

*Salmon Camp Research Team
2002–2003 Interim Evaluation Report*



by
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Northwest Regional Educational Laboratory
Portland, Oregon

with the generous support of



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INTERIM REPORT
SALMON CAMP RESEARCH TEAM

**National Science Foundation Information Technology Experiences for
Students and Teachers Grant**

Oregon Museum of Science and Industry

September 2004

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*~~Phyllis Campbell Ault
Senior Program Advisor, NWREL*

PROJECT IMPLEMENTATION

The Oregon Museum of Science and Industry (OMSI) is striving to provide middle and high school students with engaging and personally relevant experiences that build skills and knowledge through the Salmon Camp Research Team (SCRT) project. Participating students have Native American community affiliations and are interested in advancing their learning to pursue technologically rich careers or areas of study. The long-term goal of Salmon Camp is to increase representation of Native Americans in IT-related career fields.

Project work during the first year began in earnest in the spring 2004. Activities included curriculum development for summer camps and the implementation of three summer sessions for high school aged students as well as one session for middle school students. High school sessions explored three different ecological regions in Oregon, California, and Washington. The middle school program operated out of OMSI's Hancock Field Station in central Oregon. The high school research teams were composed of ten students each. The middle school group totaled 24 students. Taken together, 54 students participated in Salmon Camp Research Teams during summer 2004.

Each high school research team participated in an intensive experience over the three and a half week camp period. The groups spent their days exploring local ecosystems, learning traditional Native American knowledge, or working with researchers. The students and counselors either tent camped or stayed at research stations as they traveled to various study sites. The weeklong middle school team worked out of Hancock Field Station as a residential camp but also took an overnight camping trip.

The students in both middle and high school groups worked directly with university, tribal, and agency scientists, researchers, and natural resource managers. Students were exposed to advanced technologies currently used in salmon recovery and habitat restoration such as Global Positioning System (GPS) units and Geographic Information Systems (GIS).

High school students also selected a related topic of interest to study and report on through an oral presentation with a supporting PowerPoint slideshow. Students presented their research topics during the final Salmon Bake to an audience of fellow campers, elders, parents, and interested researchers.

Although not included in this report, as part of the ongoing involvement of students in the project, several opportunities are in the planning stages for students during the 2004–2005 school year. Seven weekend enrichment events will be offered to build on the summer field research work, and a spring break camp is being planned. In addition, each student will have an academic and a professional mentor.

EVALUATION ACTIVITIES

The goal of the Salmon Camp project is to create a continuum of culturally relevant, information technology (IT) focused science experiences for middle school through high school students with Native American community affiliations to address their educational career needs.

To reach this goal, the objectives of the project are to:

- 1a. Develop and disseminate a model science IT program that addresses national and state education standards and is relevant to the cultural experience of Native American students.
- 1b. Immerse students in a culturally relevant, IT intensive, scientific research experience that will allow them to apply information technology to the resolution of real world natural resource problems.
2. Enable students to gain experiences and skills necessary to obtain science and IT-related internships and jobs.
3. Enable students to work together with educational and professional mentors through cooperative hands-on, inquiry-based research activities.
4. Provide students with opportunities to interact in a positive and supportive learning and work environment.

To evaluate the project's progress toward meeting its goal and objectives, a multiple measures approach was used to gather input from participants and assess impact. The evaluation included quantitative and qualitative methods that facilitated triangulation of findings. Pre-involvement surveys, end-of-session feedback forms, in-camp interviews, post-camp interviews, and counselor debriefing sessions were used to measure progress. Copies of the instruments may be found in Appendix A.

As part of the selection process for acceptance in the Salmon Camp Research Teams, the program coordinator conducted phone interviews with potential students. Phone interviews were used to assure that students had a concrete understanding of what SCRT involved and an interest in an IT-related career or course of study.

At the beginning of each camp session, students completed a survey using laptops in the field. The SCRT Student Survey was developed by NWREL in collaboration with the OMSI evaluator and Salmon Camp coordinator. The survey will be used each year before the camps and at spring break camps to measure growth over time. Content of the survey includes items on attitudes toward science, technology skills, experience with science, as well as workplace and basic academic skills derived from Secretary's Commission on Achieving Necessary Skills (SCANS).

During the high school camp sessions an in-camp interview was conducted with each student by the coordinator. The in-camp interview guides were created to learn more about the participants'

interests in science careers, computers and technology, job skills, and the relationship of SCRT to success in school. The interviews had seven questions that were common across interviews (see sample in Appendix A). At the same time, each participant's interview guide was uniquely adapted by inserting information on career and job skill interests that participants had shared prior to the program through pre-camp phone interviews and the SCRT Student Survey.

An evaluator attended the culminating Salmon Bake for the Oregon session. This provided an informal opportunity to discuss Salmon Camp with Native Americans who have been involved in the program and who attended the Salmon Bake as well as more formally conduct interviews with students and observed students' PowerPoint presentations. For other sessions, informal interviews were conducted with students as they returned to OMSI on the last day of camp.

The conclusion of each of the camps included an end-of-session feedback form that contains closed-response Likert-style ratings on camp implementation and impact as well as qualitative items to provide insight into the most successful or effective aspects of the camp session.

Ongoing communications between camp counselors, project leaders, and the OMSI evaluator provided feedback on implementation for SCRT planners and evaluators. The variety of evaluation activities provided documentation of activities and data to measure changes in students over time.

Taken together these activities provide data to answer broad evaluation questions. Overarching evaluation questions focus on continuous improvement, the degree to which the Salmon Camp project achieves its objectives with regards to students' skills and attitudes, as well as implementation and outcome questions. Evaluation activities are designed to probe five major areas:

1. **Student Knowledge and Skills.** To what extent do students gain experience with digital tools, field research, and workplace skills?
2. **Student Attitudes.** How are students' attitudes and self-efficacy as science students changing with involvement in Salmon Camp? How are career interests changing or deepening? Are there differences in these dispositions based on level of participation in activities?
3. **Implementation.** What is the fidelity of project implementation? Is the project being implemented as envisioned? What factors influence implementation? What is the level of participation? Are cultural as well as technical aspects of the project being addressed?
4. **Outcomes.** What impact is the project having? Are there unanticipated or ancillary impacts to the community of learners involved in Salmon Camp? How are former Salmon Campers, counselors, mentors, researchers, parents, and family members influenced by the project?
5. **Continuous Improvement.** How can the project improve? What is working? How can evaluation findings be most useful to the project as it unfolds?

