJECT) ever put the cedar bark in (your/his/her) mouth when working with it?*

Of the 51 people who used cedar bark in weaving or carving small objects, 18.22% (10 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use cedar bark for weaving or carving?*

Of the people who used cedar bark in weaving or carving small objects:

- 50.69% worked with cedar bark fewer than 10 days over the past year
- 17.73% worked with cedar bark 10-30 days over the past year
- 24.11% worked with cedar bark 31-60 days over the past year
- 7.47% worked with cedar bark 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with cedar bark, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cedar bark in weaving or carving small objects:

- 7.47% worked with cedar bark for less than an hour at a time
- 29.43% worked with cedar bark for 1-3 hours at a time
- 47.86% worked with cedar bark for 4-7 hours at a time
- 15.24% worked with cedar bark for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar bark for weaving or carving small objects did so for a total of 105.24 hours last year.

Question: *Please look at this map and mark the areas where the cedar bark came from the local area.*

Zones contributing more than 3% to the reservation's local cedar bark used in weaving or carving small objects are listed in Table 24 below.

Table 24: Locations contributing to cedar bark used for weaving or carving small objects.

Zone	Description	Percentage of Cedar Bark
423	Near Lynx Creek	27.08%
511	Near the east side of Marcus Flats	8.26%
422	Near Hall Creek and Barnaby Creek	3.69%

Zones each accounting for 1 - 3% of local cedar bark used in weaving or carving small objects are, in descending order, 431 (Twin Lakes or nearby), 432 (lakes or creeks west of Inchelium), and 482 (between the US-Canada border and the Columbia River, near Big Sheep Creek).

Zones each accounting for less than 1% of local cedar bark used in weaving or carving small objects are, in descending order, 382 and 233.

12.81% of users recorded “999” for the area from which their cedar bark used in weaving or carving small objects was collected. Their portion accounted for 54.65% of overall local cedar bark used in weaving or carving small objects.

Section 4.2.9: Cedar Root

Question: *Did (you/SUBJECT) ever put the cedar root in (your/his/her) mouth when working with it?*

Of the 56 people who used cedar root in weaving or carving small objects, 18.73% (11 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use cedar root for weaving or carving?*

Of the people who used cedar root in weaving or carving small objects:

- 50.04% worked with cedar root fewer than 10 days over the past year
- 36.13% worked with cedar root 10-30 days over the past year
- 13.82% worked with cedar root 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with cedar root, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cedar root in weaving or carving small objects:

- 19.03% worked with cedar root for less than an hour at a time
- 21.86% worked with cedar root for 1-3 hours at a time
- 47.86% worked with cedar root for 4-7 hours at a time
- 15.24% worked with cedar root for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar root for weaving or carving small objects did so for a total of 131.01 hours last year.

Question: *Please look at this map and mark the areas where the cedar root came from the local area.*

Zones contributing more than 3% to the reservation's local cedar root used in weaving or carving small objects are listed in Table 25 below.

Table 25: Locations contributing to cedar root used for weaving or carving small objects.

Zone	Description	Percentage of Cedar Root
431	Twin Lakes or nearby	41.63%
423	Near Lynx Creek	9.71%
482	Between the US-Canada border and the Columbia River, near Big Sheep Creek	1.2%
432	Lakes or creeks west of Inchelium	1.2%

Zone 233 accounted for less than 1% of local cedar root used in weaving or carving small objects. 17.85% of users recorded "999" for the area from which their cedar root was collected, accounting for 45.35% of overall local cedar root used in weaving or carving small objects. 3.90% of users did not provide an area, accounting for less than 1% of local cedar root used in weaving or carving small objects.

Section 4.2.10: Sumac

Question: *Did (you/SUBJECT) ever put the sumac in (your/his/her) mouth when working with it?*

Of the 16 people who used sumac in weaving or carving small objects, no one used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use sumac for weaving or carving?*

Of the people who used sumac in weaving or carving small objects:

- 79.65% worked with sumac fewer than 10 days over the past year
- 20.35% worked with sumac 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with sumac, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used sumac in weaving or carving small objects worked with the material for 1-3 hours at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using sumac for weaving or carving small objects did so for a total of 14.07 hours last year.

Question: *Please look at this map and mark the areas where the sumac came from the local area.*

Zones contributing to the reservation's local sumac used in weaving or carving small objects are listed in Table 26 below.

Table 26: Locations contributing to sumac used for weaving or carving small objects.

Zone	Description	Percentage of Sumac
231	Around Omak Lake	21.70%
222	Near Omak Creek or Haley Creek	21.70%

83.37% of users recorded "999" for the area from which their sumac used in weaving or carving small objects was collected. Their portion accounted for 56.60% of overall local sumac used in weaving or carving small objects.

Section 4.2.11: Indian Hemp

Question: *Did (you/SUBJECT) ever put the Indian hemp in (your/his/her) mouth when working with it?*

Of the 35 people who used Indian hemp in weaving or carving small objects, 62.89% (22 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use Indian hemp for weaving or carving?*

Of the people who used Indian hemp in weaving or carving small objects:

- 37.39% worked with Indian hemp fewer than 10 days over the past year
- 15.15% worked with Indian hemp 10-30 days over the past year
- 5.24% worked with Indian hemp 31-60 days over the past year
- 10.95% worked with Indian hemp 61-90 days over the past year
- 31.27% worked with Indian hemp more than 90 days over the past year

Question: *On the days (you/SUBJECT) worked with Indian hemp, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used Indian hemp in weaving or carving small objects:

- 4.37% worked with Indian hemp for less than an hour at a time
- 73.55% worked with Indian hemp for 1-3 hours at a time
- 5.89% worked with Indian hemp for 4-7 hours at a time
- 16.19% worked with Indian hemp for 8 or more hours at a time

Based on the number of days and hours per day spent working with the material, the average resident using Indian hemp for weaving or carving small objects did so for a total of 229.31 hours last year.

Question: *Please look at this map and mark the areas where the Indian hemp came from the local area.*

Zones contributing more than 1% to the reservation's local Indian hemp used in weaving or carving small objects are listed in Table 27 below.

Table 27: Locations contributing to Indian hemp used for weaving or carving small objects.

Zone	Description	Percentage of Indian Hemp
382	Near the mouth of the San Poil River	49.09%
231	Around Omak Lake	1.82%

Zones accounting for less than 1% of local Indian hemp used in weaving or carving small objects are, in descending order, 291, 292, 300, 222, 312, and 320.

16.40% of users recorded "999" for the area from which their Indian hemp used in weaving or carving small objects was collected. Their portion accounted for 46.09% of overall local Indian hemp used in weaving or carving small objects.

Section 4.2.12: Wild Rose

Question: *Did (you/SUBJECT) ever put the wild rose in (your/his/her) mouth when working with it?*

Of the 49 people who used wild rose in weaving or carving small objects, 12.63% (7 people) used their mouths when working with the material, and 5.07% did not answer the question.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use wild rose for weaving or carving?*

Of the people who used wild rose in weaving or carving small objects:

- 57.64% worked with wild rose fewer than 10 days over the past year
- 34.53% worked with wild rose 10-30 days over the past year
- 7.83% worked with wild rose 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with wild rose, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used wild rose in weaving or carving small objects:

- 4.80% worked with wild rose for less than an hour at a time
- 9.79% worked with wild rose for 1-3 hours at a time
- 29.40% worked with wild rose for 4-7 hours at a time
- 56.00% worked with wild rose for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using wild rose for weaving or carving small objects did so for a total of 114.66 hours last year.

Question: *Please look at this map and mark the areas where the wild rose came from the local area.*

Zones or river reaches contributing more than 13% to the reservation's local wild rose used in weaving or carving small objects are listed in Table 28 below.

Table 28: Locations contributing to wild rose used for weaving or carving small objects.

Zone or River Reach	Description	Percentage of Wild Rose
382	Near the mouth of the San Poil River	19.47%
432	West of Inchelium	18.18%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	10.66%

Zones each accounting for less than 1% of local wild rose used in weaving or carving small objects are, in descending order, 291, 292, 300, and 180.

3% of users recorded "999" for the area from which their wild rose used in weaving or carving small objects was collected. Their portion accounted for 51.22% of overall local wild rose used in weaving or carving small objects.

Section 4.2.13: Syringa

Question: *Did (you/SUBJECT) ever put the syringa in (your/his/her) mouth when working with it?*

Of the 6 people who used syringa in weaving or carving small objects, no one used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use syringa for weaving or carving?*

Question: *On the days (you/SUBJECT) worked with syringa, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used syringa in weaving or carving small objects worked with the material for fewer than 10 days over the past year, for less than an hour at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using syringa for weaving or carving small objects did so for a total of 2.5 hours last year.

Question: *Please look at this map and mark the areas where the syringa came from the local area.*

100% of the reservation's local syringa used in weaving or carving small objects was from river reach R4A (Lake Roosevelt between the mouth of the Colville River and Inchelium).

Section 4.2.14: Ocean Spray

Question: *Did (you/SUBJECT) ever put the ocean spray in (your/his/her) mouth when working with it?*

Of the 17 people who used ocean spray in weaving or carving small objects, none used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use ocean spray for weaving or carving?*

All of the people who used ocean spray in weaving or carving small objects worked with the material for fewer than 10 days over the past year.

Question: *On the days (you/SUBJECT) worked with ocean spray, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used ocean spray in weaving or carving small objects:

- 66.24% worked with ocean spray for 1-3 hours at a time
- 33.76% worked with ocean spray for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using ocean spray for weaving or carving small objects did so for a total of 15.91 hours last year.

Question: *Please look at this map and mark the areas where the ocean spray came from the local area.*

Zones or river reaches contributing to the reservation's local ocean spray used in weaving or carving small objects are listed in Table 29 below.

Table 29: Locations contributing to ocean spray used for weaving or carving small objects.

Zone or River Reach	Description	Percentage of Ocean Spray
431	Twin Lakes or nearby	42.56%
R6	Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam	41.64%
432	Lakes or creeks west of Inchelium	15.80%

Section 4.2.15: Pine Needles

Question: *Did (you/SUBJECT) ever put the pine needles in (your/his/her) mouth when working with it?*

Of the 47 people who used pine needles in weaving or carving small objects, 20.09% (10 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use pine needles for weaving or carving?*

Of the people who used pine needles in weaving or carving small objects:

- 61.36% worked with pine needles fewer than 10 days over the past year
- 18.45% worked with pine needles 10-30 days over the past year
- 8.12% worked with pine needles 61-90 days over the past year
- 12.07% worked with pine needles more than 90 days over the past year

Question: *On the days (you/SUBJECT) worked with pine needles, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used pine needles in weaving or carving small objects:

- 9.41% worked with pine needles for less than an hour at a time
- 61.81% worked with pine needles for 1-3 hours at a time
- 11.58% worked with pine needles for 4-7 hours at a time
- 17.19% worked with pine needles for 8 or more hours at a time

Based on the number of days and hours per day spent working with the material, the average resident using pine needles for weaving or carving small objects did so for a total of 125.02 hours last year.

Question: *Please look at this map and mark the areas where the pine needles came from the local area.*

Zones contributing more than 3% to the reservation's local pine needles used in weaving or carving small objects are listed in Table 30 below.

Table 30: Locations contributing to pine needles used for weaving or carving small objects.

Zone	Description	Percentage of Pine Needles
300	Near Owhi Lake	35.73%
231	Around Omak Lake	4.45%
382	Near the mouth of the San Poil River	1.02%

Zones accounting for less than 1% of local pine needles used in weaving or carving small objects are, in descending order, 291, 292, 222, 442, 180, and 432. 35.54% of users recorded "999" for the area from which their pine needles were collected, accounting for 50.84% of overall local pine needles used in weaving or carving small objects. 7.12% of users did not provide a zone where their pine needles were collected, accounting for 4.76% of overall local pine needles used in weaving or carving small objects.

Section 4.2.16: Cottonwood

Question: *Did (you/SUBJECT) ever put the cottonwood in (your/his/her) mouth when working with it?*

Of the 20 people who used cottonwood in weaving or carving small objects, 19.93% (4 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use cottonwood for weaving or carving?*

Of the people who used cottonwood in weaving or carving small objects:

- 13.91% worked with cottonwood fewer than 10 days over the past year
- 67.15% worked with cottonwood 10-30 days over the past year
- 19.93% worked with cottonwood 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with cottonwood, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cottonwood in weaving or carving small objects:

- 12.91% worked with cottonwood for less than an hour at a time
- 67.15% worked with cottonwood for 1-3 hours at a time
- 19.93% worked with cottonwood for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cottonwood for weaving or carving small objects did so for a total of 206.20 hours last year.

Question: *Please look at this map and mark the areas where the cottonwood came from the local area.*

Zones contributing to the reservation's local cottonwood used in weaving or carving small objects are listed in Table 31 below.

Table 31: Locations contributing to cottonwood used for weaving or carving small objects.

Zone	Description	Percentage of Cottonwood
382	Near the mouth of the San Poil River	26.87%
431	Twin Lakes or nearby	0.63%

19.81% of users recorded "999" for the area from which their cottonwood used in weaving or carving small objects was collected. Their portion accounted for 72.51% of overall local cottonwood used in weaving or carving small objects.

Section 4.2.17: Fir

Question: *Did (you/SUBJECT) ever put the fir in (your/his/her) mouth when working with it?*

Of the 24 people who used fir in weaving or carving small objects, 15.80% (4 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use fir for weaving or carving?*

Of the people who used fir in weaving or carving small objects:

- 52.32% worked with fir fewer than 10 days over the past year
- 13.37% worked with fir 10-30 days over the past year
- 18.51% worked with fir 31-60 days over the past year
- 15.81% worked with fir 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with fir, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used fir in weaving or carving small objects:

- 13.37% worked with fir for less than an hour at a time
- 70.82% worked with fir for 1-3 hours at a time
- 15.81% worked with fir for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using fir for weaving or carving small objects did so for a total of 141.44 hours last year.

Question: *Please look at this map and mark the areas where the fir came from the local area.*

Zones contributing to the reservation's local fir used in weaving or carving small objects are listed in Table 32 below.

Table 32: Locations contributing to fir used for weaving or carving small objects.

Zone	Description	Percentage of Fir
431	Twin Lakes or nearby	11.78%
222	Near Omak Creek or Haley Creek	0.35%
231	Around Omak Lake	0.35%

69.60% of users recorded "999" for the area from which their fir used in weaving or carving small objects was collected. Their portion accounted for 87.52% of overall local fir used in weaving or carving small objects.

Section 4.2.18: Maple

Question: *Did (you/SUBJECT) ever put the maple in (your/his/her) mouth when working with it?*

Of the 50 people who used maple in weaving or carving small objects, 52.70% (27 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use maple for weaving or carving?*

Of the people who used maple in weaving or carving small objects:

- 21.47% worked with maple fewer than 10 days over the past year
- 70.86% worked with maple 10-30 days over the past year
- 7.67% worked with maple 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with maple, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used maple in weaving or carving small objects:

- 66.50% worked with maple for 1-3 hours at a time
- 25.83% worked with maple for 4-7 hours at a time
- 7.67% worked with maple for 8 or more hours at a time

Putting together the number of days spent working with the material and the hours spent working with it each day, the average resident who used maple for weaving or carving small objects did so for 94.47 hours in total last year.

Question: *Please look at this map and mark the areas where the maple came from the local area.*

Zones contributing to the reservation's local maple used in weaving or carving small objects are listed in Table 33 below.

Table 33: Locations contributing to maple used for weaving or carving small objects.

Zone	Description	Percentage of Maple
382	Near the mouth of the San Poil River	22.56%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	14.30%
413	Near Lake Roosevelt, Mink Creek, or Barnaby Creek just north of the Colville Reservation boundary	2.27%

8.13% of users recorded "999" for the area from which their maple used in weaving or carving small objects was collected. Their portion accounted for 60.87% of overall local maple used in weaving or carving small objects.

Section 4.2.19: Yew

Question: *Did (you/SUBJECT) ever put the yew in (your/his/her) mouth when working with it?*

Of the 47 people who used yew in weaving or carving small objects, no one used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use yew for weaving or carving?*

Of the people who used yew in weaving or carving small objects:

- 52.90% worked with yew fewer than 10 days over the past year
- 19.44% worked with yew 10-30 days over the past year
- 27.66% worked with yew 31-60 days over the past year

Question: *On the days (you/SUBJECT) worked with yew, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used yew in weaving or carving small objects:

- 42.44% worked with yew for 1-3 hours at a time
- 57.56% worked with yew for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using yew for weaving or carving small objects did so for a total of 84.82 hours last year.