ACHIEVING OBJECTIVES

Project activities were designed to achieve multiple objectives with strategies complementing each other and building on previous or ongoing activities. Although a linear model does not capture that dynamic well, it does show key connections between objectives and activities. Table 1 shows objectives associated with primary strategies used to achieve the objective. Highlighted areas will be addressed in the coming year.

Table 1
SCRT Objectives and Implementation

Objectives	Strategies/Activities
(1a) Develop and disseminate a model science and IT program that addresses national and state education standards and is relevant to the cultural experience of Native American students.	HS: 3-week summer program MS: 1-week summer program Science Enrichment Activities HS&MS: 1-week spring break program HS&MS: 12–14 weekend residential programs
(1b) Immerse students in a culturally relevant, IT intensive, scientific research experience that will allow them to apply information technology to the resolution of real world natural resource problems.	Side-by-side collaboration with: <ul style="list-style-type: none"> • Researchers in the field • Native Americans with traditional ecological knowledge
(2) Students will gain experiences and skills necessary to obtain science and IT-related internships and jobs.	Exposure to: <ul style="list-style-type: none"> • Advanced information technology used by scientists and resource managers • Career opportunities
(3) Students will work together with educational and professional mentors through cooperative hands-on, inquiry-based research activities.	Personal connection to local: <ul style="list-style-type: none"> • Academic mentors • Professional mentors
(4) Provide students with opportunities to interact in a positive and supportive learning and work environment.	Participation in <ul style="list-style-type: none"> • Authentic data collection • Engaging field experiences

Work began in earnest on Salmon Camp during the spring 2004 with planning for the summer sessions and recruitment of students. To meet the objectives of the project during the first six months of SCRT, the project focused on objectives related to the camp experience. Through project activities, the heaviest attention was given to exposing students to the nature of field work and habitat restoration/preservation and Native American knowledge. Students also received limited exposure to advanced information technology tools. The following sections synthesize findings from the full course of evaluation strategies to draw conclusions on the extent to which the project is making progress toward each objective.

Objective One, Part A

Develop and disseminate a model science and IT program that addresses national and state education standards and is relevant to the cultural experience of Native American students.

Clearly, after half a year of implementation work, the Salmon Camp Research Team project is in the early stages of developing as a model program. However, Salmon Camp has been evolving over the last six years under separate funding to the stage where OMSI staff members saw the potential for the program to be an exemplar. SCRT leaders are using past experience, contacts, and seasoned staff members to hold the program to more rigorous standards and integrate more content into the curriculum. For some counselors and students who have been involved with Salmon Camp in previous years, the shift to more emphasis on technology tools is an adjustment. From campers' perspective, it has been a successful one. All returning high school campers reported that they would recommend SCRT to others and that the experience made them more curious about science. In the coming year, staff members will be working to further align the curriculum with academic standards that will further push the boundaries of what Salmon Camp offers.

Striking a balance between science, field research, IT experiences, and cultural knowledge is a delicate task. The balancing act is highly dependent on staff members with a range of skills and the ability to weave activities into a coherent experience. The project director made several staffing changes during the course of the summer to boost the effectiveness of the camps. Although staff changes can be disruptive to a program and were indeed disconcerting to some counselors, the staff was evidently professional about these situations. Students were protected from any repercussions of changes in staff members. No students mentioned staffing problems in the surveys, interviews, or debriefing sessions. In fact, many students voiced their appreciation for lead staff members and valued their involvement. The importance of dynamic staff members with a range of expertise is a critical variable as the project develops with potential for wider dissemination.

While connections to academic standards will be developed in the coming year, the project did connect students to cultural experiences. In the interviews conducted at the end of the Oregon session, high school students expressed interest in future activities with cultural ties such as:

- Getting together for a powwow
- Fishing in traditional Native American ways
- Flint knapping
- Visiting archaeology sites

Feedback from all of the Salmon Camp Research Team sessions was very positive and documented that students learned to use GPS units and were exposed to other technological tools as well as learning science and resource management content. Overall the summer camps appeared to be slightly more successful for students in high school sessions. Middle school students who were interested in science and resource management thoroughly enjoyed the experience. However, some students would have appreciated more hands-on experiences and fewer content presentations through what they called "lectures."

One concrete step toward dissemination was made this September. The current Salmon Camp Coordinator was part of a panel presentation for the annual conference of the Association of Science-Technology Centers meeting at San Jose, California. He gave an overview of the project with a PowerPoint presentation on the summer's programs. The other panelists were: R.L. "Chip" Lindsey, ITEST PI, Fort Worth Museum of Science and History; a staff member from ITEST, National Science Foundation; and Keith Braflaadt, Director of Learning Technologies, Science Museum of Minnesota. The presentation provided an orientation to the kinds of work taking place under ITEST projects and information on applying for an ITEST grant.

Objective One Part B

Immerse students in a culturally relevant, IT intensive, scientific research experience that will allow them to apply information technology to the resolution of real world natural resource problems.

In the interviews with campers at the end of the Oregon session, students unanimously agreed that SCRT had increased their interest in technology, science, and resource management. (See Appendix B for a summary of responses.) Most students further reflected that they gained skills with GPS units and expressed interest in learning more about the use of GPS through the year. Feedback from the end of the sessions also documented ways in which summer camps were relevant to the cultural experience of Native American participants. The culminating Salmon Bake put on by tribal members at the end of each session and Native American staff members involved in programming provided significant cultural context. The Salmon Bake used traditional Native American recipes and traditions to prepare and share the meal. Most high school participants valued the cultural knowledge brought into the curriculum.

On the end-of-session feedback forms most students agreed that they learned about resource management and gained skills in using technology in science research. The survey used a four-point scale ranging from "No way" to "Yes!" For analyses, a numeric rating was assigned to responses with "1" as the lowest rating and "4" as the highest. (See Appendix B for data tables by session.) Table 2 shows means for middle and high school sessions on relevant questions.

Table 2
SCRT Survey Responses on Resource Management and Technology in Science Research

Survey Item	High School Mean (s.d.)	Middle School Mean (s.d.)
Did you learn about resource management?	3.7 (.6)	3.2 (.8)
Did you gain skills in using technology in science research?	3.7 (.7)	3.4 (.7)

On the open-ended question regarding the three most interesting things which students learned at camp, most middle school students noted that they primarily learned specific scientific information and IT-related information. High school students also learned scientific information but had highest agreement that they learned Native American culture/knowledge. High school students listed interesting Native American cultural experiences they learned such as:

- Native traditions and heritage
- Native indigenous skills
- Flint knapping

Middle school students most frequently reported that they learned science material and how to use technology tools such as GIS. Table 3 shows a breakdown of responses to interesting things students learned for middle and high school students.

Table 3
SCRT Survey Responses on Interesting Things Students Learned

Interesting Things Learned at Camp	High School Responses (n=43) Percentage (number)	Middle School Responses (n=55) Percentage (number)
Scientific information (ranging from forest ecology, to field study tests/protocols, and specific facts)	21% (9)	42% (23)
Native American culture/knowledge	35% (15)	7% (4)
How to use technological tools (GPS, GIS, spreadsheets, graphs)	16% (7)	24% (13)
Resource management strategies	7% (3)	5% (3)

Objective Two

Students will gain experiences and skills necessary to obtain science and IT-related internships and jobs.

A primary metric to gauge student gains in experience and skills will be the SCRT Student Survey. The survey was developed in collaboration with OMSI staff members as a repeated measures tool. Content of the survey includes items on attitudes toward science, technology skills, experience with science, as well as workplace and basic academic skills. The instrument draws from the Fennema-Sherman Attitude Scales (Fennema and Sherman, 1976), Efficacy Indices developed by NWREL for measuring self-efficacy with regards to technology, ProfilerPro (Profiler, 2004), and the Secretary's Commission on Achieving Necessary Skills (SCANS, 1991).

The survey was administered for baseline data collection on the first day of each SCRT session and was completed by students in the field using a bank of ten portable laptops. As the first major activity for each session, the survey set the tone for an Information Technology-rich camp experience and acted as a performance assessment as evaluators observed student completion of the instrument. Students were savvy computer users. Most students readily learned how to use the dropdown boxes and easily saved their surveys to both the desktop and removable disk. A few students were slowed by a lack of typing proficiency, most showed adequate keyboarding skills.

During their camp experience the high school students researched and developed multimedia presentations on topics relevant to Salmon Camp. Students presented as individuals or teams to share information on topics including:

- The Life of Bald/Golden Eagles and Salmon: How to Keep Them from Extinction
- Native American Hunting Tools
- Red Tailed Hawks
- Ridgetop to Ridgetop, Management of Ecosystems
- Oral History
- Native Rights
- Traditional Management Practices/Fire Ecology
- Traditional Canoes
- The Clean Air Act
- Extinction of Chinook Runs
- Cultural/Spiritual Significance of Bird Species to Native Americans
- Traditional Fishing Practices
- Invasive/Exotic Plant Species

SCRT Student Survey Findings

Survey results show students' self-reported attitudes and skills before their participation in the first NSF-ITEST Salmon Camp. Students will complete a Time 2 assessment during the spring break camp or before the second year Salmon Camp (2005). A complete data table with ratings on each item may be found in Appendix C.

The baseline data show students had high agreement in their attitudes toward the need for science. Over 70 percent agreed or strongly agreed on the following items:

- Understanding science will help me be a better community member.
- I'll need a good understanding of science for my future work.

Attitudinal questions that pointed toward areas where students had highest rates of undecidedness or disagreement and, therefore, present areas of potential growth were:

- I am sure of myself when I do science.
- I would choose to take an elective science class.
- My teachers have been interested in my progress in science.

More than 80 percent of the students reported that the kinds of things they do a lot on a computer at school were:

- Looking up information on the World Wide Web
- Word processing activities
- Creating presentations (PowerPoint, KidPix, etc.)

Areas of high confidence or proficiency with technology (70% or higher agreement) were:

- E-mail messages and attachments
- Create and use bookmarks/favorites
- Web searches
- Creating graphs from spreadsheet data
- Using advanced features of a word processor

Students lacked confidence or proficiency in several areas that may be addressed by the project such as:

- Using statistical software for data analysis
- Importing data from a GPS to a database
- Using formulas and/or functions in a spreadsheet
- Creating and maintaining a Web site

They also expressed high interest in science and technology, although only about half knew which classes to take to help them succeed in a science career. At least 70 percent of the students reported high rates of agreement on the following items:

- I want to learn more about using technology in science or resource management.
- I have been involved in activities that help me think about career options.

There appears to be plenty of room for growth in workplace and basic skills. Interestingly, mathematics was the area where most students rated themselves as good or great (66%). Weakest areas were:

- I work well on teams, teach others, lead, negotiate, and work well with people from culturally diverse backgrounds.
- I think creatively to imagine new ideas.
- I use logical reasoning to make decisions.

Overall, the survey revealed that students felt they had strong skills in basic computer literacy with room for growth in using more advanced information technology tools. They anticipated the need for science in their future careers and as community members, and were interested in learning more about using technology in science or resource management. However, they seemed to lack some confidence and support for pursuing science in school. Further, many students did not see themselves as problem solvers or collaborators. If these data are taken as a needs assessment they present a compelling case for the activities outlined for SCRT in the coming year. The students appear to be well matched for the project and in need of improvement in many of the precise areas on which SCRT hopes to focus.

In-camp Interview Findings

The in-camp interviews were conducted with high school SCRT participants toward the end of each camp session. The interviews drew from expressed interests and goals gathered during previous assessments (either the pre-camp phone interview or the SCRT Student Survey). A full report on the In-camp Interviews may be found in Appendix D. Overall, the interviews indicated that Salmon Camp gave students more specific knowledge of careers, technology tools, and job skills as well as supporting interest in science in school.

Science Careers

- At the start of the program, participants expressed interest in opportunities for scientific fieldwork and resource management. In fact, participants were selected based on such interests.
- Toward the end of their summer camp experience, most participants' descriptions of their interests in careers seemed to be enriched by their SCRT experience. That is, many of the participants listed additional careers, which suggests SCRT had exposed them to attractive options; some of the participants stated an interest in incorporating their Native culture with their career, which suggests SCRT helped them see the connection between career and culture; and some of the participants discussed a career interest in specific detail, which suggests SCRT had helped them try some methods from a career of interest.
- When asked how future Salmon Camp programs could support their career goals, participants asked for even more opportunities to engage in fieldwork, meet professionals, and learn about Native ecology and traditions. In addition, some participants asked for more exposure to internships and university programs.