Question: *Please look at this map and mark the areas where the yew came from the local area.*

Zones contributing to the reservation's local yew used in weaving or carving small objects are listed in Table 34 below.

Table 34: Locations contributing to yew used for weaving or carving small objects.

Zone	Description	Percentage of Yew
382	Near the mouth of the San Poil River	17.06%
381	Near the San Poil River, Jack Creek, or Louie Creek	9.70%
432	West of Inchelium	9.70%
300	Near Owhi Lake	2.71%

21.37% of users did not provide a zone or river reach where their yew used in weaving or carving small objects was collected. Their portion accounted for 63.65% of overall local yew used in weaving or carving small objects.

Section 4.2.20: Other Material

Of the 279 weaver/carvers who use local materials, 31.63% (88 people) reported using materials other than those listed in the questionnaire. The materials listed and percentage of weaver/carvers using them were:

- Lavender: 4.57%
- Thistle Twine: 3.87%
- Western Larch: 3.80%
- Driftwood: 2.85%
- Lodge Pole Pine: 2.43%
- Beargrass: 2.09%
- Corn Husks: 2.01%
- Materials used rarely included applewood, moss, elm, pine branches, pine, and lilac.

These materials are grouped together for the statistics provided below.

Question: *Did (you/SUBJECT) ever put the other material in (your/his/her) mouth when working with it?*

Of the 85 people who used “other material” in weaving or carving small objects, 14.93% (13 people) used their mouths when working with thistle twine and corn husks.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use other material for weaving or carving?*

Of the people who used “other material” in weaving or carving small objects:

- 18.67% worked with “other material” fewer than 10 days over the past year
- 61.15% worked with “other material” 10-30 days over the past year
- 7.39% worked with “other material” 31-60 days over the past year
- 12.79% worked with “other material” more than 90 days over the past year

Question: *On the days (you/SUBJECT) worked with “other material,” how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used “other material” in weaving or carving small objects:

- 12.79% worked with “other material” for less than an hour at a time
- 47.71% worked with “other material” for 1-3 hours at a time
- 37.35% worked with “other material” for 4-7 hours at a time
- 2.14% worked with “other material” for 8 or more hours at a time

Putting together the number of days spent working with the material and the hours spent working with it each day, the average resident who used “other material” for weaving or carving small objects did so for 64.86 hours in total last year.

Question: Please look at this map and mark the areas where the material came from the local area.

Zones contributing more than 6% to the reservation’s local “other material” used in weaving or carving small objects are listed in Table 35 below.

Table 35: Locations contributing to “other material” used for weaving or carving small objects.

Zone	Description	Percentage of overall “Other Material”
382	Near the mouth of the San Poil River	36.95%
223	Near Omak Creek or Swimptkin Creek	10.21%
431	Twin Lakes or nearby	7.28%
311	Near Rebecca Lake or Buffalo Lake	6.25%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	6.02%

Zones or river reaches each accounting for 1 - 4% of local “other material” used in weaving or carving small objects are, in descending order, R6 (Lake Roosevelt between the mouth of the San Poil River and the Grand Coulee Dam), R7 (Columbia River downstream of the Grand Coulee Dam), 413 (near Lake Roosevelt, Mink Creek, or Barnaby Creek just north of the Colville Reservation boundary), and 422 (lakes or creeks near Hall Creek and Barnaby Creek).

Zones each accounting for less than 1% of local “other material” used in weaving or carving small objects are, in descending order, 222, 231, and 542.

9.53% of users recorded “999” for the area from which their “other material” used in weaving or carving small objects was collected. Their portion accounted for 23.34% of overall local “other material” used in weaving or carving small objects.

Section 5: Materials Used for Dyeing and Coloring

Question: *The next questions are about natural materials (you/SUBJECT) may have used for dyeing. Over the past 12 months, did (you/SUBJECT) use any natural materials to color, dye, or tint fabrics or hides, items for weaving, or other items?*

The percentages of the reservation population who prepared or used natural materials for dyeing or coloring in the last year, and those who did not, are:

- Yes: 1.90% (90 people)
- No: 98.05%
- Don't Know: 0.05%

These percentages exclude 11 people who replied yes but provided no further information.

Question: *What kinds of materials did (you/SUBJECT) dye, color, or tint?*

Of the 90 people who dyed or colored:

- 47.84% dyed, colored, or tinted hides
- 15.82% dyed, colored, or tinted weaving materials
- 6.88% dyed, colored or tinted fabrics
- 31.77% dyed, colored, or tinted other materials, listed below:
 - 18.84% indicated paper
 - 8.68% indicated leather
 - 2.59% indicated porcupine needles
 - 1.66% indicated bones

Question: *Did any of the natural materials that (you/SUBJECT) used for dyeing these items come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 90 people who dyed or colored with natural materials, the following used local resources:

- Yes: 83.18% (75 people)
- No: 16.82%

Question: *Over the past 12 months, did (you/SUBJECT) use any of the following when dyeing, coloring or tinting?*

Percentages of the 75 people who prepared or used the following plant-based local materials to dye or color in the last year:

- Cedar Bark: 24.65%
- Oregon Grape: 4.77%
- River Birch: 2.86%
- Other materials:
 - 28.03% indicated pine
 - 28.03% indicated fir
 - 14.21% indicated red willow
 - 11.09% indicated huckleberry
 - 6.97% indicated deer brain
 - Less than 5.00% indicated, in descending order: pig brain, porcupine needles, black lichen, wolf lichen, and wild rose.

Section 5.1: Cedar Bark

Question: *Did (you/SUBJECT) ever put the cedar bark in (your/his/her) mouth when working with it?*

Of the 19 people who used cedar bark for dyeing or coloring, 8.10% (2 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use cedar bark for dyeing or coloring?*

Question: *On the days (you/SUBJECT) worked with cedar bark, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used cedar bark for dyeing or coloring worked with the material for fewer than 10 days over the past year, for 1-3 hours at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar bark for dyeing or coloring did so for a total of 10 hours last year.

Question: *Please look at this map and mark the areas where the cedar bark came from the local area.*

Zones contributing to the reservation's local cedar bark for dyeing or coloring are listed in Table 36 below.

Table 36: Locations contributing to cedar bark used for dyeing or coloring.

Zone	Description	Percentage of Cedar Bark
311	Near Rebecca Lake or Buffalo Lake	91.90%
432	West of Inchelium	4.05%
442	South of Inchelium near Lake Roosevelt	4.05%

Section 5.2: Oregon Grape

Question: *Did (you/SUBJECT) ever put the Oregon grape in (your/his/her) mouth when working with it?*

Of the 4 people who used Oregon grape for dyeing or coloring, no one used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use Oregon grape for dyeing or coloring?*

All of the people who used Oregon grape for dyeing or coloring worked with the material for fewer than 10 days over the past year.

Question: *On the days (you/SUBJECT) worked with Oregon grape, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used Oregon grape for dyeing or coloring:

- 41.88% worked with Oregon grape for less than an hour at a time
- 58.12% worked with Oregon grape for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using Oregon grape for dyeing or coloring did so for a total of 17.03 hours last year.

Question: *Please look at this map and mark the areas where the Oregon grape came from the local area.*

Zones contributing to the reservation's local Oregon grape for dyeing or coloring are listed in Table 37 below.

Table 37: Locations contributing to oregon grape used for dyeing or coloring.

Zone	Description	Percentage of Oregon Grape
432	West of Inchelium	93.85%
431	Twin Lakes or nearby	1.54%
423	Near Lynx Creek	1.54%
421	Near Hall Creek or Sitdown Creek	1.54%
422	Near Hall Creek and Barnaby Creek	1.54%

Section 5.3: River Birch

Question: *Did (you/SUBJECT) ever put the river birch in (your/his/her) mouth when working with it?*

Of the three people who used river birch for dyeing or coloring, none used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use river birch for dyeing or coloring?*

Question: *On the days (you/SUBJECT) worked with river birch, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used river birch for dyeing or coloring worked with the material for fewer than 10 days over the past year, for less than an hour at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using river birch for dyeing or coloring did so for a total of 2.5 hours last year.

Question: *Please look at this map and mark the areas where the river birch came from the local area.*

All local river birch used for dyeing or coloring was reported to come from river reach R5, Lake Roosevelt between the mouth of the Spokane River and the mouth of the San Poil River.

Section 5.4: Other Materials

Of the 75 people who dye and color with local materials, 66.67% (50 people) reported using materials other than those listed in the questionnaire. The materials listed and percentage of dyers using them were:

- 28.03% pine
- 28.03% fir
- 14.21% red willow
- 11.09% huckleberry
- 6.97% deer brain
- Less than 5% indicated, in descending order: pig brain, porcupine needles, black lichen, wolf lichen, and wild rose.

These materials are grouped together for the statistics provided below.

Question: *Did (you/SUBJECT) ever put the “other material” in (your/his/her) mouth when working with it?*

Of the 50 people who used “other material” for dyeing or coloring, 3.02% (2 people) used their mouths when working with any material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use “other materials” for dyeing or coloring?*

Of the people who used “other materials” for dyeing or coloring:

- 63.28% worked with “other materials” fewer than 10 days over the past year
- 29.53% worked with “other materials” 10-30 days over the past year
- 7.19% worked with “other materials” 31-60 days over the past year

Question: *On the days (you/SUBJECT) worked with other materials, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used “other materials” for dyeing or coloring:

- 6.36% worked with “other materials” for less than an hour at a time
- 7.19% worked with “other materials” for 1-3 hours at a time
- 60.27% worked with “other materials” for 4-7 hours at a time
- 26.18% worked with “other materials” for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using “other materials” for dyeing or coloring did so for a total of 66.15 hours last year.

Question: Please look at this map and mark the areas where the “other materials” came from the local area.

Zones contributing more than 1% to the reservation’s local “other materials” for dyeing or coloring are listed in Table 38 below.

Table 38: Locations contributing to “other materials” used for dyeing or coloring.

Zone	Description	Percentage of Other Materials
291	In or between Nespelem and Gold Lake	18.59%
282	North of Gold Lake	6.03%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	5.63%
190	South of the Columbia River between Bridgeport and Banks Lake	5.63%
431	Twin Lakes or nearby	1.86%

Zones each accounting for less than 1% of local “other materials” for dyeing or coloring are, in descending order: 432, 421, 423, 583, 592.

28.66% of users recorded “999” for the area from which their “other materials” for dyeing or coloring was collected. Their portion accounted for 61.75% of overall local “other materials” used for dyeing or coloring.

Section 6: Materials Used for Construction

Question: *The next questions are about the construction of shelters or other large objects. Over the past 12 months, did (you/SUBJECT) prepare or use any natural materials to construct large structures or objects? This includes shelters, sheds, sweat lodges, pit houses, tipis or large objects such as drying racks.*

The percentages of the reservation population who prepared or used natural materials for construction of large objects in the last year, and those who did not, are:

- Yes: 14.94% (706 people)
- No: 84.96%
- Don't know: 0.10%

Question: *What kinds of large structures or objects did (you/SUBJECT) build?*

Of the 706 people who used natural materials to construct large objects:

- 27.85% built drying racks,
- 22.70% built sheds,
- 27.32% built sweat lodges,
- 21.31% built tipis,
- 8.94% built shelters,
- No one reported building pit houses, and
- 32.91% built other objects, including in descending order: fence, deck, rabbit shelter, bird house, sweat lodge poles, barn, fort, workshop, siding, greenhouse, burning pit, enclosures, corral, doghouse, rails, carport, fence posts, trapping, table, house, shop and gazebo.

Question: *Did any of the natural materials that (you/SUBJECT) used come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 706 people who constructed large objects, the following used local resources:

- Yes: 85.30% (603 people)
- No: 10.19%
- Don't know: 4.52%

Section 6.1: Animal Parts

Question: *In the past 12 months, did (you/SUBJECT) prepare or use animal parts when building any large structures or objects?*

Of the 603 people who constructed large objects using local resources, the following used animal parts:

- Yes: 6.52% (40 people)
- No: 93.08%
- Don't know: 0.40%

Of the 40 people who constructed with animal parts,

- 38.47% indicated they used antlers from deer, and
- 7.98% indicated they used hides from deer and elk.

Question: *Did (you/SUBJECT) ever put the animal parts in (your/his/her) mouth when working with it?*

Of the 40 people who used animal parts in construction, 7.98% (3 people) used their mouths when working with the material, 56.66% did not use their mouths, and 35.37% did not answer the question.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use these animal parts for construction?*

Of the 40 people who used animal parts in construction:

- 64.63% worked with the animal parts fewer than 10 days over the past year
- 35.37% did not provide this information

Question: *On the days (you/SUBJECT) worked with animal parts, how many hours per day did (you/he/she) usually spend working with them?*

Of the people who used animal parts in construction:

- 7.98% worked with the animal parts for less than an hour at a time
- 56.66% worked with the animal parts for 1-3 hours at a time
- 35.37% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using animal parts for construction did so for a total of 9.07 hours last year.

Question: *Please look at this map and mark the areas where the animal parts came from the local area.*

Zone 120 (west of Okanogan) accounted for 96.6% of local animal parts used. 7.98% of users recorded "999" for the area from which their animal parts used in construction were collected, accounting for 3.40% of overall local animal parts used in construction. 35.37% of users (14 people) who reported using animal parts did not provide information about days per year or hours per day spent, but did indicate that they used zones 422 and 431 to source the animal parts.

Section 6.2: Plant Materials

Question: *Over the past 12 months, did (you/SUBJECT) prepare or use any of the following when building large structures or objects?*

Of the 603 people who indicated using local materials for construction, 21 people provided no further information about materials used. Percentages of the 582 people who prepared or used the following local materials for construction in the last year are listed in Table 39 below:

Table 39: Wild plants sorted by percent of builders who use each type.

Plant	Percentage of Builders Using	Average Use Frequency (hours per year)	Users Processing Material by Mouth
Lodgepole Pine	52.87%	45.41	11.58%
Red Willow	35.30%	55.60	33.46%
Fir	32.30%	87.93	7.65%
Tamarack	30.18%	82.93	16.76%
Pine or Ponderosa Pine	13.92%	51.01	27.68%
Cedar	11.52%	129.05	31.48%
Pine Needles	10.05%	99.25	13.19%
Wild Rose	9.95%	85.67	7.10%
Green Willow	9.30%	106.54	26.92%
Cedar Bark	7.12%	12.38	13.05%
Cottonwood	6.11%	57.46	4.51%
Indian Hemp	5.35%	73.56	0%
Juniper	5.13%	10	0%
Bunchgrass	4.95%	2.50	100%
Birch Bark	2.55%	2.50	14.08%
Maple	2.55%	10	14.08%
Tule	2.14%	67.51	7.10%
Gray Willow	1.45%	10	54.39%
Cedar Root	1.25%	21.99	66.22%
Sumac	0.66%	10	0%
Cattails	0.62%	49.21	100%
Ocean Spray	0.42%	27.50	0%
Reed Canary Grass	0.26%	10	0%
Yew	0%	N/A	N/A
Syringa	0%	N/A	N/A

“Other materials” were reported by 23.39% of the 582 builders. These materials include:

- Pine: 11.78% (included in table above, combined with Ponderosa pine)
- Quaking Aspen: 3.82%
- “Rocks, sage and elm:” 2.91%
- Materials used by fewer than 2% of builders included the following materials, in descending order: alder, Ponderosa pine, sweetgrass, apple/apricot wood, bed post, 2x4s, and 2x6s.

Section 6.2.1: Red Willow

Question: *Did (you/SUBJECT) ever put the red willow in (your/his/her) mouth when working with it?*

Of the 201 people who used red willow in construction, 33.46% (68 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use red willow when building large structures or objects?*

Of the people who used red willow in construction:

- 68.16% worked with red willow fewer than 10 days over the past year
- 24.57% worked with red willow 10-30 days over the past year
- 7.27% worked with red willow 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with red willow, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used red willow in construction:

- 7.11% worked with red willow for less than an hour at a time
- 18.05% worked with red willow for 1-3 hours at a time
- 63.23% worked with red willow for 4-7 hours at a time
- 3.63% worked with red willow for 8 or more hours at a time
- 6.35% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using red willow for construction did so for a total of 55.60 hours last year.

Question: *Please look at this map and mark the areas where the red willow came from the local area.*

Zones contributing more than 13% to the reservation's local red willow used in construction are listed in Table 40 below.