Computers and Technology

- At the start of the program, participants expressed a general interest in computers and technology. Again, participants were selected for such interests.
- Toward the end of their summer camp experience, participants expressed interest in learning more about many of the technologies they had used at camp. For instance, GPS and GIS were particularly popular.

- When asked how future Salmon Camp programs could support their goals to learn more about computers and technology, participants asked for more GPS, GIS, PowerPoint, and Photoshop. In addition, individual requests were made to learn Excel, to learn typing, and to use the Internet more.

Job skills

- At the start of the program, participants stated two job skills they wanted to strengthen through their SCRT experience. Most of the participants stated science skills, information technology skills, or resource management skills as their priorities.
- Toward the end of the program, participants had the option of choosing new skills to strengthen, but all of them reiterated their interest in science, information technology, and resource management skills.

School

In the interviews, participants were asked how they imagined SCRT might help them in school. Most participants imagined that SCRT would help them in science class and would help them better understand science. Some participants mentioned improved self-esteem or motivation at school. Two participants said they would receive school credit for SCRT. Two participants said SCRT increased their interest to integrate their Native culture with their school experience.

Findings from the In-camp Interviews indicate that students were on their way to gaining experiences and skills necessary to obtain science and IT-related internships and jobs. Their camp experience sustained or heightened their interest in the field. Students looked forward to continued involvement in Salmon Camp activities.

Objective Three

Students will work together with educational and professional mentors through cooperative hands-on, inquiry-based research activities.

This objective will be addressed in the coming school year. Students reported looking forward to ongoing support from and involvement with Salmon Camp activities.

Objective Four

Provide students with opportunities to interact in a positive and supportive learning and work environment.

The summer camps provided daily opportunities for students to interact in learning environments. Daily camp schedules and debriefing sessions with counselors provided insight into opportunities to learn and work with others. Although students in the summer sessions often saw scientists and resource managers at work in their field sites rather than their offices, they were exposed to field sites as authentic outdoor work environments. High school students in each session met with twelve to twenty-four different specialists during their camp experience. The

specialists spoke with students or engaged them in activities. Students interacted with presenters or researchers on topics ranging from indigenous knowledge to highly sophisticated information technology tools and field protocols. (See Appendix E for a sample camp schedule.)

As another indicator of the extent to which these interactions were positive and supportive, the End-of-Session Feedback Forms asked several related questions. On the feedback forms nearly all the high school students and most middle school students agreed that Salmon Camp met their expectations, made them more curious about science, and was fun. One question asked if students would recommend the program to others. As mentioned earlier, the survey used a four-point scale ranging from “No way” to “Yes!” For analyses a numeric rating was assigned to responses with “1” as the lowest rating and “4” as the highest. (See Appendix B for data tables by session.) Table 4 shows means for middle and high school sessions on related questions.

Table 4
SCRT Survey Responses on Affective Questions

Survey Item	High School Mean (s.d.)	Middle School Mean (s.d.)
Did Salmon Camp meet your expectations?	3.7 (.5)	3.2 (.9)
Has this program made you more curious about science?	3.6 (.5)	3.1 (.7)
Did you have fun?	3.9 (.2)	3.3 (1.1)
Would you recommend this program to others?	4.0 (.2)	3.6 (.9)

Ratings on all items for both groups were very high. As with the other end-of-session survey responses, the high school students were more positive than the middle school students. The enrichment and spring break activities should provide additional opportunities for students to experience positive and supportive learning and work environments.

SUMMARY

The National Science Foundation–Information Technology Experiences for Students and Teachers Grant to the Oregon Museum of Science and Industry for the Salmon Camp Research Team is making strong progress toward achieving objectives. The full spectrum of measures used to date show many accomplishments and highlight the need for the enrichment and spring break activities that will take place during the 2004–2005 academic year.

Successes

Student feedback from the summer camps was very positive. Three and a half weeks is a long period of time for high school students to be involved in a project of this nature. The retention of nearly all students through the duration of the camp is an accomplishment in itself and speaks to the success of the project. The high school students in the three-and-a-half-week sessions rated their experiences somewhat more positively than the middle school students who participated in a one-week session. Evaluation findings indicate that across sessions, Salmon Camp successfully:

- Provided culturally relevant experiences to Native American students in the high school sessions, less so for middle school students
- Exposed students to some technology use in the field, particularly Global Positioning Systems
- Improved understanding of science content and resource management ideas
- Heightened interest and curiosity in science

High school students appeared to enjoy the presentation of their final projects. They were well versed in their topics and professional in their presentations. This is an area where students could build on their skills as they become more involved in specific research projects and present findings.

Anecdotally, numerous parents of high school campers shared their highly positive view of Salmon Camp. In some cases, parents attribute involvement in the camp with sustaining their children's interest and achievement in science. Some parents saw ways in which Salmon Camp experiences would lead to career interests for their children as well. For others, the cultural connection is equally important.

Considerations

In planning for the coming academic year, evaluation findings point to several worthwhile considerations. Two major objectives were touched on during the summer sessions but will be more relevant in the next stage of implementation: addressing educational standards and working with educational and professional mentors. These are both important areas that should help sustain student involvement with the project. They also may help increase student confidence in science and provide support for advanced study, two areas in which most students gave themselves low ratings on the SCRT Student Survey. Other areas that were addressed during summer camps and have potential for growth are:

- Increased involvement of students with ongoing field research through mentors or school year activities.
- Building on student presentation skills with an eye toward presentation of research studies.

- Greater attention to field notebooks, student journals, or products to demonstrate growth and achievement. These could be valuable to students in their regular science classes or portfolios for job/school.
- More skill building with technology tools. Students have been exposed and are highly interested in learning more.
- Opportunities to use problem-solving strategies and collaboration in the field. These are areas where few students feel they have strong skills and are critical career/personal skills.

From the perspective of camp staff there needs to be more time between camp sessions in the summer. After a three-and-a-half-week session counselors and leaders needed more than a couple of days to be re-energized and organized for the next session. Continuous intensive involvement increases the likelihood of staff burnout and interpersonal strife.

Overall, the project appears to be on track to continue making strong progress toward achieving objectives. Project leaders are commended on achievements to date. They have shown commitment to assuring project success and been responsive to evaluative feedback. The aim of this report is to further support project growth with information so that the project planners can make data-based as well as experience-based decisions.

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Appendices

Appendix A

Salmon Camp Research Team Phone Interview Guide

Student name:
Interview date:

Program:
Accept:

1. Have you been involved with Salmon Camp in the past?
2. Why do you want to be a member of the Salmon Camp Research Team?
3. What do you hope to get out of being a Salmon Camp Research Team Participant?
4. Are you interested in learning more about careers in science and resource management?
5. Are you interested in learning more about computers?
6. What experience do you have camping, hiking?
7. What is your favorite food?
8. Do you have any questions?

A-4: SCRT Post-Camp Student Interview Form

Question 1: A major goal of Salmon Camp is to increase your exposure to and interest in technology, science, and resource management. So, here you are at the end of camp...Did it work? How have your experiences over the last few weeks impacted your skills/knowledge/interest in technology, science, and resource management?

Question 2: Part of your involvement with Salmon Camp includes follow-up sessions during the year. What kinds of things do you think would be interesting to do/learn more about during those sessions?

Question 3: What suggestions do you have to make Salmon Camp better?

A-5: End of Session Feedback Form
OMSI Salmon Camp Research Team







Please rate and/or respond to each item to help us make Salmon Camp a great experience for more campers!





Your gender? Male ☐ Female ☐

The grade you will be in for Fall 2004? 9 10 11 12 Other: _____

1. Did Salmon Camp meet your expectations?    
 No way! Not really I think so YES!

2. Has this program made you more curious about science?    
 No way! Not really I think so YES!

3. Did you learn about resource management?    
 No way! Not really I think so YES!

4. Did you gain skills in using technology in science research?    
 No way! Not really I think so YES!

5. Did you have fun?    
 No way! Not really I think so YES!

6. What were the three most interesting things you learned at camp?

1.

2.

3.

7. What surprised you the most?

8. Would you recommend this program to others?



No way!



Not really



I think so



YES!

Why, or why not?

Which was your favorite...	Why?
...presenter?	
...meal/food?	
...camp site?	
...part of camp?	