Table 40: Locations contributing to red willow used for construction.

Zone	Description	Percentage of Red Willow
223	Near Omak Creek or Swimptkin Creek	21.85%
382	Near the mouth of the San Poil River	14.98%
281	Near Haden Creek or Last Creek	14.47%

Zones or river reaches each accounting for 1-5% of local red willow used in construction are, in descending order: 233 (near Omak Creek or Swimptkin Creek), R10 (San Poil River between the Canadian Border and Lake Roosevelt), 300 (near Owhi Lake), 452 (near Silver Creek Road between Keller and the Columbia River), 432 (lakes or creeks west of Inchelium), and 422 (lakes or creeks near Hall Creek and Barnaby Creek).

Zones or river reaches each accounting for less than 1% of local red willow used in construction are, in descending order: 421, 311, 432, 291, 431, 222, 423, and 442.

5.33% of users recorded "999" for the area from which their red willow used in construction was collected. Their portion accounted for 25.59% of overall local red willow used in construction.

1.74% of users did not provide an area where their red willow used in construction was collected. Their portion accounted for 1.57% of overall local red willow used in construction.

Section 6.2.2: Gray Willow

Question: *Did (you/SUBJECT) ever put the gray willow in (your/his/her) mouth when working with it?*

Of the 9 people who used gray willow in construction, 54.39% (5 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use gray willow when building large structures or objects?*

Question: *On the days (you/SUBJECT) worked with gray willow, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used gray willow in construction worked with the material for fewer than 10 days over the past year, for 1-3 hours at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using gray willow for construction did so for a total of 10 hours last year.

Question: *Please look at this map and mark the areas where the gray willow came from the local area.*

Zones contributing to the reservation's local gray willow used in construction are listed in Table 41 below.

Table 41: Locations contributing to gray willow used for construction.

Zone	Description	Percentage of Gray Willow
291	In or between Nespelem and Gold Lake	88.60%
300	Near Owhi Lake	11.40%

Section 6.2.3: Green willow

Question: *Did (you/SUBJECT) ever put the green willow in (your/his/her) mouth when working with it?*

Of the 50 people who used green willow in construction, which excludes 5 people who initially indicated they used green willow in construction but didn't provide any further information about it, 26.92% (14 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use green willow when building large structures or objects?*

Of the people who used green willow in construction:

- 37.22% worked with green willow fewer than 10 days over the past year
- 55.13% worked with green willow 10-30 days over the past year
- 7.64% worked with green willow 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with green willow, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used green willow in construction:

- 17.67% worked with green willow for less than an hour at a time
- 19.55% worked with green willow for 1-3 hours at a time
- 55.13% worked with green willow for 4-7 hours at a time
- 7.64% worked with green willow for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using green willow for construction did so for a total of 106.54 hours last year.

Question: *Please look at this map and mark the areas where the green willow came from the local area.*

Zones contributing more than 1% to the reservation's local green willow used in construction are listed in Table 42 below.

Table 42: Locations contributing to green willow used for construction.

Zone	Description	Percentage of Green Willow
223	Near Omak Creek or Swimptkin Creek	4.95%
291	In or between Nespelem and Gold Lake	1.71%

Zones accounting for less than 1% of local green willow used in construction are, in descending order, 180, 452, 292, 233 and 300. 7.64% of users recorded "999" for the area from which their green willow used in construction was collected. Their portion accounted for 53.81% of overall local green willow used in construction. 37.74% of green willow used was recorded as coming from zone 273, which is not a valid code.

Section 6.2.4: Reed Canary Grass

Question: *Did (you/SUBJECT) ever put the reed canary grass in (your/his/her) mouth when working with it?*

Question: *Over the past 12 months, how many days did (you/SUBJECT) use reed canary grass when building large structures or objects?*

Question: *On the days (you/SUBJECT) worked with reed canary grass, how many hours per day did (you/he/she) usually spend working with it?*

Of the two people who used reed canary grass in construction, none used their mouths when working with the material. All people worked with reed canary grass fewer than 10 days over the past year for between 1 and 3 hours per day.

Based on the number of days and hours per day he or she spent working with the material, the average resident using reed canary grass for construction did so for a total of 10 hours last year.

Question: *Please look at this map and mark the areas where the reed canary grass came from the local area.*

Zones contributing to the reservation's local reed canary grass used in construction are listed in Table 43 below.

Table 43: Locations contributing to reed canary grass used for construction.

Zone	Description	Percentage of Reed Canary Grass
423	Near Lynx Creek	25.00%
421	Near Hall Creek or Sitdown Creek	25.00%
431	Twin Lakes or nearby	25.00%
442	South of Inchelium near Lake Roosevelt	25.00%

Section 6.2.5: Tule

Question: *Did (you/SUBJECT) ever put the tule in (your/his/her) mouth when working with it?*

Of the 36 people who used tule in construction, including 28 people who initially indicated not using tule, but then provided information about tule, and excluding 4 people who initially indicated using tule, but did not provide information about tule, 7.10% (3 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use tule when building large structures or objects?*

Of the people who used tule in construction:

- 25.16% worked with tule fewer than 10 days over the past year
- 74.84% worked with tule 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with tule, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used tule in construction:

- 6.57% worked with tule for 1-3 hours at a time
- 93.43% worked with tule for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using tule for construction did so for a total of 67.51 hours last year.

Question: *Please look at this map and mark the areas where the tule came from the local area.*

Zones contributing to the reservation's local tule used in construction are listed in Table 44 below.

Table 44: Locations contributing to tule used for construction.

Zone	Description	Percentage of Tule
291	In or between Nespelem and Gold Lake	91.46%
231	Around Omak Lake	7.57%
422	Near Hall Creek and Barnaby Creek	0.97%

Section 6.2.6: Bunchgrass

Question: *Did (you/SUBJECT) ever put the bunchgrass in (your/his/her) mouth when working with it?*

Question: *Over the past 12 months, how many days did (you/SUBJECT) use bunchgrass when building large structures or objects?*

Question: *On the days (you/SUBJECT) worked with bunchgrass, how many hours per day did (you/he/she) usually spend working with it?*

Both of the 2 people who used bunchgrass in construction (28 people who initially indicated using bunchgrass but didn't provide information about it were excluded) used their mouths when working with the material, and worked with bunchgrass fewer than 10 days over the past year for less than an hour at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using bunchgrass for construction did so for a total of 2.50 hours last year.

Question: *Please look at this map and mark the areas where the bunchgrass came from the local area.*

Zones contributing to the reservation's local bunchgrass used in construction are listed in Table 45 below.

Table 45: Locations contributing to bunchgrass used for construction.

Zone	Description	Percentage of Bunchgrass
421	Near Hall Creek or Sitdown Creek	25.00%
423	Near Lynx Creek	25.00%
431	Twin Lakes or nearby	25.00%
442	South of Inchelium near Lake Roosevelt	25.00%

Section 6.2.7: Cattails

Question: *Did (you/SUBJECT) ever put the cattails in (your/his/her) mouth when working with it?*

Of the 4 people who used cattails in construction, all used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use cattails when building large structures or objects?*

Of the people who used cattails in construction:

- 41.61% worked with cattails fewer than 10 days over the past year
- 58.39% worked with cattails 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with cattails, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cattails in construction:

- 41.61% worked with cattails for less than an hour at a time
- 58.39% worked with cattails for 1-3 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cattails for construction did so for a total of 49.21 hours last year.

Question: *Please look at this map and mark the areas where the cattails came from the local area.*

Zone 422 (near Hall Creek or Barnaby Creek) accounted for 97.89% of local cattails used in construction. Zones each accounting for less than 1% of local cattails used in construction are 421, 423, 431, and 442.

Section 6.2.8: Birch Bark

Question: *Did (you/SUBJECT) ever put the birch bark in (your/his/her) mouth when working with it?*

Of the 15 people who used birch bark in construction, 14.08% (2 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use birch bark when building large structures or objects?*

All of the people who used birch bark in construction worked with the material for fewer than 10 days over the past year.

Question: *On the days (you/SUBJECT) worked with birch bark, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used birch bark in construction:

- 14.08% worked with birch bark for less than an hour at a time
- 85.92% indicated they did not know how many hours per day they spent.

Based on the number of days and hours per day he or she spent working with the material, the average resident using birch bark for construction did so for a total of 2.50 hours last year.

Question: *Please look at this map and mark the areas where the birch bark came from the local area.*

The only zone reported as a source for local birch bark used in construction by users who also reported their use frequency was 422 (near Hall Creek or Barnaby Creek).

As 85.40% of users did not provide information about the hours spent working with birch bark, their use could not be accurately included in the locations contributing to birch bark used by reservation residents for construction. However, these users did indicate that they sourced their birch bark from zone 382 (near the mouth of the San Poil River).

Section 6.2.9: Cedar Bark

Question: *Did (you/SUBJECT) ever put the cedar bark in (your/his/her) mouth when working with it?*

Of the 42 people who used cedar bark in construction, 13.05% (5 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use cedar bark when building large structures or objects?*

Of the people who used cedar bark in construction:

- 95.10% worked with cedar bark fewer than 10 days over the past year
- 4.90% worked with cedar bark 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with cedar bark, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cedar bark in construction:

- 91.99% worked with cedar bark for 1-3 hours at a time
- 8.01% worked with cedar bark for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar bark for construction did so for a total of 12.38 hours last year.

Question: *Please look at this map and mark the areas where the cedar bark came from the local area.*

Zones contributing to the reservation's local cedar bark used in construction are listed in Table 46.

Table 46: Locations contributing to cedar bark used for construction.

Zone	Description	Percentage of Cedar Bark
170	North of Omak	57.36%
422	Lakes or creeks near Hall Creek and Barnaby Creek	14.79%
421	Near Hall Creek or Sitdown Creek	5.94%
281	Near Haden Creek or Last Creek	4.13%

8.0% of users recorded "999" for the area from which their cedar bark used in construction was collected. Their portion accounted for 17.79% of overall local cedar bark used in construction.

Section 6.2.10: Cedar Root

Question: *Did (you/SUBJECT) ever put the cedar root in (your/his/her) mouth when working with it?*

Of the 8 people who used cedar root in construction, 66.22% (5 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use cedar root when building large structures or objects?*

All of the people who used cedar root in construction worked with the material for fewer than 10 days over the past year.

Question: *On the days (you/SUBJECT) worked with cedar root, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cedar root in construction:

- 20.52% worked with cedar root for less than an hour at a time
- 79.48% worked with cedar root for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar root for construction did so for a total of 21.99 hours last year.

Question: *Please look at this map and mark the areas where the cedar root came from the local area.*

Zone 431 (Twin Lakes or nearby) accounted for 42.83% of local cedar root used in construction. Zones each accounting for less than 1% of local cedar root used in construction are 421, 423, and 442.

45.71% of users recorded "999" for the area from which their cedar root used in construction was collected. Their portion accounted for 57.17% of overall local cedar root used in construction.

Section 6.2.11: Sumac

Question: *Did (you/SUBJECT) ever put the red willow in (your/his/her) mouth when working with it?*

Of the 4 people who used sumac in construction, none used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use sumac when building large structures or objects?*

Question: *On the days (you/SUBJECT) worked with sumac, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used sumac in construction worked with the material for fewer than 10 days over the past year for 1-3 hours at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using sumac for construction did so for a total of 10 hours last year.

Question: *Please look at this map and mark the areas where the sumac came from the local area.*

All users recorded "999" for the area from which their sumac used in construction was collected.

Section 6.2.12: Indian Hemp

Question: *Did (you/SUBJECT) ever put the Indian hemp in (your/his/her) mouth when working with it?*

Of the 32 people who used Indian hemp in construction, none used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use Indian hemp when building large structures or objects?*

Of the people who used Indian hemp in construction:

- 12.33% worked with Indian hemp fewer than 10 days over the past year
- 87.66% worked with Indian hemp 10-30 days over the past year

Question: *On the days (you/SUBJECT) worked with Indian hemp, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used Indian hemp in construction:

- 12.33% worked with Indian hemp for 1-3 hours at a time
- 87.66% worked with Indian hemp for 4-7 hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using Indian hemp for construction did so for a total of 73.56 hours last year.

Question: *Please look at this map and mark the areas where the Indian hemp came from the local area.*

Zone 291 (in or between Nespelem and Gold Lake) accounted for 98.70% of local Indian hemp used in construction.

12.33% of users recorded "999" for the area from which their Indian hemp used in construction was collected. Their portion accounted for 1.68% of overall local Indian hemp used in construction.

Section 6.2.13: Wild Rose

Question: *Did (you/SUBJECT) ever put the wild rose in (your/his/her) mouth when working with it?*

Of the 54 people who used wild rose in construction, excluding 5 people who initially said they used wild rose but did not provide information about it, 7.10% (4 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use wild rose when building large structures or objects?*

Of the people who used wild rose in construction:

- 92.90% worked with wild rose fewer than 10 days over the past year
- 7.10% worked with wild rose 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with wild rose, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used wild rose in construction:

- 24.78% worked with wild rose for less than an hour at a time
- 4.97% worked with wild rose for 1-3 hours at a time
- 39.23% worked with wild rose for 4-7 hours at a time
- 7.10% worked with wild rose for 8 or more hours at a time
- 23.93% indicated they didn't know how many hours they worked with wild rose per day.

Based on the number of days and hours per day he or she spent working with the material, the average resident using wild rose for construction did so for a total of 85.67 hours last year.

Question: *Please look at this map and mark the areas where the wild rose came from the local area.*

Zone 232 (between Omak Lake and Nespelem) accounted for 16.55% of local wild rose used in construction. Zones or river reaches each accounting for less than 1% of local wild rose used in construction are, in descending order: 300, 291, R8, 292, and 233.

7.10% of users recorded "999" for the area from which their wild rose used in construction was collected. Their portion accounted for 81.74% of overall local wild rose used in construction.

The 23.93% of users who did not know how many hours per day they spent working with wild rose could not be accounted for in the calculation of locations contributing to wild rose used for construction. These users sourced their wild rose from zone 382 (near the mouth of the San Poil River).

Section 6.2.14: Ocean Spray

Question: *Did (you/SUBJECT) ever put the ocean spray in (your/his/her) mouth when working with it?*

Of the 3 people who used ocean spray in construction, none used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use ocean spray when building large structures or objects?*

Question: *On the days (you/SUBJECT) worked with ocean spray, how many hours per day did (you/he/she) usually spend working with it?*

All of the people who used ocean spray in construction worked with the material for fewer than 10 days over the past year for 4-7 hours at a time.

Based on the number of days and hours per day he or she spent working with the material, the average resident using ocean spray for construction did so for a total of 27.50 hours last year.

Question: *Please look at this map and mark the areas where the ocean spray came from the local area.*

Zone 431 (Twin Lakes or nearby) accounted for 100% of local ocean spray used in construction.

Section 6.2.15: Pine Needles

Question: *Did (you/SUBJECT) ever put the pine needles in (your/his/her) mouth when working with it?*

Of the 54 people who used pine needles in construction, which excludes 5 people who initially indicated they used pine needles in construction but didn't provide any information about it, 13.19% (8 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use pine needles when building large structures or objects?*

Of the people who used pine needles in construction:

- 42.28% worked with pine needles fewer than 10 days over the past year
- 50.69% worked with pine needles 10-30 days over the past year
- 7.03% worked with pine needles 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with pine needles, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used pine needles in construction:

- 7.86% worked with pine needles for less than an hour at a time
- 28.27% worked with pine needles for 1-3 hours at a time
- 56.853% worked with pine needles for 4-7 hours at a time
- 7.03% worked with pine needles for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using pine needles for construction did so for a total of 99.25 hours last year.

Question: *Please look at this map and mark the areas where the pine needles came from the local area.*

Zones contributing more than 2% to the reservation's local pine needles used in construction are listed in Table 47 below.

Table 47: Locations contributing to pine needles used for construction.

Zone	Description	Percentage of Pine Needles
291	In or between Nespelem and Gold Lake	42.14%
300	Near Owhi Lake	2.34%

Zones each accounting for less than 1% of local pine needles used in construction are, in descending order: 382 and 223.

7.17% of users recorded "999" for the area from which their pine needles used in construction were collected. Their portion accounted for 47.30% of overall local pine needles used in construction.