Other thoughts/comments/suggestions?

~~~~~Thanks so much for your input. Have a great summer!~~~~~



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#### Spawning sockeye salmon jumping the falls on the Meziadin River

It's exciting to stand on the banks of the Meziadin River in western British Columbia and try to photograph sockeye salmon trying to jump the falls. These man-made falls force almost all the spawning salmon to swim up the ladder and be counted. Modern, concrete and steel fish ladders were build on the Meziadin River in 1966 to replace the old wooden ladders which were hauled in from Stewart, B.C., by pack horses in 1910.

## Appendix B-1: End-of-Session Feedback Report

SCRT-Oregon July 7, 2004

### Closing Activities

Six students, the Salmon Camp staff members, and about fifteen guests attended the culminating Salmon Bake and student presentations at HeHe Longhouse on the Warm Springs Reservation. (Four campers were unable to attend as they left earlier in the day to attend an out-of-state powwow.) During the evening, staff members conducted a debriefing session, students completed the End-of-Session Feedback Forms, and the NWREL evaluator conducted individual student interviews. Interview responses and student presentation highlights are reported in the following sections, as well as feedback form responses.

### Student Interviews

**Question 1: A major goal of Salmon Camp is to increase your exposure to and interest in technology, science, and resource management. So, here you are at the end of camp.... Did it work? How have your experiences over the last few weeks impacted your skills/knowledge/interest in technology, science, and resource management?**

| ID | Did it work? | Impact                                                                                                                                                                                                                                                                       |
|----|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Yes          | I'm more interested in wildlife and cultural backgrounds.<br>It makes you want to become a counselor or teacher.<br>I think I will act better toward wildlife because I already feel bad now for just killing a plain old bug.                                               |
| 2  | Yes          | I know more about salmon. We saw a tribal fisherman fish.<br>The technology was cool. I know how to work a GPS now. We learned how to use it with bats, to see how close or how far away they were.<br>I want to be a wildlife biologist, like Jay. It's fun to be outdoors. |
| 3  | Yes          | I'm more interested in science. I used to think it was kinda boring.<br>I'm interested in paleontology and archaeology.<br>I learned some GIS, kinda.                                                                                                                        |
| 4  | Yes          | We learned about why you should protect vegetation around streams, and about water testing to protect salmon.<br>I can see myself doing a couple of careers in science areas.                                                                                                |
| 5  | Yes          | I learned some science.<br>GPS-learned the basics.<br>I'm thinking about science for a career.                                                                                                                                                                               |
| 6  | Yes          | I liked the archaeology. That was my first encounter with that and it was really interesting.<br>I learned how to use the GPS.                                                                                                                                               |

**Question 2: Part of your involvement with Salmon Camp includes follow-up sessions during the year. What kinds of things do you think would be interesting to do/learn more about during those sessions?**

| ID | Suggested Activities/Content                                                                                                                                                                              |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | More trips. Meetings once a month would even be good. Keep in touch through the year.<br>Get together for a powwow, just stay connected.                                                                  |
| 2  | GPS, field trips<br>Rafting. I really wanted to do that and we didn't get to.<br>Fish like Terry does. It's really dangerous, but it would be fun to do, and maybe we could do it in a safer way somehow. |
| 3  | A BIG orienteering course.<br>Fishing—catch and release.<br>Mountain biking/an overnight horseback ride                                                                                                   |
| 4  | Flint knapping<br>Visit archaeology sites                                                                                                                                                                 |
| 5  | Hiking<br>More GPS—mapping out points                                                                                                                                                                     |
| 6  | Rafting<br>More GPS                                                                                                                                                                                       |

**Question 3: What suggestions do you have to make Salmon Camp better?**

In group discussion campers agreed that they had a good experience, and were glad they had participated. There was consensus that they could have used more sleep and were junk food deprived. About half of the students would have appreciated better organization and communication between counselors, professionals they worked with, and the campers. Additional specific suggestions follow.

| ID | Suggestions                                                                                                                                                                                                                                                                                                                    |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Internet access<br>Why bring money if we can't use it?                                                                                                                                                                                                                                                                         |
| 2  | Not pick weeds in 100° weather.<br>We could have someone who knows how to handle wildlife safely. It would be good to have a professional to show us how to handle wildlife we might find and how to be with them.<br>Stop at stores once in awhile. We can't go three weeks without candy. The gift shops were too expensive. |
| 3  | Not have the same lunch food every day.                                                                                                                                                                                                                                                                                        |
| 4  | Keep up the good work. Frank and Jay were awesome. They made it fun.                                                                                                                                                                                                                                                           |
| 5  | I liked it. It went really good.<br>We could have better lunch and breakfast—having different things—not the same sandwich for lunch everyday.                                                                                                                                                                                 |
| 6  | Let us buy stuff.                                                                                                                                                                                                                                                                                                              |

## PowerPoint Presentations

Students presented on self-selected topics of interest that they investigated while at Cascade Science School. Campers worked as individuals or teams and information was shared on:

- The Life of Bald/Golden Eagles and Salmon: How to Keep them from Extinction
- Native American Hunting Tools
- Red Tailed Hawks

The student presenters were polished and professional in their presentations. They communicated information clearly and were well-informed on their topics. The PowerPoint slide shows demonstrated exemplary use of text, supporting visuals, and cited sources used in research.

## End-of-Session Survey Responses

| Item                                                         | Ratings (4=Most positive rating) |            |            |          |                |
|--------------------------------------------------------------|----------------------------------|------------|------------|----------|----------------|
|                                                              | Percentage (n)                   |            |            |          | Average Rating |
|                                                              | No Way                           | Not Really | I Think So | Yes!     |                |
| Did Salmon Camp meet your expectations?                      | —                                | —          | 34% (2)    | 67% (4)  | 3.7            |
| Has this program made you more curious about science?        | —                                | —          | 34% (2)    | 67% (4)  | 3.7            |
| Did you learn about resource management?                     | —                                | 17% (1)    | 17% (1)    | 67% (4)  | 3.5            |
| Did you gain skills in using technology in science research? | —                                | —          | 17% (1)    | 83% (5)  | 3.8            |
| Did you have fun?                                            | —                                | —          | 17% (1)    | 83% (5)  | 3.8            |
| Would you recommend this program to others?                  | —                                | —          | —          | 100% (6) | 4.0            |

### Reasons Why SCRT Campers Would Recommend the Program to Others:

- It is fun and you learn a lot.
- Because it's fun.
- It is very fun to be outdoors and just have fun.
- Because it was a fun learning experience and getting to meet new people.
- Because it's really fun and interesting and you learn a lot about science.
- Because it was a great experience and they make learning fun.

## The Most Interesting Things SCRT Campers Learned

| # Responses | Knowledge/Skill/Activity                                       |
|-------------|----------------------------------------------------------------|
| 3           | How to use GPS systems.                                        |
| 2           | How to do flint knapping.                                      |
| 1           | Doing tests on the streams for Ph, phosphates, turbidity, etc. |

### What Surprised Campers the Most:

- That you couldn't buy anything, yet the packet said to bring money.
- Almost being attacked by a rattlesnake.
- That I got along with everyone.
- Getting to play basketball in our free time.
- When we went to the old railroad and abandoned camping site where we encountered spirits.
- How few girls came to the camp and also that sage has male and female parts on the same bush.

### Favorite Features of Camp

| Feature   | # | Favorite                         | Explanation                                    |
|-----------|---|----------------------------------|------------------------------------------------|
| Presenter | 5 | Eric, Archeologist               | Because he taught me how to flint knap         |
|           | 1 | Day and the man with the Atlats. | It was a fun learning experience.              |
| Meal/food | 2 | Indian Tacos.                    | They were very filling and really good         |
|           | 2 | Smores                           | The chocolate                                  |
|           | 1 | Pizza                            | It was good.                                   |
|           | 1 | Cereal                           | Because it's my favorite but WITH milk.        |
| Camp site | 2 | Prairie City                     | Great place to stay.<br>Because we had carpet. |
|           | 1 | CSS                              |                                                |
|           | 1 | Barn                             | Lot of rattlesnakes.                           |