Section 6.2.16: Cottonwood

Question: *Did (you/SUBJECT) ever put the cottonwood in (your/his/her) mouth when working with it?*

Of the 49 people who used cottonwood in construction, 4.51% (3 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use cottonwood when building large structures or objects?*

Of the people who used cottonwood in construction:

- 81.43% worked with cottonwood fewer than 10 days over the past year
- 4.29% worked with cottonwood 10-30 days over the past year
- 14.281% worked with cottonwood 31-60 days over the past year

Question: *On the days (you/SUBJECT) worked with cottonwood, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cottonwood in construction:

- 7.77% worked with cottonwood for less than an hour at a time
- 46.93% worked with cottonwood for 1-3 hours at a time
- 19.13% worked with cottonwood for 4-7 hours at a time
- 26.17% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using cottonwood for construction did so for a total of 57.46 hours last year.

Question: *Please look at this map and mark the areas where the cottonwood came from the local area.*

Zones contributing more than 1% to the reservation’s local cottonwood used in construction are listed in Table 48 below.

Table 48: Locations contributing to cottonwood used for construction.

Zone	Description	Percentage of Cottonwood
170	North of Omak	83.31%
300	Near Owhi Lake	9.33%
422	Near Hall Creek and Barnaby Creek	3.03%

Zones each accounting for less than 1% of local cottonwood used in construction are, in descending order: 291, 421, 423, 431, and 442.

4.85% of users recorded “999” for the area from which their cottonwood used in construction was collected. Their portion accounted for 3.14% of overall local cottonwood used in construction.

The 26.17% of users who did not know how many hours per day they worked with cottonwood could not be accurately accounted for in the calculation of locations contributing to cottonwood used by reservation residents for construction. These users did, however, indicate they sourced their cottonwood from zone 382 (near the mouth of the San Poil River).

Section 6.2.17: Fir

Question: *Did (you/SUBJECT) ever put the fir in (your/his/her) mouth when working with it?*

Of the 179 people who used fir in construction, which excludes 10 people who initially indicated they used fir but provided no further information about it, 7.65%(14 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use fir when building large structures or objects?*

Of the people who used fir in construction:

- 40.60% worked with fir fewer than 10 days over the past year
- 52.07% worked with fir 10-30 days over the past year
- 1.51% worked with fir 31-60 days over the past year
- 4.68% worked with fir 61-90 days over the past year
- 1.40% worked with fir more than 90 days over the past year

Question: *On the days (you/SUBJECT) worked with fir, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used fir in construction:

- 8.54% worked with fir for less than an hour at a time
- 45.53% worked with fir for 1-3 hours at a time
- 18.40% worked with fir for 4-7 hours at a time
- 20.39% worked with fir for 8 or more hours at a time
- 7.14% indicated they did not know how many hours per day they worked with fir.

Based on the number of days and hours per day he or she spent working with the material, the average resident using fir for construction did so for a total of 87.93 hours last year.

Question: *Please look at this map and mark the areas where the fir came from the local area.*

Zones contributing more than 8% to the reservation's local fir used in construction are listed in Table 49 below.

Table 49: Locations contributing to fir used for construction.

Zone	Description	Percentage of Fir
281	Near Haden Creek or Last Creek	19.96%
291	In or between Nespelem and Gold Lake	18.04%
382	Mouth of the San Poil River or nearby creeks	8.21%

Zones each accounting for 1-3% of local fir used in construction are, in descending order: 422 (lakes or creeks near Hall Creek and Barnaby Creek), 421 (near Hall Creek or Sitdown Creek), 282 (north of Gold

Lake), and 300 (near Owhi Lake). Zones each accounting for less than 0.3% are, in descending order: 120, 442, 223, 233, 292, 432, 423, and 431.

10.56% of users recorded "999" for the area from which their fir used in construction was collected. Their portion accounted for 21.43% of overall local fir used in construction.

2.56% of users did not provide an area where the fir came from. Their portion accounted for 21.86% of overall local fir used in construction.

The 7.14% of users who did not know how many hours per day they spent working with fir could not be accurately accounted for in the calculation of locations contributing to fir used by reservation residents for construction. These users did, however, indicate they sourced their fir from zone 382 (near the mouth of the San Poil River).

Section 6.2.18: Maple

Question: *Did (you/SUBJECT) ever put the maple in (your/his/her) mouth when working with it?*

Of the 15 people who used maple in construction, 14.08% (3 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use maple when building large structures or objects?*

All of the people who used maple in construction worked with the material for fewer than 10 days over the past year.

Question: *On the days (you/SUBJECT) worked with maple, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used maple in construction:

- 14.08% worked with maple for 1-3 hours at a time
- 85.92% indicated they didn't know how many hours per day they spent working with maple.

Based on the number of days and hours per day he or she spent working with the material, the average resident using maple for construction did so for a total of 10 hours last year.

Question: *Please look at this map and mark the areas where the maple came from the local area.*

Zone 422 (near Hall Creek or Barnaby Creek) accounted for 100% of local maple used in construction.

The 85.92% of users who didn't know how many hours per day they spent working with maple could not be accurately accounted for in the calculation of locations contributing to maple used by reservation residents for construction. Those users did, however, indicate they sourced their maple from zone 382 (near the mouth of the San Poil River).

Section 6.2.19: Cedar

Question: *Did (you/SUBJECT) ever put the cedar in (your/his/her) mouth when working with it?*

Of the 68 people who used cedar in construction, 31.48% (20 people) definitely used their mouths when working with the material and 3.58% did not know whether they had used their mouths.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use cedar when building large structures or objects?*

Of the people who used cedar in construction:

- 43.62% worked with cedar fewer than 10 days over the past year
- 33.51% worked with cedar 10-30 days over the past year
- 10.38% worked with cedar 31-60 days over the past year
- 12.48% worked with cedar 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with cedar, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used cedar in construction:

- 11.96% worked with cedar for less than an hour at a time
- 35.14% worked with cedar for 1-3 hours at a time
- 21.39% worked with cedar for 4-7 hours at a time
- 12.48% worked with cedar for 8 or more hours at a time
- 15.01% indicated they did not know how many hours per day they worked with cedar.

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar for construction did so for a total of 129.05 hours last year.

Question: *Please look at this map and mark the areas where the cedar came from the local area.*

Zone 422 (near Hall Creek or Barnaby Creek) accounted for 2.11% of local cedar used in construction.

Zones each accounting for less than 1% of local cedar used in construction are, in descending order: 421, 432, 441, 451, 423, 431, 442, 292, and 291.

28.48% of users recorded “999” for the area from which their cedar used in construction was collected. Their portion accounted for 55.54% of overall local cedar used in construction.

6.83% of users did not provide an area where their local cedar used in construction was collected. Their portion accounted for 39.72% of overall local cedar used in construction.

The 19.03% of users who did not know how many hours per day they worked with cedar could not be used in calculation of locations contributing to cedar used by reservation residents for construction.

Those users did, however, indicate they sourced their cedar from zone 382 (near the mouth of the San Poil River).

Section 6.2.20: Juniper

Question: *Did (you/SUBJECT) ever put the juniper in (your/his/her) mouth when working with it?*

Of the 26 people who used juniper in construction, which excludes 5 who initially indicated they used juniper but provided no further information about it, no one used their mouths when working with it.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use juniper when building large structures or objects?*

All of the people who used juniper in construction worked with the material for fewer than 10 days over the past year.

Question: *On the days (you/SUBJECT) worked with juniper, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used juniper in construction:

- 49.56% worked with juniper for 1-3 hours at a time
- 50.44% indicated they didn't know how many hours per day they worked with juniper.

Based on the number of days and hours per day he or she spent working with the material, the average resident using juniper for construction did so for a total of 10 hours last year.

Question: *Please look at this map and mark the areas where the juniper came from the local area.*

Zone 300 (near Owhi Lake) accounted for 100% of local juniper used in construction.

The 50.44% of users who didn't know how many hours per day they worked with juniper could not be accurately accounted for in the calculation of locations contributing to juniper used by reservation residents for construction. Those users did indicate they sourced their juniper from zone 382 (near the mouth of the San Poil River).

Section 6.2.21: Lodgepole Pine

Question: *Did (you/SUBJECT) ever put the lodgepole pine in (your/his/her) mouth when working with it?*

Of the 297 people who used lodgepole pine in construction, which excludes 12 people who initially indicated using lodgepole pine but provided no further information about it, 11.58% (35 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use lodgepole pine when building large structures or objects?*

Of the people who used lodgepole pine in construction:

- 60.13% worked with lodgepole pine fewer than 10 days over the past year
- 37.79% worked with lodgepole pine 10-30 days over the past year
- 1.18% worked with lodgepole pine 31-60 days over the past year
- 0.89% worked with lodgepole pine 61-90 days over the past year

Question: *On the days (you/SUBJECT) worked with lodgepole pine, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used lodgepole pine in construction:

- 11.67% worked with lodgepole pine for less than an hour at a time
- 29.95% worked with lodgepole pine for 1-3 hours at a time
- 31.80% worked with lodgepole pine for 4-7 hours at a time
- 22.28% worked with lodgepole pine for 8 or more hours at a time
- 4.31% indicated they didn't know how many hours per day they worked with lodgepole pine.

Based on the number of days and hours per day he or she spent working with the material, the average resident using lodgepole pine for construction did so for a total of 45.41 hours last year.

Question: *Please look at this map and mark the areas where the lodgepole pine came from the local area.*

Zones contributing more than 5% to the reservation's local lodgepole pine used in construction are listed in Table 50 below.

Table 50: Locations contributing to lodgepole pine used for construction.

Zone	Description	Percentage of Lodgepole Pine
291	In or between Nespelem and Gold Lake	31.36%
311	Near Rebecca Lake or Buffalo Lake	17.52%
120	West of Okanogan	8.65%
281	Near Haden Creek or Lost Creek	8.53%
130	North of and near Brewster	6.98%

Zones each accounting for 1 - 5% of local lodgepole pine used in construction are, in descending order: 273 (not a valid code), 362 (near the west fork of the San Poil River next to the Colville Reservation boundary), 423 (near Lynx Creek), 412 (near Hall Creek just north of the Colville Reservation boundary), 422 (near Hall Creek and Barnaby Creek), 282 (north of Gold Lake), 432 (west of Inchelium), 300 (near Owhi Lake), and 441 (Wilmont Creek or nearby).

Zones each accounting for less than 1% of local lodgepole pine used in construction are, in descending order: 431, 292, 223, 413, 382, 421, 231, 232, 233 and 442.

19.21% of users recorded "999" for the area from which their lodgepole pine used in construction was collected. Their portion accounted for 13.22% of overall local lodgepole pine used in construction.

The 4.31% of users who didn't know how many hours per day they worked with lodgepole pine could not be accurately included in the calculation of locations contributing to lodgepole pine used by reservation residents for construction. Those users did indicate they sourced their lodgepole pine from zone 382 (near the mouth of the San Poil River).

Section 6.2.22: Tamarack

Question: *Did (you/SUBJECT) ever put the tamarack in (your/his/her) mouth when working with it?*

Of the 146 people who used tamarack in construction, which excludes 31 people who initially indicated they used tamarack but provided no further information, 16.76% (25 people) used their mouths when working with the material.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use tamarack when building large structures or objects?*

Of the people who used tamarack in construction:

- 54.09% worked with tamarack fewer than 10 days over the past year
- 39.52% worked with tamarack 10-30 days over the past year
- 2.41% worked with tamarack 31-60 days over the past year
- 1.82% worked with tamarack 61-90 days over the past year
- 2.16% worked with tamarack more than 90 days over the past year.

Question: *On the days (you/SUBJECT) worked with tamarack, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used tamarack in construction:

- 7.45% worked with tamarack for less than an hour at a time
- 46.69% worked with tamarack for 1-3 hours at a time
- 4.64% worked with tamarack for 4-7 hours at a time
- 32.13% worked with tamarack for 8 or more hours at a time
- 8.79% indicated they didn't know how many hours per day they worked with tamarack.

Based on the number of days and hours per day he or she spent working with the material, the average resident using tamarack for construction did so for a total of 82.93 hours last year.

Question: *Please look at this map and mark the areas where the tamarack came from the local area.*

Zones contributing more than 5% to the reservation's local tamarack used in construction are listed in Table 51 below.

Table 51: Locations contributing to tamarack used for construction.

Zone	Description	Percentage of Tamarack
421	Nar Hall Creek or Sitdown Creek	51.55%
281	Near Haden Creek or Last Creek	10.30%
120	West of Okanogan	10.13%
382	Near the mouth of the San Poil River	7.62%

Zones or river reaches each accounting for 1-5% of local tamarack used in construction are, in descending order: 291 (in or between Nespalem and Gold Lake), 282 (north of Gold Lake), and 300 (near Owhi Lake).

Zones each accounting for less than 1% of local tamarack used in construction are, in descending order: 431, 422, 441, 423, 432, and 223.

8.91% of users recorded "999" for the area from which their tamarack used in construction was collected. Their portion accounted for 4.37% of overall local tamarack used in construction.

The 8.79% of users who didn't know how many hours per day they worked with tamarack could not be accurately included in the calculation of locations contributing to tamarack used by reservation residents for construction. Those users did indicate they sourced their tamarack from zone 382 (near the mouth of the San Poil River).

Section 6.2.23: Other Material – Pine and Ponderosa Pine

Of the 150 people who used other material in construction, which excludes 9 people who initially indicated they used other materials but provided no further information, 50.35% (69 people) indicated using pine and an additional 8.69% (12 people) indicated using ponderosa pine. Thus, a total of 81 people indicated using pine and ponderosa pine when asked if they used any other materials in construction. Data regarding other materials used less frequently are not presented here.

Question: *Did (you/SUBJECT) ever put the other material in (your/his/her) mouth when working with it?*

Of the 81 people who used pine or ponderosa pine as other material in construction 27.68% (23 people) used their mouths when working with one of the materials.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use other material when building large structures or objects?*

Of the people who used pine or ponderosa pine as other material in construction:

- 79.14% worked with it fewer than 10 days over the past year
- 12.19% worked with it 10-30 days over the past year
- 8.66% worked with it 31-60 days over the past year

Question: *On the days (you/SUBJECT) worked with other material, how many hours per day did (you/he/she) usually spend working with it?*

Of the people who used pine or ponderosa pine as other material in construction:

- 48.48% worked with other material for 1-3 hours at a time
- 23.84% worked with other material for 4-7 hours at a time
- 27.68% worked with other material for 8 or more hours at a time

Based on the number of days and hours per day he or she spent working with the material, the average resident using other material for construction did so for a total of 51.01 hours last year.

Question: *Please look at this map and mark the areas where the material came from the local area.*

Zones contributing to the reservation's local pine or Ponderosa pine used in construction are listed in Table 52 below.

Table 52: Locations contributing to pine or Ponderosa pine used for construction.

Zone	Description	Percentage of Pine/ Ponderosa pine
222	Near Omak Creek or Haley Creek	42.04%
120	West of Okanogan	27.13%
374	Near the San Poil River or Bridge Creek	19.72%
422	Near Hall Creek or Barnaby Creek	2.48%
311	Rebecca Lake, Buffalo Lake, or nearby	2.48%

Section 7: Materials for Sweat Lodges

Question: *The next questions are about (your/SUBJECT's) use of sweat lodges and any materials used during the sweat. (IF NEEDED:) Please do not include any materials we may have already discussed that were used during the construction of the sweat lodge.*

Over the past 12 months, did (you/SUBJECT) participate in any sweat lodge ceremonies?

Percentage of reservation population who participated in sweat lodges last year:

- Yes: 11.81% (559 people)
- No: 88.19%

Question: *Did any of the natural materials that were burned or added to the steam come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 501 people who participated in sweat lodges, the following used local resources:

- Yes: 92.74% (518 people)
- No: 4.11%
- Don't know: 3.15%

Question: *Now I'm going to ask you about different materials that are sometimes used during a sweat, including natural materials that are added to the steam or burned to breathe the smoke. Over the past 12 months, did (you/SUBJECT) prepare or use any of the following during the sweat?*

The materials used by the 518 people who participated in sweat lodges using local resources in the last year are listed below in Table 53.

Table 53: Sweat lodge materials sorted by percent of people who use each type.

Material	Percentage of People Using	Average Use Frequency (hours per year)
Water	99.01%	93.66
Cedar	77.04%	115.09
Sages	72.20%	137.45
Fir	40.39%	147.65
Bunchgrass	25.59%	334.37
Lavender	22.15%	120.66

“Other materials” were reported by 50.58% of the 518 people who participated in sweat lodges using local resources. These materials include:

- 17.51% used juniper
- 16.17% used sweetgrass
- 15.80% used bear root
- 8.23% used rose petals
- 8.16% used white sage

- 6.93% used rose hips
- 5.33% used roses
- Less than 5% of users used the following, in descending order: tule, mullein, yew, cedar boughs, mint, willow, husk, tamarack, huss huss, Canby’s lovage, rosewater (bush), bitterroot, rosewater, and pitch.

Section 7.1: Water

Question: *Over the past 12 months, how many days did (you/SUBJECT) use water during sweats?*

Of the 492 people who used water during sweats, excluding 20 people who inially indicated using water but provided no further information:

- 56.06% used water fewer than 10 days over the past year
- 31.39% used water 10-30 days over the past year
- 4.17% used water 31-60 days over the past year
- 2.05% used water 61-90 days over the past year
- 6.33% used water more than 90 days over the past year

Question: *On the days (you/SUBJECT) used water during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used water during sweats:

- 6.34% spent less than an hour in the sweat lodge
- 58.10% spent 1-3 hours in the sweat lodge
- 34.24% spent 4-7 hours in the sweat lodge
- 0.77% spent 8 or more hours in the sweat lodge
- 0.55% indicated they didn’t know how many hours they spent in the sweat lodge.

Based on the number of days and hours per day he or she spent working with the material, the average resident using water during sweats did so for a total of 93.66 hours last year.

Question: *Please look at this map and mark the areas where the water came from the local area.*

Zones or river reaches contributing more than 6% to the reservation’s local water for sweats are listed in Table 54 below.

Table 54: Locations contributing to water used for sweats.

Zone or River Reach	Description	Percentage of Water
233	Near Coyote Creek	59.84%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	8.25%
222	Near Omak Creek or Haley Creek	6.63%

Zones or river reaches each accounting for 1 - 4% of local water for sweats are, in descending order: 180 (southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River), 291 (in or between Nespelem and Gold Lake), 292 (north and west of Nespelem), 382 (near the mouth of the San Poil River), 300 (near Owhi Lake), R8 (Okanogan River between the Canadian Border and the Columbia River), 432 (west of Inchelium), 311 (near Rebecca Lake or Buffalo Lake), and 223 (near Omak Creek or Swimptkin Creek).

Zones or river reaches each accounting for less than 1% of local water for sweats are, in descending order: R5, 170, 422, 421, 442, 371, R10, 232, 431, and 423.

7.21% of users recorded "999" for the area from which their water for sweats was collected. Their portion accounted for 8.20% of overall local water for sweats.

2.40% of users did not provide an area where their water for sweats was collected. Their portion accounted for less 1.19% of overall local water for sweats.

The 0.55% of users who did not know how many hours per day they spent in the sweatlodge could not be accurately included in the calculation of locations contributing to water used by reservation residents for sweats. Those users did indicate, however, sourcing their sweatlodge water from zone 382.

Section 7.2: Bunchgrass

Question: *Over the past 12 months, how many days did (you/SUBJECT) use bunchgrass during sweats?*

Of the 127 people who used bunchgrass during sweats, which excludes 6 people who initially indicated using bunchgrass but provided no further information:

- 64.81% used bunchgrass fewer than 10 days over the past year
- 1.84% used bunchgrass 10-30 days over the past year
- 3.00% used bunchgrass 61-90 days over the past year
- 30.36% used bunchgrass more than 90 days over the past year

Question: *On the days (you/SUBJECT) used bunchgrass during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used bunchgrass during sweats:

- 5.50% spent less than an hour in the sweat lodge
- 34.18% spent 1-3 hours in the sweat lodge
- 57.32% spent 4-7 hours in the sweat lodge
- 3.00% spent 8 or more hours in the sweat lodge

Based on the number of days and hours per day he or she spent working with the material, the average resident using bunchgrass during sweats did so for a total of 334.37 hours last year.

Question: *Please look at this map and mark the areas where the bunchgrass came from the local area.*

Zone 382 (mouth of the San Poil River or nearby creeks) accounted for 25.55% of local bunchgrass for sweats. Zones each accounting for less than 2% of local bunchgrass for sweats are, in descending order, 170, 291, 223, 300, 180, and 233.

28.28% of users recorded "999" for the area from which their bunchgrass for sweats was collected. Their portion accounted for 71.36% of overall local bunchgrass for sweats.

Section 7.3: Fir

Question: *Over the past 12 months, how many days did (you/SUBJECT) use fir during sweats?*

Of the 204 people who used fir during sweats, which excludes 14 people who initially indicated they used fir but provided no further information:

- 31.50% used fir fewer than 10 days over the past year
- 46.71% used fir 10-30 days over the past year
- 8.18% used fir 31-60 days over the past year
- 1.85% used fir 61-90 days over the past year
- 7.03% used fir more than 90 days over the past year

Question: *On the days (you/SUBJECT) used fir during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used fir during sweats:

- 2.86% spent less than an hour in the sweat lodge
- 72.93% spent 1-3 hours in the sweat lodge
- 12.33% spent 4-7 hours in the sweat lodge
- 7.14% spent 8 or more hours in the sweat lodge

Based on the number of days and hours per day he or she spent working with the material, the average resident using fir during sweats did so for a total of 147.65 hours last year.

Question: *Please look at this map and mark the areas where the fir came from the local area.*

Zones contributing more than 2% to the reservation’s local fir for sweats are listed in Table 55 below.

Table 55: Locations contributing to fir used for sweats.

Zone	Description	Percentage of Fir
382	Mouth of the San Poil River or nearby creeks	65.97%
223	Near Omak Creek or Swimptkin Creek	10.30%
222	Near Omak Creek or Haley Creek	2.87%

Zones or river reaches each accounting for less than 1% of local fir for sweats are, in descending order: 291, 180, 233, 421, 422, 442, 170, 432, 431, R8, 300, and 292.

28.26% of users recorded “999” for the area from which their fir for sweats was collected. Their portion accounted for 15.27% of overall local fir for sweats.

Section 7.4: Cedar

Question: *Over the past 12 months, how many days did (you/SUBJECT) use cedar during sweats?*

Of the 398 people who used cedar during sweats, which excludes 14 people who initially indicated they used cedar but provided no further information, and includes 16 people who didn't initially indicate they used cedar but provided further information about their use of the material:

- 38.93% used cedar fewer than 10 days over the past year
- 33.27% used cedar 10-30 days over the past year
- 4.50% used cedar 31-60 days over the past year
- 10.32% used cedar 61-90 days over the past year
- 2.71% used cedar more than 90 days over the past year
- 10.26% did not provide this information

Question: *On the days (you/SUBJECT) used cedar during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used cedar during sweats:

- 5.24% spent less than an hour in the sweat lodge
- 57.29% spent 1-3 hours in the sweat lodge
- 29.16% spent 4-7 hours in the sweat lodge
- 3.66% spent 8 or more hours in the sweat lodge
- 0.68% did not know how many hours per day they spent in the sweat lodge.
- 3.97% did not provide this information.

Based on the number of days and hours per day he or she spent working with the material, the average resident using cedar during sweats did so for a total of 115.09 hours last year.

Question: *Please look at this map and mark the areas where the cedar came from the local area.*

Zones contributing more than 2% to the reservation's local cedar for sweats are listed in Table 56 below.

Table 56: Locations contributing to cedar used for sweats.

Zone	Description	Percentage of Cedar
382	Mouth of the San Poil River or nearby creeks	44.27%
371	Near the San Poil River, 17 Mile Creek, or 21 Mile Creek	24.77%
432	West of Inchelium	2.79%
223	Near Omak Creek or Swimptkin Creek	2.71%
374	near the San Poil River or Bridge Creek	2.04%

Zones each accounting for 1 – 2% of local cedar for sweats are, in descending order: 222 (near Omak Creek or Haley Creek), 431 (Twin Lakes or nearby), and 170 (north of Omak).

Zones or river reaches each accounting for less than 1% of local cedar for sweats are, in descending order: 422, 180, 421, 423, 442, 291, R8, 242, 311, and 233.

24.47% of users recorded “999” for the area from which their cedar for sweats was collected. Their portion accounted for 13.45% of overall local cedar for sweats.

1.43% of users did not provide an area where their cedar for sweats was collected. Their portion accounted for 1.24% of overall local cedar for sweats.

The users who did not know how many days per year or hours per day they spent in the sweat lodge could not be accurately accounted for in the calculation of locations contributing to cedar used by reservation residents for sweats. These users did, however, indicate they sourced their cedar from zones 233, 291, and 382.

Section 7.5: Sages

Question: *Over the past 12 months, how many days did (you/SUBJECT) use sages during sweats?*

Of the 368 people who used sages during sweats, which excludes 44 people who initially indicated they used sage, but provided no further information, and including 2 people who didn't initially indicate they used sage but did provide further information about the material:

- 42.24% used sages fewer than 10 days over the past year
- 28.95% used sages 10-30 days over the past year
- 5.65% used sages 31-60 days over the past year
- 3.13% used sages 61-90 days over the past year
- 9.34% used sages more than 90 days over the past year

Question: *On the days (you/SUBJECT) used sages during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used sages during sweats:

- 3.21% spent less than an hour in the sweat lodge
- 49.05% spent 1-3 hours in the sweat lodge
- 33.16% spent 4-7 hours in the sweat lodge
- 3.16% spent 8 or more hours in the sweat lodge
- 0.73% did not know how many hours per day they spent in the sweat lodge.

Based on the number of days and hours per day he or she spent working with the material, the average resident using sages during sweats did so for a total of 137.45 hours last year.

Question: *Please look at this map and mark the areas where the sages came from the local area.*

Zones contributing more than 2% to the reservation's local sages for sweats are listed in Table 57 below.

Table 57: Locations contributing to sages used for sweats.

Zone	Description	Percentage of Sages
233	Near Coyote Creek	54.58%
382	Mouth of the San Poil River or nearby creeks	14.30%
222	Near Omak Creek or Haley Creek	4.29%
223	Near Omak Creek or Swimptkin Creek	2.35%

Zones or river reaches each accounting for less than 2% of local sages for sweats are, in descending order: 170, 311, 180, 271, 421, 300, 442, 461, 372, 422, 291, 431, R8, 432, 231, and 292

27.23% of users recorded "999" for the area from which their sages for sweats was collected. Their portion accounted for 11.55% of overall local sages for sweats.

4.29% of users did not provide an area where their sages for sweats were collected. Their portion accounted for 7.96% of overall local sages for sweats.

The 0.83% of users who did not know how many hours per day they spent in the sweat lodge could not be accurately included in the calculation of locations contributing to sages used by reservation residents for sweats. Those users indicated, however, that they sourced their sages from zone 382.

Section 7.6: Lavender

Question: *Over the past 12 months, how many days did (you/SUBJECT) use lavender during sweats?*

Of the 115 people who used lavender during sweats, which excludes 12 people who initially indicated using lavender but provided no further information, and includes 12 people who did not initially indicate using lavender but did provide further information about it:

- 58.02% used lavender fewer than 10 days over the past year
- 5.13% used lavender 10-30 days over the past year
- 4.39% used lavender 31-60 days over the past year
- 24.03% used lavender 61-90 days over the past year

Question: *On the days (you/SUBJECT) used lavender during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used lavender during sweats:

- 3.08% spent less than an hour in the sweat lodge
- 15.39% spent 1-3 hours in the sweat lodge
- 73.10% spent 4-7 hours in the sweat lodge

Based on the number of days and hours per day he or she spent working with the material, the average resident using lavender during sweats did so for a total of 120.66 hours last year.

Question: *Please look at this map and mark the areas where the lavender came from the local area.*

Zones contributing more than 1% to the reservation's local lavender for sweats are listed in Table 58 below.

Table 58: Locations contributing to lavender used for sweats.

Zone	Description	Percentage of Lavender
170	North of Omak	84.09%
223	near Omak Creek or Swimptkin Creek	3.99%
382	Near the mouth of the San Poil River	3.14%
422	Near Hall Creek and Barnaby Creek	1.35%
160	Near Tonasket, between Loomis and the Reservation north boundary	1.29%
421	Near Hall Creek or Sitdown Creek	1.16%

Zones each accounting for less than 1% of local lavender for sweats are, in descending order, 291, 432, 423, 292, and 300.

21.35% of users recorded "999" for the area from which their lavender for sweats was collected. Their portion accounted for 4.50% of overall local lavender for sweats.

Section 7.7: Other Material

Of the 518 people who participate in sweat lodges with local materials, 50.58% (262 people) reported using materials other than those listed in the questionnaire. The materials listed and percentage of people using them were:

- 17.51% used juniper
- 16.17% used sweetgrass
- 15.80% used bear root
- 8.23% used rose petals
- 8.16% used white sage
- 6.93% used rose hips
- 5.33% used roses
- Less than 5% of users used the following, in descending order: tulle, mullein, yew, cedar bows, mint, willow, husk, tamarack, huss huss, Canby's lovage, rosewater (bush), bitterroot, rosewater, and pitch.

These materials are grouped together for the statistics provided below.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use "other material" during sweats?*

Of the 262 people who used "other material" during sweats, which excludes 45 people who initially indicated using "other material" but provided no further information:

- 25.67% used "other material" fewer than 10 days over the past year
- 27.69% used "other material" 10-30 days over the past year
- 33.90% used "other material" 61-90 days over the past year
- 11.12% used "other material" more than 90 days over the past year
- 1.56% did not provide this information

Question: *On the days (you/SUBJECT) used "other material" during sweats, how many hours did (you/he/she) usually spend in the sweat lodge?*

Of the people who used "other material" during sweats:

- 33.56% spent 1-3 hours in the sweat lodge
- 57.82% spent 4-7 hours in the sweat lodge
- 7.00% spent 8 or more hours in the sweat lodge
- 1.61% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using "other material" during sweats did so for a total of 316.19 hours last year.

Question: Please look at this map and mark the areas where the “other material” came from the local area.

Zones contributing more than 6% to the reservation’s local “other material” for sweats are listed in Table 59 below.

Table 59: Locations contributing to “other material” used for sweats.

Zone	Description	Percentage of “other material”
382	Near the mouth of the San Poil River	53.33%
211	East of the Okanogan River near Siwash Creek or Peony Creek	27.40%
623	South of the Spokane River near Tamarack Canyon or Spring Creek	6.85%
630	South of the Spokane River east of Route 231	6.85%

Zones each accounting for less than 1% of local “other material” for sweats are, in descending order: 170, 421, 300, 233, 422, 223, 442, 291, 292, 431, 364, and 432.

19.61% of users recorded “999” for the area from which their “other material” for sweats was collected. Their portion accounted for 2.30% of overall local “other material” for sweats.

1.24% of users did not provide an area where their “other material” for sweats was collected. Their portion accounted for 0.57% of overall local “other material” for sweats.

1.56% of users did not provide days per year or hours per day spent in sweat lodges. These users could not be accurately included in the calculation of locations contributing to “other material” used by reservation residents for sweats. Those users did, however, indicate sourcing their “other material” from zone 432 (west of Inchelium).

Section 8: Materials for Medicinal, Spiritual, or Traditional Practices

Question: *The next questions are about medicinal, spiritual or traditional practices. Over the past 12 months, did (you/SUBJECT) swallow, apply to (your/his/her) skin, smudge or breathe in anything prepared from plants, flowers, berries or other materials to prevent or cure illnesses or disease? This could be as part of a ceremony or for purification, but please do not include the materials for uses we may have already discussed or anything that was eaten as food.*

Percentage of reservation population who used natural materials for medicinal, spiritual or traditional practices in the last year:

- Yes: 31.69% (1,499 people)
- No: 67.01%
- Don't know: 1.30%

Question: *Did any of the natural materials that (you/SUBJECT) used for this purpose come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 1,499 people who used natural materials for medicinal, spiritual or traditional practices, 76.91% (1,153 people) used local resources and 17.78% were unsure whether they used local resources.