|           | 1 | Strawberry Lake                  | We got to go swimming and saw a deer.          |
|           | 1 | Emigrant Springs                 | Because I wasn't scared and it was cool.       |

| Feature             | # | Favorite                                                         | Explanation                                              |
|---------------------|---|------------------------------------------------------------------|----------------------------------------------------------|
| <b>Part of camp</b> | 1 | Campfire                                                         | Warm                                                     |
|                     | 1 | Dinner table                                                     |                                                          |
|                     | 1 | Meeting new people. Learning the Indian culture.                 | It's fun to make new friends.                            |
|                     | 1 | Meeting people, seeing rattlesnakes, and getting to know people. |                                                          |
|                     | 1 | Fishing                                                          | Because Frank can't kill a fish and it kept on tweaking. |

#### **Additional Comments:**

- More lunch than just pb and j sandwiches.  
Let us buy candy and pop and a lot of it.
- Different food for lunch/breakfast. Need pop and cereal.
- Try to add rafting and new foods.
- We need more food 24/7 and I think pop and some sweets should be allowed.
- Different food for lunch and breakfast.  
Allowed to buy things from stores and other places.
- We need to be a little bit more organized.

### **Overall**

Data from the End-of-Session Feedback forms, interviews, and presentations point to a successful first session for the Salmon Camp Research Team. All students reportedly increased their interest in science/technology/resource management. Most campers gained skills with technology tools, particularly with Global Positioning System units. Sandwiched between learning new skills and content, campers reportedly had fun, and appreciated the camp staff members. All would recommend Salmon Camp to others. During the interviews four students expressed interest in learning more about the use of GPS through the coming year. All interviewees looked forward to participating in ongoing activities through the year.

Some students were frustrated by organizational issues including not always knowing what was scheduled for the day and waiting for arrangements to be made. Others felt that there was no problem from an organizational standpoint. The only commonly mentioned suggestion for improvement was related to food. The team recommended more variety in breakfast and lunch items.

## B-2 End-of-Session Survey Responses SCRT–California 2004

N=7

| Item                                                         | Ratings (4=Most positive rating) |            |            |          |                |
|--------------------------------------------------------------|----------------------------------|------------|------------|----------|----------------|
|                                                              | Percentage (n)                   |            |            |          | Average Rating |
|                                                              | No Way                           | Not Really | I Think So | Yes!     |                |
| Did Salmon Camp meet your expectations?                      | —                                | —          | —          | 100% (7) | 4.0            |
| Has this program made you more curious about science?        | —                                | —          | 14% (1)    | 86% (6)  | 3.9            |
| Did you learn about resource management?                     | —                                | —          | 14% (1)    | 86% (6)  | 3.9            |
| Did you gain skills in using technology in science research? | —                                | —          | —          | 100% (7) | 4.0            |
| Did you have fun?                                            | —                                | —          | —          | 100% (7) | 4.0            |
| Would you recommend this program to others?                  | —                                | —          | —          | 100% (6) | 4.0            |

### Why would you recommend the program to others?

- Because it was lots of fun and we all had the opportunity not only to learn but to teach as well.
- Because it's greatly improved and it was good to begin with.
- Because it's fun.
- You have an extended family and a lot of friends.
- Because it was a very good learning experience.
- Fun.
- Because it was fun and teaches a lot.



### What were the three most interesting things you learned at camp?

| # Responses | Knowledge/Skill/Activity                                                     |
|-------------|------------------------------------------------------------------------------|
| 4           | Traditional culture/knowledge/land management/tribes that inhabited the area |
| 3           | The Redwood's canopy level                                                   |
| 2           | GPS                                                                          |
| 2           | Flint knapping.                                                              |
| 2           | Native/indigenous rights                                                     |
| 1           | GIS                                                                          |
| 1           | Tullie ducks                                                                 |
| 1           | Tsunami deposits                                                             |
| 1           | David West at SOU                                                            |
| 1           | How the Redwoods were managed                                                |
| 1           | How a tremble unit worked                                                    |

### What surprised you the most?

- What surprised me the most is that Daisy got Frank with the binoculars.
- The new counselors.
- Everything.
- How long it was.
- Getting accepted.
- The Redwoods trees themselves.

### Which was your favorite?

| Camp Feature     | # | Favorite                                      | Explanation                                                                                                                                                |
|------------------|---|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Presenter</b> | 2 | Vicki Ozaki                                   | <ul style="list-style-type: none"> <li>• She was exciting.</li> <li>• She made things interesting and I only fell asleep once.</li> </ul>                  |
|                  | 2 | Jay                                           | <ul style="list-style-type: none"> <li>• He's cool, taught us a lot.</li> <li>• Because he's good with delivery/explanation and had good facts.</li> </ul> |
|                  | 1 | OMSI staff                                    | Fun                                                                                                                                                        |
|                  | 1 | Alex Adkins                                   | Because he taught us how to flintknape and make Tullie ducks.                                                                                              |
|                  | 1 | Tsunami and earthquake lady.                  | 'Cuz it was cool.                                                                                                                                          |
| <b>Meal/food</b> | 4 | Salmon Bake<br>(and "best frybread by me!!!") | <ul style="list-style-type: none"> <li>• Because it's good to eat and it's really healthy</li> <li>• Good salmon!</li> </ul>                               |

| Camp Feature | # | Favorite                                                        | Explanation                                                                                                                                                                                                                |
|--------------|---|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |   |                                                                 | <ul style="list-style-type: none"> <li>Tastes good.</li> <li>Because it was a terrific meal.</li> </ul>                                                                                                                    |
|              | 1 | At Wolf Creek, the food was scarce...<br>Camping food was best. | Otherwise it was good.<br>However, I don't no if I'll ever eat bagels again.                                                                                                                                               |
|              | 1 | Pizza                                                           | Cuz it was huge and good.                                                                                                                                                                                                  |
| Camp site    | 4 | Wolf Creek Education Center.                                    | <ul style="list-style-type: none"> <li>Because of the really nice stumps to climb on.</li> <li>Old growth redwoods.</li> <li>Stayed there the longest.</li> <li>Because how close it was to the Redwood Forest.</li> </ul> |
|              | 2 | Shady Cove.                                                     | <ul style="list-style-type: none"> <li>Cold water.</li> <li>Right next to camp.</li> </ul>                                                                                                                                 |
|              | 1 | Gram's place.                                                   | It was awesome to be able to meet J's family and be welcomed to their property.                                                                                                                                            |
| Part of camp | 2 | Hiking                                                          | <ul style="list-style-type: none"> <li>We learned a lot.</li> <li>Because it was fun.</li> </ul>                                                                                                                           |
|              | 1 | Redwoods                                                        | Big trees.                                                                                                                                                                                                                 |
|              | 1 | Daisie's binoculars.                                            | She got four people with that joke including me.                                                                                                                                                                           |
|              | 1 | Campfire                                                        | At that time it felt like a family.                                                                                                                                                                                        |
|              | 1 | Traditions.                                                     | Because it is.                                                                                                                                                                                                             |

### Additional Comments

- More hands on and listen to Jay and the others when they need something because they know what they are talking about.
- Have all of the presentations spread out, not all in a week and a half. It gets boring that way.
- Better food.
- Better/more food.

### B-3: End-of-Session Survey Responses SCRT–Washington 2004

N=6

| Item                                                         | Ratings (4=Most positive rating) |            |            |          |                |
|--------------------------------------------------------------|----------------------------------|------------|------------|----------|----------------|
|                                                              | Percentage (n)                   |            |            |          |                |
|                                                              | No Way                           | Not Really | I Think So | Yes!     | Average Rating |
| Did Salmon Camp meet your expectations?                      | —                                | 17% (1)    | 17% (1)    | 67% (4)  | 3.5            |
| Has this program made you more curious about science?        | —                                | —          | 67% (4)    | 33% (2)  | 3.3            |