Question: *Now I'm going to ask (you/SUBJECT) about different materials that are sometimes used for medicinal, spiritual or traditional practices. Over the past 12 months, did (you/he/she) prepare or use any of the following for any medicinal, spiritual or traditional purposes?*

Percentages of the 1,153 people who prepared or used the following local materials for medicinal, spiritual or traditional practices in the last year:

- Sages: 77.46%
- Cedar: 55.36%
- Wild Rose: 20.85%
- Juniper: 16.35%
- Kinnikinick: 14.98%
- Wild Mint or Bergamot: 10.90%
- Red Willow: 4.59%
- Stinging Nettle: 3.99%
- Mullein: 2.99%
- Wild Onion: 2.17%
- Arnica: 2.10%
- Canby's Lovage: 1.46%
- Frog Leaves: 1.54%
- Sumac: 1.44%
- Skunk Cabbage: 0.62%
- Wild Thistle: 0.61%

- Rattlesnake Plantain: 0.58%
- Other materials:
 - 9.12% indicated sweetgrass,
 - 1.87% indicated aloe vera
 - 1.24% indicated yarrow
 - 1.27% indicated indian celery
 - 1.05% indicated tamarack
 - Less than 1% indicated the following, in descending order: lavender, Oregon grape, butterbur, licorice, comfrey, elderberry, camas, prairie tea, marijuana, rose hips, cattails, planten, Indian hemp, fir boughs, blood medicine, unknown Indian medicine, buckbrush, huss huss, and jute.

The following sections give information about the use of each material. Because the questions are standardized to elicit information on a wide variety of plant materials, in some cases the questions do not apply to the specific material about which the question is being asked.

For medicinal, spiritual or traditional practices, frequency of use was not assessed by this survey instrument.

Section 8.1: Red Willow

Question: *Did (you/SUBJECT) use the seeds or berries of the red willow?*

Question: *How did (you/he/she) use them?*

Of the 53 people who used red willow for medicinal, spiritual or traditional practices, 6.63% (4 people) used the seeds or berries and 4.54% were unsure whether they had used the seeds and berries. All of the people who used red willow seeds or berries for medicinal, spiritual or traditional practices took them by mouth.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the red willow?*

Question: *How did (you/he/she) use them?*

Of the 53 people who used red willow for medicinal, spiritual or traditional practices, 93.28% (50 people) used the flowers, leaves, stem or bark and the remaining 6.72% did not provide an answer regarding whether they had used the flowers, leaves, stem or bark.

The 50 people who used red willow flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 27.94% took them by mouth
- 37.79% applied them to the skin
- 22.61% inhaled them by steam or smoke
- 19.58% used them for smudging
- 38.71% used them in a tea
- 17.11% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the red willow?*

Question: *How did (you/he/she) use them?*

Of the 53 people who used red willow for medicinal, spiritual or traditional practices, 6.63% (4 people) used the roots. 4.54% were unsure whether they had used the roots and 6.72% did not provide an answer to the question. All of the people who used red willow roots for medicinal, spiritual or traditional practices took them by mouth.

Question: *Please look at this map and mark the areas where the red willow came from the local area.*

Zones contributing more than 10% to the reservation's local red willow for medicinal, spiritual or traditional practices are listed in Table 60 below.

Table 60: Locations contributing to red willow used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Red Willow
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	17.79%
223	Near Omak Creek or Swimptkin Creek	14.72%
422	Near Hall Creek and Barnaby Creek	11.42%
233	Near Coyote Creek	12.63%
291	In or between Nespelem and Gold Lake	12.63%

Zones each accounting for 1-7% of local red willow for medicinal, spiritual or traditional practices are, in descending order: 211 (east of the Okanogan River near Siwash Creek or Peony Creek), 382 (near the mouth of the San Poil River), 232 (between Omak Lake and Nespelem), 374 (near the San Poil River or Bridge Creek), and 373 (near the San Poil River, between Gold Lake and Thirtymile Creek).

3.86% of users recorded “999” for the area from which their red willow for medicinal, spiritual or traditional practices was collected. Their portion accounted for 3.86% of overall local red willow for medicinal, spiritual or traditional practices.

6.72% of users did not provide an area where their red willow for medicinal, spiritual or traditional practices was collected.

Section 8.2: Sumac

Question: *Did (you/SUBJECT) use the seeds or berries of the sumac?*

Of the 17 people who used sumac for medicinal, spiritual or traditional practices, 63.52% (11 people) used the seeds or berries.

Question: *How did (you/he/she) use them?*

The 10 people who used sumac seeds or berries for medicinal, spiritual or traditional practices used them in the following way:

- 33.11% took them by mouth
- 66.89% used them in a tea

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the sumac?*

All of the 17 people who used sumac for medicinal, spiritual or traditional practices used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 17 people who used sumac flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 48.56% took them by mouth
- 27.53% applied them to the skin
- 27.53% inhaled them by steam or smoke
- 78.97% used them for smudging
- 27.53% used them in a tea

Question: *Did (you/SUBJECT) use the roots of the sumac?*

Question: *How did (you/he/she) use them?*

Of the 17 people who used sumac for medicinal, spiritual or traditional practices, 21.03% (4 people) used the roots, and all 4 people took the roots by mouth.

Question: *Please look at this map and mark the areas where the sumac came from the local area.*

Zones contributing to the reservation's local sumac for medicinal, spiritual or traditional practices are listed in Table 61 below.

Table 61: Locations contributing to sumac used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Sumac
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	42.49%
291	In or between Nespelem and Gold Lake	27.53%
211	East of the Okanogan River near Siwash Creek or Peony Creek	21.03%

8.95% of users recorded “999” for the area from which their sumac for medicinal, spiritual or traditional practices was collected.

Section 8.3: Wild Rose

Question: *Did (you/SUBJECT) use the seeds or berries of the wild rose?*

Of the 231 people who used wild rose for medicinal, spiritual or traditional practices, which excludes 11 people who initially indicated using wild rose but provided no further information, 40.44% (94 people) used the seeds or berries and 3.99% were unsure whether they used the seeds or berries.

Question: *How did (you/he/she) use them?*

The 94 people who used wild rose seeds or berries for medicinal, spiritual or traditional practices used them in the following ways:

- 0.0% took them by mouth
- 9.51% applied them to the skin
- 36.12% inhaled them by steam or smoke
- 60.82% used them for smudging
- 79.59% used them in a tea
- 26.36% used them in some other way

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the wild rose?*

Of the 231 people who used wild rose for medicinal, spiritual or traditional practices, 84.92% (196 people) used the flowers, leaves, stem or bark and 1.40% were unsure whether they used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 196 people who used wild rose flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 12.11% took them by mouth
- 27.28% applied them to the skin
- 14.58% inhaled them by steam or smoke
- 34.22% used them for smudging
- 57.23% used them in a tea
- 38.22% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the wild rose?*

Of the 231 people who used wild rose for medicinal, spiritual or traditional practices, 9.70% (23 people) used the roots and 4.09% were unsure whether they used the roots.

Question: *How did (you/he/she) use them?*

The 23 people who used wild rose roots for medicinal, spiritual or traditional practices used them in the following ways:

- 8.03% took them by mouth
- 8.03% applied them to the skin
- 0.00% inhaled them by steam or smoke
- 50.75% used them for smudging
- 49.25% used them in a tea
- 79.67% used them in some other way

Question: *Please look at this map and mark the areas where the wild rose came from the local area.*

Zones contributing more than 9% to the reservation’s local wild rose for medicinal, spiritual or traditional practices are listed in Table 62 below.

Table 62: Locations contributing to wild rose used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Wild Rose
291	In or between Nespelem and Gold Lake	18.91%
382	Near the mouth of the San Poil River	13.37%
223	Near Omak Creek or Swimptkin Creek	10.55%
432	West of Inchelium	9.35%

Zones or river reaches each accounting for 1 - 5% of local wild rose for medicinal, spiritual or traditional practices are, in descending order: 180 (southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River), 311 (near Rebecca Lake or Buffalo Lake), 292 (north and west of Nespelem), 422 (lakes or creeks near Hall Creek and Barnaby Creek), 160 (near Tonasket, between Loomis and the Reservation north boundary), 232 (between Omak Lake and Nespelem), R4B (Lake Roosevelt between Inchelium and the mouth of the Spokane River), 431 (Twin Lakes or nearby), 300 (near Owhi Lake), 221 (near Wanacut Creek), 222 and (near Omak Creek or Haley Creek).

Zones each accounting for less than 1% of local wild rose for medicinal, spiritual or traditional practices are, in descending order: 110, 170, 373, 374, 381, 281, 282, 421, 423, 481, 490, and 233.

8.48% of users recorded “999” for the area from which their wild rose for medicinal, spiritual or traditional practices was collected.

Section 8.4: Cedar

Question: *Did (you/SUBJECT) use the seeds or berries of the cedar?*

Of the 646 people who used cedar for medicinal, spiritual or traditional practices, which includes 11 people who did not initially indicate using cedar but subsequently provided information about it, and excludes 3 people who initially indicated using cedar but did not provide any further information, 10.63% (69 people) used the seeds or berries and 5.34% were not sure whether they used the seeds or berries.

Question: *How did (you/he/she) use them?*

The 69 people who used cedar seeds or berries for medicinal, spiritual or traditional practices used them in the following ways:

- 96.61% used them for smudging
- 8.22% used them in a tea
- 16.50% used them in some other way

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the cedar?*

Of the 646 people who used cedar for medicinal, spiritual or traditional practices, 85.14% (550 people) used the flowers, leaves, stem or bark and 2.01% were unsure whether they used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 550 people who used cedar flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following way:

- 3.25% applied them to the skin
- 29.57% inhaled them by steam or smoke
- 84.66% used them for smudging
- 12.26% used them in a tea
- 12.03% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the cedar?*

Of the 646 people who used cedar for medicinal, spiritual or traditional practices, 6.19% (40 people) used the roots, 6.85% were unsure whether they used the roots, and 3.46% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 40 people who used cedar roots for medicinal, spiritual or traditional practices used them in the following ways:

- 20.89% inhaled them by steam or smoke
- 84.85% used them for smudging
- 8.31% used them in a tea
- 28.36% used them in some other way
- 10.61% did not know how they used them

Question: *Please look at this map and mark the areas where the cedar came from the local area.*

Zones contributing more than 5% to the reservation’s local cedar for medicinal, spiritual or traditional practices are listed in Table 63 below.

Table 63: Locations contributing to cedar used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Cedar
432	West of Inchelium	44.20%
422	Near Hall Creek and Barnaby Creek	7.57%
431	Twin Lakes or nearby	7.47%

Zones each accounting for 1 – 5% of local cedar for medicinal, spiritual or traditional practices are, in descending order: 423 (near Lynx Creek), 421 (near Hall Creek or Sitdown Creek), 373 (near the San Poil River, between Gold Lake and Thirtymile Creek), 382 (near the mouth of the San Poil River), 110 (west of Conconully), 291 (in or between Nespelem and Gold Lake), 223 (near Omak Creek or Swimptkin Creek), 282 (north of Gold Lake), 442 (south of Inchelium near Lake Roosevelt), 372 (near Twentythreemile Creek), and 160 (near Tonasket, between Loomis and the Reservation north boundary).

Zones each accounting for less than 1% of local cedar for medicinal, spiritual or traditional practices are, in descending order: 222, 232, 320, 330, 888, 242, 292, 374, 300, 211, and 170.

33.13% of users recorded “999” for the area from which their cedar for medicinal, spiritual or traditional practices was collected.

5.67% of users did not provide an area where their cedar for medicinal, spiritual or traditional practices was collected.

Section 8.5: Juniper

Question: *Did (you/SUBJECT) use the seeds or berries of the juniper?*

Of the 178 people who used juniper for medicinal, spiritual or traditional practices, which excludes 12 people who initially indicated using juniper but provided no further information about it, 46.05% (82 people) used the seeds or berries, 6.87% were unsure whether they used the seeds or berries.

Question: *How did (you/he/she) use them?*

The 82 people who used juniper seeds or berries for medicinal, spiritual or traditional practices used them in the following ways:

- 5.61% took them by mouth
- 6.75% applied them to the skin
- 22.37% inhaled them by steam or smoke
- 49.95% used them for smudging
- 56.73% used them in a tea
- 29.54% used them in some other way

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the juniper?*

Of the 178 people who used juniper for medicinal, spiritual or traditional practices, 79.68% (142 people) used the flowers, leaves, stem or bark, 5.71% were unsure whether they used the flowers, leaves, stem or bark, and 2.00% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 142 people who used juniper flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following way:

- 8.71% applied them to the skin
- 16.00% inhaled them by steam or smoke
- 76.03% used them for smudging
- 2.35% used them in a tea
- 18.36% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the juniper?*

Of the 178 people who used juniper for medicinal, spiritual or traditional practices, 11.96% (22 people) used the roots, 4.8% were unsure whether they used the roots, and 2.00% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 22 people who used juniper roots for medicinal, spiritual or traditional practices used them in the following way:

- 30.85% inhaled them by steam or smoke
- 46.3% used them for smudging
- 15.68% used them in a tea
- 53.52% used them in some other way

Question: *Please look at this map and mark the areas where the juniper came from the local area.*

Zones contributing more than 5% to the reservation’s local juniper for medicinal, spiritual or traditional practices are listed in Table 64 below.

Table 64: Locations contributing to juniper used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Juniper
382	Near the mouth of the San Poil River	13.60%
232	Between Omak Lake and Nespelem	9.15%
242	Near the southwest bank of the Columbia River, immediately downstream of the Grand Coulee Dam	7.79%
432	West of Inchelium	6.65%

Zones each accounting for 1– 5% of local juniper for medicinal, spiritual or traditional practices are, in descending order, 233 (near Coyote Creek), 272 (near the west fork of the San Poil River, Frosty Creek, or Cobey Creek), 422 (near Hall Creek and Barnaby Creek), 180 (southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River), 291 (in or between Nespelem and Gold Lake), 292 (north and west of Nespelem) and 222 (near Omak Creek or Haley Creek).

Zones each accounting for less than 1% of local juniper for medicinal, spiritual or traditional practices are, in descending order: 371, 110, 160, and 170.

33.22% of users recorded “999” for the area from which their juniper for medicinal, spiritual or traditional practices was collected. 7.27% of users did not provide an area where their juniper for medicinal, spiritual or traditional practices was collected.

Section 8.6: Arnica

Question: *Did (you/SUBJECT) use the seeds or berries of the arnica?*

Of the 25 people who used arnica for medicinal, spiritual or traditional practices, no one definitely used the seeds or berries, but 30.65% were not sure whether they used the seeds or berries.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the arnica?*

Of the 25 people who used arnica for medicinal, spiritual or traditional practices, 75.52% (19 people) used the flowers, leaves, stem or bark, 16.06% were unsure whether they used the flowers, leaves, stem or bark, and 8.43% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

All of the 19 people who used arnica flowers, leaves, stem or bark for medicinal, spiritual or traditional practices applied them to the skin.

Question: *Did (you/SUBJECT) use the roots of the arnica?*

Of the 25 people who used arnica for medicinal, spiritual or traditional practices, no one definitely used the roots, but 30.65% were not sure whether they used the roots.

Question: *Please look at this map and mark the areas where the arnica came from the local area.*

Zones contributing to the reservation's local arnica for medicinal, spiritual or traditional practices are listed in Table 65 below.

Table 65: Locations contributing to arnica used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Arnica
232	Between Omak Lake and Nespelem	60.52%
130	north of and near Brewster	8.84%

30.65% of users recorded "999" for the area from which their arnica for medicinal, spiritual or traditional practices was collected.

Section 8.7: Canby's Lovage

Question: *Did (you/SUBJECT) use the seeds or berries of the Canby's lovage?*

Of the 17 people who used Canby's lovage for medicinal, spiritual or traditional practices, none used the seeds or berries.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the Canby's lovage?*

Of the 17 people who used Canby's lovage for medicinal, spiritual or traditional practices, 27.22% (5 people) used the flowers, leaves, stem or bark, and 14.20% did not provide an answer to this question.

Question: *How did (you/he/she) use them?*

All of the 5 people who used Canby's lovage flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- Took them by mouth
- Applied them to the skin
- Inhaled them by steam or smoke
- Used them for smudging
- Used them in a tea

Question: *Did (you/SUBJECT) use the roots of the Canby's lovage?*

Of the 17 people who used Canby's lovage for medicinal, spiritual or traditional practices, 58.79% (10 people) used the roots, and 14.01% did not provide an answer to this question.

Question: *How did (you/he/she) use them?*

The 10 people who used Canby's lovage roots for medicinal, spiritual or traditional practices used them in the following ways:

- 100.00% took them by mouth
- 75.15% inhaled them by steam or smoke
- 32.42% used them in a tea

Question: *Please look at this map and mark the areas where the Canby's lovage came from the local area.*

Zones contributing to the reservation's local Canby's lovage for medicinal, spiritual or traditional practices are listed in Table 66 below.

Table 66: Locations contributing to Canby’s lovage used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Canby’s Lovage
291	In or between Nespelem and Gold Lake	27.21%
421	Near Hall Creek or Sitdown Creek	16.29%
413	Near Lake Roosevelt, Mink Creek, or Barnaby Creek just north of the Colville Reservation boundary	11.71%
412	Near Hall Creek just north of the Colville Reservation boundary	11.71%

19.05% of users recorded “999” for the area from which their Canby’s lovage for medicinal, spiritual or traditional practices was collected. 14.03% of users did not provide an area where their Canby’s lovage for medicinal spiritual or traditional practices was collected.

Section 8.8: Frog Leaves

Question: *Did (you/SUBJECT) use the seeds or berries of the frog leaves?*

Of the 10 people who used frog leaves for medicinal, spiritual or traditional practices, which excludes 8 people who initially indicated they used frog leaves but provided no further information, none used the seeds or berries.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the frog leaves?*

Question: *How did (you/he/she) use them?*

All of the 10 people who used frog leaves for medicinal, spiritual or traditional practices used the flowers, leaves, stem or bark applied to their skin.

Question: *Did (you/SUBJECT) use the roots of the frog leaves?*

Of the 10 people who used frog leaves for medicinal, spiritual or traditional practices, none used the roots.

Question: *Please look at this map and mark the areas where the frog leaves came from the local area.*

Zones contributing to the reservation's local frog leaves for medicinal, spiritual or traditional practices are listed in Table 67 below.

Table 67: Locations contributing to frog leaves used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Frog Leaves
431	Twin Lakes or nearby	39.47%
311	Near Rebecca Lake or Buffalo Lake	18.15%
432	West of Inchelium	14.92%

27.46% of users recorded "999" for the area from which their frog leaves for medicinal, spiritual or traditional practices was collected.

Section 8.9: Kinnikinick

Question: *Did (you/SUBJECT) use the seeds or berries of the kinnikinick?*

Of the 170 people who used kinnikinick for medicinal, spiritual or traditional practices, which excludes 4 people who initially indicated using kinnikinick but didn't provide any further information about it, 35.17% (60 people) used the seeds or berries and 2.33% were unsure whether they used the seeds or berries.

Question: *How did (you/he/she) use them?*

The 53 people who used kinnikinick seeds or berries for medicinal, spiritual or traditional practices used them in the following ways:

- 6.10% took them by mouth
- 45.96% applied them to the skin
- 37.91% inhaled them by steam or smoke
- 55.15% used them for smudging
- 9.50% used them in a tea
- 45.96% used them in some other way

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the kinnikinick?*

All of the 170 people who used kinnikinick for medicinal, spiritual or traditional practices used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 170 people who used kinnikinick flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 14.27% took them by mouth
- 22.89% applied them to the skin
- 51.35% inhaled them by steam or smoke
- 56.74% used them for smudging
- 10.95% used them in a tea
- 15.86% used them in some other way
- 6.28% didn't know how they used them.

Question: *Did (you/SUBJECT) use the roots of the kinnikinick?*

Of the 170 people who used kinnikinick for medicinal, spiritual or traditional practices, 25.90% (44 people) used the roots, 3.70% were unsure whether they used the roots, and 6.28% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 39 people who used kinnikinick roots for medicinal, spiritual or traditional practices used them in the following ways:

- 13.00% took them by mouth
- 62.41% applied them to the skin
- 70.41% inhaled them by steam or smoke
- 70.00% used them for smudging
- 16.59% used them in a tea

Question: *Please look at this map and mark the areas where the kinnikinick came from the local area.*

Zones contributing more than 10% to the reservation’s local kinnikinick for medicinal, spiritual or traditional practices are listed in Table 68 below.

Table 68: Locations contributing to kinnikinick used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Kinnikinick
291	In or between Nespelem and Gold Lake	20.91%
292	North and west of Nespelem	17.54%
382	Near the mouth of the San Poil River	10.53%

Zones each accounting for 1 – 6% of local kinnikinick for medicinal, spiritual or traditional practices are, in descending order, 431 (Twin Lakes or nearby), 311 (near Rebecca Lake or Buffalo Lake), 212 (West of Wauconda), 281 (near Haden Creek or Last Creek), 211 (East of the Okanogan River near Siwash Creek or Peony Creek), 223 (near Omak Creek or Swimptkin Creek), 422 (lakes or creeks near Hall Creek and Barnaby Creek), and 300 (near Owhi Lake).

Less than 1% of local kinnikinick for medicinal, spiritual, or traditional practices was sourced from the following zones, in descending order: 233, 292, 110, 170, and 10

23.04% of users recorded “999” for the area from which their kinnikinick for medicinal, spiritual or traditional practices was collected.

Section 8.10: Mullein

Question: *Did (you/SUBJECT) use the seeds or berries of the mullein?*

Question: *How did (you/he/she) use them?*

Of the 35 people who used mullein for medicinal, spiritual or traditional practices, 24.28%(9 people) used the seeds or berries, and all 9 people applied them to the skin.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the mullein?*

All of the 35 people who used mullein for medicinal, spiritual or traditional practices used the flowers, leaves, stem or bark:

Question: *How did (you/he/she) use them?*

The 35 people who used mullein flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 5.21% took them by mouth
- 57.56% applied them to the skin
- 44.21% inhaled them by steam or smoke
- 10.41% used them for smudging
- 37.24% used them in a tea

Question: *Did (you/SUBJECT) use the roots of the mullein?*

Question: *How did (you/he/she) use them?*

Of the 35 people who used mullein for medicinal, spiritual or traditional practices, 5.21% (2 people) used the roots, and they both used them in all of the following ways:

- Took them by mouth
- Applied them to the skin
- Inhaled them by steam or smoke
- Used them in a tea

Question: *Please look at this map and mark the areas where the mullein came from the local area.*

Zones contributing to over 5% of the reservation's local mullein for medicinal, spiritual or traditional practices are listed in Table 69 below.

Table 69: Locations contributing to mullein used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Mullein
180	lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	37.32%
431	Twin Lakes or nearby	11.47%
442	south of Inchelium near Lake Roosevelt	8.42%
422	lakes or creeks near Hall Creek and Barnaby Creek	6.08%
311	near Rebecca Lake or Buffalo Lake	5.21%

The zones or river reaches each accounting for 1.44% of local mullein are 432 and 422, and 28.61% of users recorded “999” for the area from which their mullein for medicinal, spiritual or traditional practices was collected.

Section 8.11: Rattlesnake Plantain

Question: *Did (you/SUBJECT) use the seeds or berries of the rattlesnake plantain?*

Of the 7 people who used rattlesnake plantain for medicinal, spiritual or traditional practices, none used the seeds or berries.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the rattlesnake plantain?*

All of the 7 people who used rattlesnake plantain for medicinal, spiritual or traditional practices used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The people who used rattlesnake plantain flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 100.00% applied them to the skin
- 41.03% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the rattlesnake plantain?*

Of the 7 people who used rattlesnake plantain for medicinal, spiritual or traditional practices, none used the roots.

Question: *Please look at this map and mark the areas where the rattlesnake plantain came from the local area.*

Zones contributing to the reservation's local rattlesnake plantain for medicinal, spiritual or traditional practices are listed in Table 70 below.

Table 70: Locations contributing to rattlesnake plantain used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Rattlesnake Plantain
422	Near Hall Creek and Barnaby Creek	89.74%
413	Near Lake Roosevelt, Mink Creek, or Barnaby Creek just north of the Colville Reservation boundary	5.13%
364	Southeast of Republic near O'Brien Creek	5.13%

Section 8.12: Sages

Question: *Did (you/SUBJECT) use the seeds or berries of the sages?*

Of the 833 people who used sages for medicinal, spiritual or traditional practices, which excludes 63 people who initially indicated using sages but provided no further information about it, 24.38% (203 people) used the seeds or berries, 2.10% were unsure whether they used the seeds or berries, and 1.34% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 177 people who used sages seeds or berries for medicinal, spiritual or traditional practices used them in the following ways:

- 1.72% took them by the mouth
- 17.14% inhaled them by steam or smoke
- 86.62% used them for smudging
- 9.43% used them in a tea
- 5.58% used them in some other way

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the sages?*

Of the 833 people who used sages for medicinal, spiritual or traditional practices, 92.48% (770 people) used the flowers, leaves, stem or bark, 0.95% were unsure whether they used the flowers, leaves, stem or bark, and 2.94% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 770 people who used sages flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 1.83% took them by mouth
- 2.24% applied them to the skin
- 111.35% inhaled them by steam or smoke
- 94.27% used them for smudging
- 5.69% used them in a tea
- 4.87% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the sages?*

Of the 833 people who used sages for medicinal, spiritual or traditional practices, 9.73% (82 people) used the roots, 4.13% were unsure whether they used the roots, and 5.33% did not provide an answer to the question.

Question: *How did (you/he/she) use them?*

The 82 people who used sages roots for medicinal, spiritual or traditional practices used them in the following ways:

- 4.32% took them by mouth
- 7.85% applied them to the skin
- 8.06% inhaled them by steam or smoke
- 89.63% used them for smudging
- 13.98% used them in some other way

Question: *Please look at this map and mark the areas where the sages came from the local area.*

Zones contributing more than 3% to the reservation’s local sages for medicinal, spiritual or traditional practices are listed in Table 71 below.

Table 71: Locations contributing to sages used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Sages
300	Near Owhi Lake	5.91%
291	In or between Nespelem and Gold Lake	5.30%
170	North of Omak	5.67%
382	Near the mouth of the San Poil River	3.52%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	3.35%

Zones each accounting for 1 – 3% of local sages for medicinal, spiritual or traditional practices are, in descending order, 221 (near Wanacut Creek), 231 (around Omak Lake), 232 (between Omak Lake and Nespelem), 222 (near Omak Creek or Haley Creek), 311 (near Rebecca Lake or Buffalo Lake), and 233 (near Coyote Creek).

Zones or river reaches each accounting for less than 1% of local sages for medicinal, spiritual or traditional practices are, in descending order: 330, 292, R4B, 461, 211, 421, 160, 374, 422, 432, 521, 223, 423, and 442.

54.86% of users recorded “999” for the area from which their sages for medicinal, spiritual or traditional practices were collected. 7.17% of users did not provide an area from which their sages for medicinal, spiritual or traditional practices were collected.

Section 8.13: Skunk Cabbage

Question: *Did (you/SUBJECT) use the seeds or berries of the skunk cabbage?*

None of the 5 people who used skunk cabbage for medicinal, spiritual or traditional practices provided an answer to this question.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the skunk cabbage?*

Question: *How did (you/he/she) use them?*

All of the 5 people who used skunk cabbage for medicinal, spiritual or traditional practices used the flowers, leaves, stem or bark, inhaled by steam or smoke.

Question: *Did (you/SUBJECT) use the roots of the skunk cabbage?*

Of the 5 people who used skunk cabbage for medicinal, spiritual or traditional practices, none used the roots.

Question: *Please look at this map and mark the areas where the skunk cabbage came from the local area.*

Zone 180 (west of Omak Lake, north of the Columbia River, and east of the Okanogan River) accounts for all local skunk cabbage used for medicinal, spiritual or traditional practices.

Section 8.14: Stinging Nettle

Question: *Did (you/SUBJECT) use the seeds or berries of the stinging nettle?*

Of the 46 people who used stinging nettle for medicinal, spiritual or traditional practices, none used the seeds or berries.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the stinging nettle?*

Of the 46 people who used stinging nettle for medicinal, spiritual or traditional practices, 91.45% (43 people) used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 2 people who used stinging nettle flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 8.35% applied them to the skin
- 26.63% used them in a tea
- 81.81% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the stinging nettle?*

Of the 46 people who used stinging nettle for medicinal, spiritual or traditional practices, none used the roots.

Question: *Please look at this map and mark the areas where the stinging nettle came from the local area.*

Zones contributing to the reservation's local stinging nettle for medicinal, spiritual or traditional practices are listed in Table 72 below.

Table 72: Locations contributing to stinging nettle used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Stinging Nettle
291	In or between Nespelem and Gold Lake	59.42%
180	Lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River	15.38%
432	Lakes or creeks west of Inchelium	13.40%
442	South of Inchelium near Lake Roosevelt	3.24%

8.56% of users recorded "999" for the area from which their stinging nettle for medicinal, spiritual or traditional practices was collected.

Section 8.15: Wild Onion

Question: *Did (you/SUBJECT) use the seeds or berries of the wild onion?*

Of the 26 people who used wild onion for medicinal, spiritual or traditional practices, none used the seeds or berries.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the wild onion?*

Of the 26 people who used wild onion for medicinal, spiritual or traditional practices, 47.69% (12 people) used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 12 people who used wild onion flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 79.92% took them by mouth
- 38.36% applied them to the skin
- 38.36% inhaled them by steam or smoke
- 38.36% used them for smudging
- 38.36% used them in a tea
- 20.07% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the wild onion?*

Of the 26 people who used wild onion for medicinal, spiritual or traditional practices, 41.78% (11 people) used the roots.

Question: *How did (you/he/she) use them?*

The 11 people who used wild onion roots for medicinal, spiritual or traditional practices used them in the following ways:

- 77.08% took them by mouth
- 22.92% used them in some other way

Question: *Please look at this map and mark the areas where the wild onion came from the local area.*

Zones or contributing to the reservation's local wild onion for medicinal, spiritual or traditional practices are listed in Table 73 below.

Table 73: Locations contributing to wild onion used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Wild Onion
470	Lake Roosevelt’s south bank from the mouth of the San Poil to Welsh Creek	20.08%
180	Southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River	19.83%
291	In or between Nespelem and Gold Lake	18.29%
432	West of Inchelium	16.48%

25.31% of users recorded “999” for the area from which their wild onion for medicinal, spiritual or traditional practices was collected.

Section 8.16: Wild Thistle

Question: *Did (you/SUBJECT) use the seeds or berries of the wild thistle?*

Question: *How did (you/he/she) use them?*

Of the 8 people who used wild thistle for medicinal, spiritual or traditional practices, none used the seeds or berries of the wild thistle.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the wild thistle?*

All of the 9 people who used wild thistle for medicinal, spiritual or traditional practices, the following used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 8 people who used wild thistle flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 100% used them for smudging
- 100% used them in a tea

Question: *Did (you/SUBJECT) use the roots of the wild thistle?*

Of the 9 people who used wild thistle for medicinal, spiritual or traditional practices, none used the roots.

Question: *Please look at this map and mark the areas where the wild thistle came from the local area.*

Zone 180 (southwest of Omak Lake, north of the Columbia River, and east of the Okanogan River) accounted for all the local wild thistle used for medicinal, spiritual or traditional practices.

Section 8.17: Wild Mint / Bergamot

Question: *Did (you/SUBJECT) use the seeds or berries of the wild mint?*

Question: *How did (you/he/she) use them?*

Of the 124 people who used wild mint for medicinal, spiritual or traditional practices, which excludes 3 people who initially indicated using wild mint but provided no further information about it, 1.89% (3 people) used the seeds or berries, and both used them in a tea.

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the wild mint?*

Of the 124 people who used wild mint for medicinal, spiritual or traditional practices, 94.60% (117 people) used the flowers, leaves, stem or bark.

Question: *How did (you/he/she) use them?*

The 117 people who used wild mint flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 37.97% took them by mouth
- 3.55% applied them to the skin
- 0% inhaled them by steam or smoke
- 34.47% used them for smudging
- 27.55% used them in a tea

Question: *Did (you/SUBJECT) use the roots of the wild mint?*

Question: *How did (you/he/she) use them?*

Of the 123 people who used wild mint for medicinal, spiritual or traditional practices, 7.63% (10 people) used the roots and 1.88% were unsure whether they used the roots. All people who used the roots used them in a tea.

Question: *Please look at this map and mark the areas where the wild mint came from the local area.*

Zones contributing more than 10% to the reservation's local wild mint for medicinal, spiritual or traditional practices are listed in Table 74 below.

Table 74: Locations contributing to wild mint used for medicinal, spiritual or traditional practices.

Zone	Description	Percentage of Wild Mint
170	north of Omak	22.19%
291	In or between Nespelem and Gold Lake	20.36%
311	Near Rebecca Lake or Buffalo Lake	13.73%
382	Near the mouth of the San Poil River	10.36%

Zones or river reaches each accounting for 1 - 8% of local wild mint for medicinal, spiritual or traditional practices are, in descending order, 422 (lakes or creeks near Hall Creek and Barnaby Creek), 432 (lakes or creeks west of Inchelium), 300 (near Owhi Lake), 271 (near Cape Labelle Creek or Aeneas Creek), 442 (south of Inchelium near Lake Roosevelt), 292 (north and west of Nespelem), and R4B (Lake Roosevelt between Inchelium and the mouth of the Spokane River).

Zone 423 accounted for less than 1% of local wild mint for medicinal, spiritual or traditional practices.

Section 8.18: Other Material

Of the 1,153 people who used local material for medicinal, spiritual or traditional practices, 19.08% (220 people) reported using materials other than those listed in the questionnaire. The materials listed and percentage of people using them were:

- 9.12% indicated sweetgrass,
- 1.87% indicated aloe vera
- 1.24% indicated yarrow
- 1.27% indicated indian celery
- 1.05% indicated tamarack
- Less than 1% indicated the following, in descending order: lavender, Oregon grape, butterbur, licorice, comfrey, elderberry, camas, prairie tea, marijuana, rose hips, cattails, planten, Indian hemp, fir boughs, blood medicine, unknown Indian med, buckbrush, huss huss, and jute.

These materials are grouped together for the statistics provided below.

Question: *Did (you/SUBJECT) use the seeds or berries of the “other material”?*

Of the 220 people who used “other material” for medicinal, spiritual or traditional practices, which excludes 8 people who initially indicated using other material but provided no further information and includes 2 people who did not initially indicate using “other material” but then provided further information, the following used the seeds or berries:

- Yes: 13.51% (30 people)
- No: 78.82%
- Don’t know: 1.87%
- 5.80% did not answer the question.

Question: *How did (you/he/she) use them?*

The 30 people who used “other material” seeds or berries for medicinal, spiritual or traditional practices, used them in the following ways:

- 17.02% took them by mouth
- 22.43% applied them to the skin
- 21.35% inhaled them by steam or smoke
- 39.20% used them for smudging
- 21.35% used them in a tea

Question: *Did (you/SUBJECT) use the flowers, leaves, stem or bark of the “other material”?*

Of the 220 people who used other material for medicinal, spiritual or traditional practices, the following used the flowers, leaves, stem or bark:

- Yes: 87.98% (194 people)
- No: 10.15%
- Don't know: 1.87%

Question: *How did (you/he/she) use them?*

The 194 people who used “other material” flowers, leaves, stem or bark for medicinal, spiritual or traditional practices used them in the following ways:

- 2.65% took them by mouth
- 32.39% applied them to the skin
- 16.83% inhaled them by steam or smoke
- 51.32% used them for smudging
- 13.64% used them in a tea
- 5.26% used them in some other way

Question: *Did (you/SUBJECT) use the roots of the “other material”?*

Of the 220 people who used “other material” for medicinal, spiritual or traditional practices, the following used the roots:

- Yes: 11.25% (25 people)
- No: 82.78%
- Don't know: 1.87%
- 4.09% did not provide an answer to the question

Question: *How did (you/he/she) use them?*

The 25 people who used “other material” roots for medicinal, spiritual or traditional practices used them in the following ways:

- 12.51% took them by mouth
- 27.53% applied them to the skin
- 28.13% used them for smudging
- 31.83% used them in a tea

Question: *Please look at this map and mark the areas where the “other material” came from the local area.*

Zones or river reaches contributing more than 3% to the reservation's local “other material” for medicinal, spiritual or traditional practices are listed in Table 74 below.

Table 74: Locations contributing to “other material” used for medicinal, spiritual or traditional practices.

Zone or River Reach	Description	Percentage of “other material”
232	Between Omak Lake and Nespelem	12.76%
311	Near Rebecca Lake or Buffalo Lake	6.02%
291	In or between Nespelem and Gold Lake	4.73%
R8	Okanogan River between the Canadian Border and the Columbia River	3.16%
221	Near Wanacut Creek	3.10%

Zones each accounting for 1 - 3% of local “other material” for medicinal, spiritual or traditional practices are, in descending order, 312 (north bank of Lake Roosevelt between Coulee Dam and the San Poil River), 382 (mouth of the San Poil River or nearby creeks), 180 (lakes or creeks west of Omak Lake, north of the Columbia River, and east of the Okanogan River), 381 (near the San Poil River, Jack Creek, or Louie Creek), 170 (north of Omak), 522 (West of the Colville River near Stranger Creek), 422 (near Hall Creek and Barnaby Creek), and 233 (near Coyote Creek).

Zones or river reaches each accounting for less than 1% of local “other material” for medicinal, spiritual or traditional practices are, in descending order: 292, 373, 423, 432, 442, and 282.

1.40% of users recorded “999” for the area from which their “other material” for medicinal, spiritual or traditional practices was collected. 1.70% of users did not provide an area where their “other material” was collected.

Section 9: Materials Used for Face and Body Paint

Question: *The next questions are about face and body paint, such as you might apply to your skin for a Powwow. Over the past 12 months, did (you/SUBJECT) use any natural materials for face or body painting? For example, did (you/SUBJECT) apply any paint to (your/his/her) skin that was made from plants, animal parts, minerals or clay?*

Percentage of reservation population who used face or body paint last year:

- Yes: 1.27% (61 people)
- No: 98.46%
- Don't know: 0.27%

Question: *Did any of the natural materials that (you/SUBJECT) used come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 61 people who used face or body paint, 53.51% (33 people) used local resources and 17.92% were unsure whether they used local resources.

Question: *Which parts of the body were painted?*

Of the 33 people who used local resources for face or body paint, they painted the following:

- 52.34% painted hands
- 47.77% painted the face
- 12.79% painted somewhere else
 - These users indicated using paint on feet and wrists.

Question: *Over the past 12 months, how many days did (you/SUBJECT) use materials from the local area for face or body painting?*

Of the 30 people who used materials from the local area for face or body painting:

- 87.03% used paint fewer than 10 days over the past year
- 12.97% used paint 10-30 days over the past year

Question: *On the days (you/SUBJECT) used face or body paint, how many hours per day did (you/SUBJECT) usually spend with the paint on (your/his/her) skin?*

Of the people who used materials from the local area for face or body painting:

- 85.82% spent 1-3 hours with paint on their skin
- 14.18% spent 8 or more hours with paint on their skin

Based on the number of days and hours per day he or she spent working with the material, the average resident using local resources for face or body paint did so for a total of 19.51 hours last year.

Question: Now I'm going to ask about different materials that are used for face or body painting. Over the past 12 months, did (you/he/she) prepare or use any of the following for face or body painting?

Of the 33 people who used resources from the local area for face or body painting who used the following materials for paint in the last year:

- 89.00% used minerals or clay
- 63.34% used plants
- 10.99% used other materials (bone)

Section 9.1: Minerals or Clay

Question: Over the past 12 months, how many days did (you/SUBJECT) use minerals or clay for face or body painting?

All of the 29 people who used minerals or clay for face or body painting used the paint fewer than 5 days over the past year.

Question: Please look at this map and mark the areas where minerals or clay came from the local area.

Zones or river reaches contributing to the reservation's local minerals or clay for face or body painting are listed in Table 75 below.

Table 75: Locations contributing to minerals or clay used for face or body painting.

Zone or River Reach	Description	Percentage of Minerals or Clay
311	Near Rebecca Lake or Buffalo Lake	58.8%
382	Near the mouth of the San Poil River	15.94%
R4B	Lake Roosevelt between Inchelium and the mouth of the Spokane River	14.36%
250	Near Banks Lake	10.9%

Section 9.2: Plants

Question: Over the past 12 months, how many days did (you/SUBJECT) use plants for face or body painting?

All 21 people who used plants for face or body painting used the paint under 10 days over the past year.

Question: Please look at this map and mark the areas where the plants came from the local area.

Zones contributing to the reservation's local plants for face or body painting are listed in Table 76 below.

Table 76: Locations contributing to plants used for face or body painting.

Zone	Description	Percentage of Plants
311	Near Rebecca Lake or Buffalo Lake	82.64%
271	South of Wauconda near Cape Labelle Creek or Aeneas Creek	17.36%

Section 9.3: Other Materials

Question: *Over the past 12 months, how many days did (you/SUBJECT) use other materials for face or body painting?*

All of the 4 people who used other materials (bone) for face or body painting used the other materials fewer than 10 days over the past year.

Question: *Please look at this map and mark the areas where the other materials came from the local area.*

100% of users recorded “999” for the area from which their other materials for face or body painting was collected. Their portion accounted for 100% of overall other materials for face or body painting.

Section 10: Other Materials and Uses

Question: *Over the past 12 months, did (you/SUBJECT) use any other natural resources or materials for non-food purposes that we have not discussed?*

Percentage of reservation population who used other natural resources or materials last year:

- Yes: 7.22% (342 people)
- No: 92.63%
- Don't know: 0.15%

Question: *Did any of the natural resources come from anywhere in this area? (SHOW LOCAL MAP)*

Of the 342 people who used other natural resources or materials, 85.88% (294 people) used local resources and 6.44% were unsure whether they used local resources.

Question: *What is the name of the material?*

Some of the materials named in this category could properly be included in previously mentioned categories (such as materials used for construction), but for this report the data are not combined. None of the materials reported in this category were also reported in another part of the ReUP (i.e. if the respondent reported "fir" here they did not also list it under the "materials for sweat lodges" or "materials for construction" category). Of the 342 people who used "other materials" last year, over 3% of users reported using each of the following:

- 64.32% used wood and firewood, including tamarack, fir, larch and pine
- 8.19% used rose hips
- 4.71% used driftwood
- 4.98% used lavender
- 3.52% used pellets for stove.

Materials used by fewer than 3% of users of other materials include, in descending order: pine pitch, water from soap lake, pine needles, weeds, buckbrush, cedar bows, rocks, lodgepole, compost pile, pebbles and driftwood, sand and gravel, unknown, huckleberry, flowers from garden, and buckskin.

Further data regarding the most frequently used material (firewood) are provided below.

Section 10.1: Wood and Firewood, Including Tamarack, Fir, and Larch

Question: *How was the material used?*

The 194 people who indicated they used wood, firewood, tamarack, fir, and larch last year all indicated they used the material for burning as firewood.

Question: *Over the past 12 months, how many days did (you/SUBJECT) prepare or use wood?*

Of the people who used wood:

- 7.27% used wood fewer than 10 days over the past year
- 8.54% used wood 10-30 days over the past year
- 4.62% used wood 31-60 days over the past year
- 13.44% used wood 61-90 days over the past year
- 60.30% used wood more than 90 days over the past year
- 5.82% did not know how many days per year they used wood.

Question: *On the days (you/SUBJECT) worked with wood, how many hours did (you/he/she) usually spend working with it?*

Of the people who used wood:

- 17.13% spent 1-3 hours working with it
- 21.74% spent 4-7 hours working with it
- 59.74% spent 8 or more hours working with it
- 1.66% did not provide this information

Based on the number of days and hours per day he or she spent working with the material, the average resident using firewood did so for a total of 976.56 hours (40.69 full days) last year.

Question: *Please look at this map and mark areas where the wood came from in the local area.*

Zones contributing more than 4% of the reservation's local wood use are listed in Table 77 below.

Table 77: Principal locations contributing to wood used for firewood.

Zone	Description	Percentage of Wood
300	Near Owhi Lake	17.81%
362	Near the west fork of the San Poil River next to the Colville Reservation boundary	6.01%
371	Near the San Poil River, 17 Mile Creek, or 21 Mile Creek	4.49%
431	Twin Lakes or nearby	4.27%

Zones each accounting for 1- 4% of local wood used are, in descending order, 233 (near Coyote Creek), 160 (near Tonasket, between Loomis and the Reservation north boundary), 451 (near Ninemile Creek, Jones Creek, and Cook Creek), 222 (near Omak Creek or Haley Creek), 421 (near Hall Creek or Sitdown

Creek), 423 (near Lynx Creek), 441 (Wilmont Creek or nearby). 232 (between Omak Lake and Nespelem), 223 (near Omak Creek or Swimptkin Creek), and 432 (west of Inchelium).

Zones each accounting for less than 1% of local wood used are, in descending order: 110, 481, 453, 422, 442, 452, 462, and 312.

37.51% of local-sourcers recorded "999" for the area from which their wood were gathered. Their portion accounted for 44.08% of overall local wood.

Section 11: Avoidance of Local Resources

This section contains questions meant to elicit responses regarding the difference between:

- the resources that each respondent has reported eating (in the FQ) or using (in the REUP), and
- the resources that the respondent would prefer to be using.

When the REUP was initially administered, interviewers reported that many respondents were having difficulty with the meaning or intent of the questions. For that reason, the questions were re-worded and in the week of February 14, 2011 interviewers were instructed to begin using the new wording, after 2 months of interviews using the original wording. Contact by phone was attempted with each of the approximately 440 respondents who had completed the REUP prior to the re-wording, and the respondents were asked for their response to the re-worded questions.

In both the original and re-worded versions, the questions began with a yes/no query to ascertain whether the respondent refrained from using or avoided any resources. If the answer was affirmative, it was followed by a question about which resources were avoided, and finally a question regarding why. The data were not reported in a way that allowed analysts to distinguish people who were not asked the original questions and people who were asked the original questions but answered negatively. Therefore, the original and re-worded questions are analyzed in this report together. Further, because respondents' answers may have been coded inconsistently by different interviewers and "original" responses were not coded at all, for this analysis all responses were coded both for resources or activities avoided and according to the categories specified in the "re-worded" question.

Note that the percentages documented here represent percentages of the entire reservation population over the age of 14, as extrapolated using the individual respondent weights; they do not represent simple percentages of individual respondents.

Original Question: *Now, just a few more questions and we will be finished. (Do you/Does SUBJECT) refrain, for any reason, from consuming plants, fish, or other animals from the Upper Columbia River or Lake Roosevelt area, or refrain from using them for ceremonial, medicinal, or other traditional uses? (IF ASKED "WHAT DO YOU MEAN BY REFRAIN":) By refrain we mean avoid or stop yourself from consuming or using natural resources.*

Re-worded Question: *OK, I have just a few more questions and we'll be finished. These questions are very different from the ones you've just answered. Now I would like to ask a few more questions to find out if people avoid eating or using local resources from along the Upper Columbia River or Lake Roosevelt and, if so, why. (Do you/Does SUBJECT) avoid, for any reason, eating local fish, plants, animals, using local resources, or avoid hunting, swimming, fishing or gathering plants in areas along the Upper Columbia River or Lake Roosevelt? This would include avoiding these things altogether, or just doing them less than you would like to.*

30% of reservation residents over the age of 14 (1,421 people) responded affirmatively to either the original or the re-worded question regarding whether they refrained from using or avoided any resources from the Upper Columbia River or Lake Roosevelt.

Original Question: *Which types of plants, fish or other animals from the Upper Columbia River or Lake Roosevelt area (do you/does SUBJECT) currently refrain from using?*

Re-worded Question: *What plants, fish, animals or other local items or activities (do you/does SUBJECT) currently avoid, or use less of than (you/he/she) would like to?*

Of the 1,421 people who avoid using some UCR resources, 9.33% gave no further interpretable answers regarding what resources or activities they avoid and why. The 1,289 people who gave answers specified the following resources or activities that they avoid:

- Fish (including mussels and crayfish): 94.07%
- Activities (e.g., "Swimming," "Fishing," "Hunting," "Gathering plants," etc.): 34.53%
- Animals other than fish/shellfish: 21.32%
- Plants: 17.04%

Original Question: *What do you feel is the most important reason (your/SUBJECT'S) everyday diet and traditional practices do not include more of the resources just mentioned from the Upper Columbia River or Lake Roosevelt area?*

Re-worded Question: *What are the reasons (you/SUBJECT) avoid these items or activities, or use them less often than (you/he/she) would like to? Some examples could include living too far from the river or Lake Roosevelt area, being too busy, concerns about pollution, not knowing how to catch or prepare locally collected resources, or (you/SUBJECT) prefer(s) other foods or activities. Please tell me all of the reasons you avoid or use these items or activities less often.*

Of the 1,289 people who gave interpretable answers regarding why they avoid certain resources or activities answered the following:

- Being concerned about pollution or contamination: 77.01%
- Some other reason (largely age or health related): 19.87%
- Being too busy: 7.46%
- Prefer other foods or activities: 6.90%
- Have no desire to use these resources: 6.60%
- Don't know how to catch, collect, or use local resources: 2.47%
- Living too far from the UCR/Lake Roosevelt area: 0.31%

The 993 people who avoid any resources or activities because of contamination or pollution specified that they avoid the following:

- Fish/shellfish: 97.55%
- Activities: 26.85%
- Animals other than fish: 19.31%
- Plants: 12.90%