| Did you learn about resource management?                     | —                                | —          | 33% (2)    | 67% (4)  | 3.2            |
| Did you gain skills in using technology in science research? | —                                | 33% (2)    | 17%(1)     | 50% (3)  | 3.2            |
| Did you have fun?                                            | —                                | —          | —          | 100% (6) | 4.0            |
| Would you recommend this program to others?                  | —                                | —          | 17%(1)     | 83% (5)  | 3.8            |

**Why would you recommend the program to others?**

- It's fun.
- It's funloving, educational, and a great place to go!
- Because it's awesome.
- Cause it's fun.

### What were the three most interesting things you learned at camp?

| # Responses | Knowledge/Skill/Activity                                             |
|-------------|----------------------------------------------------------------------|
|             | <b>Response #1</b>                                                   |
| 1           | Native heritage.                                                     |
| 1           | Pebble counts.                                                       |
| 1           | The whole salmon life cycle.                                         |
| 1           | Learned that Native Americans used cattail for diapers.              |
| 1           | Bring bug spray.                                                     |
| 1           | Exactly what ideal habitat for salmon is.                            |
|             | <b>Response #2</b>                                                   |
| 1           | Land management.                                                     |
| 1           | Traditional Native American traditions.                              |
| 1           | Traditional Native indigenous skills.                                |
| 1           | Learned that salmon need logs.                                       |
| 1           | Learned about spring salmon.                                         |
| 1           | How Native Americans managed eco systems for their needs.            |
|             | <b>Response #3</b>                                                   |
| 1           | Fish management.                                                     |
| 1           | Plants.                                                              |
| 1           | Environmental law.                                                   |
| 1           | Learned that lakes are growing vegetation for the lake.              |
| 1           | Learned how to make a fire without matches.                          |
| 1           | How much a group of strangers can become close in a few short weeks. |

### What surprised you the most?

- Frank's hair.
- How everyone ended as a family (it was great!).
- Back packing.
- Snorkle.
- I dunno.
- How much we became a family.

### Which was your favorite?

| Camp Feature        | # | Favorite             | Explanation                                                                                                                                                       |
|---------------------|---|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Presenter</b>    | 3 | William Jay Lipe     | <ul style="list-style-type: none"> <li>• He was fun!</li> <li>• Interesting, but long.</li> <li>• Fascinating topic (endangered ecological knowledge).</li> </ul> |
|                     | 1 | The weed man         | Interesting.                                                                                                                                                      |
|                     | 1 | No response          |                                                                                                                                                                   |
|                     | 1 | Makaw tribal elders  |                                                                                                                                                                   |
| <b>Meal/food</b>    | 1 | Spaghetti            | My favorite                                                                                                                                                       |
|                     | 1 | Meals at Pack Forest | We didn't have to cook or clean.                                                                                                                                  |
|                     | 1 | I ate                | I was hungry                                                                                                                                                      |
|                     | 2 | No Response          | <ul style="list-style-type: none"> <li>• No dairy</li> <li>• I love bugs</li> </ul>                                                                               |
|                     | 1 | None                 | None                                                                                                                                                              |
| <b>Camp site</b>    | 3 | Pack Forest          | <ul style="list-style-type: none"> <li>• Meals provided, showers, electricity</li> <li>• Showers</li> <li>• It was cool</li> </ul>                                |
|                     | 2 | No response          | <ul style="list-style-type: none"> <li>• Running water</li> <li>• Need toilets</li> </ul>                                                                         |
|                     | 1 | Elwah.               | <ul style="list-style-type: none"> <li>• It was pretty</li> </ul>                                                                                                 |
| <b>Part of camp</b> | 1 | No response          |                                                                                                                                                                   |
|                     | 1 | Orcas                | Never seen them before and they were so close.                                                                                                                    |
|                     | 1 | Backpacking          | We had the chance to get one with nature and really get to know the people in our group.                                                                          |
|                     | 1 | The people           | We love each other, what's more to explain?                                                                                                                       |
|                     | 1 | Native Traditions    | No explanation                                                                                                                                                    |
|                     | 1 | Fire                 | No explanation                                                                                                                                                    |

### Additional Comments

- Rafting, more on top of everything?
- 7-year member.
- Need bathrooms, not porties.

## B-4: End-of-Session Survey Responses SCRT–Hancock 2004

N=23

| Item                                                         | Ratings (4=Most positive rating) |            |            |          |                |
|--------------------------------------------------------------|----------------------------------|------------|------------|----------|----------------|
|                                                              | Percentage (n)                   |            |            |          |                |
|                                                              | No Way                           | Not Really | I Think So | Yes!     | Average Rating |
| Did Salmon Camp meet your expectations?                      | 4% (1)                           | 17% (4)    | 30% (7)    | 48% (11) | 3.2            |
| Has this program made you more curious about science?        | —                                | 22% (5)    | 44% (10)   | 35% (8)  | 3.1            |
| Did you learn about resource management?                     | 4%(1)                            | 13%(3)     | 44% (10)   | 39% (9)  | 3.2            |
| Did you gain skills in using technology in science research? | —                                | 13% (3)    | 30%(7)     | 57% (13) | 3.4            |
| Did you have fun?                                            | 13%(3)                           | 9%(2)      | 13%(3)     | 65% (15) | 3.3            |
| Would you recommend this program to others?                  | 9%(2)                            | —          | 17%(4)     | 74% (17) | 3.6            |

### Why would you recommend the program to others?

#### “No Way” Responses:

- NA
- Don't know!

#### “I Think So” and “Yes!” responses:

- Because we learned how important conservation [is].
- I would only recommend it if that person was REALLY into science and learning.
- Because you learn a lot.
- Because it's TONS of fun!
- Because it's fun.
- Because everytime I come I have a blast!!!
- It was fun.
- So they can see what other path is open to them in the future.
- Because it teaches people a lot about their cultural heritage and also it teaches other things.
- Because I said someone can learn something really important about themselves.
- Because it's fun.
- Because it's fun.
- Because it's fun and you learn some stuff.
- It's cool and fun.
- Because as long as the social aspect is good, the camp is okay.
- For people who are really into this kinda thing should go because it is fun.
- Because it is such a fun way to learn how to do a lot of cool stuff that I could use.

- Because this is a great experience.
- Because if you're accepted there and it is like home!
- I would because you learn a lot but I wouldn't because it wasn't that fun just sitting and listening all day.

**What were the three most interesting things you learned at camp?**

| # Responses | Knowledge/Skill/Activity                                              |
|-------------|-----------------------------------------------------------------------|
| 8           | About GPS                                                             |
| 7           | That forest fires can be good for the environment/they're not all bad |
| 3           | Vegetative sampling                                                   |
| 3           | Fossils                                                               |
| 3           | There were cheetahs in Oregon                                         |
| 3           | Don't know                                                            |
| 2           | Jay's presentation                                                    |
| 2           | Making graphs on the computer                                         |
| 2           | PH indicator                                                          |
| 2           | Campfire                                                              |
| 2           | About spread sheets                                                   |
| 2           | How to make a drum                                                    |
| 1           | Natural resources                                                     |
| 1           | The horse skeleton                                                    |
| 1           | A native song                                                         |
| 1           | About Indians and what they used                                      |
| 1           | That salmon lay their eggs in the same spot they were born            |
| 1           | Colored soil means it has a lot of minerals                           |
| 1           | Archeology                                                            |
| 1           | Compass                                                               |
| 1           | And hikes                                                             |
| 1           | Rafting                                                               |
| 1           | Central Oregon wasn't always a desert                                 |
| 1           | If someone is having seizures, make sure they can't hurt themselves   |
| 1           | Don't horseplay in the long house                                     |
| 1           | Be courteous to others!                                               |
| 1           | About the different types of rocks                                    |
| 1           | That some cabins were older than 50 years old                         |

### What surprised you the most?

- How many talks we were given.
- I didn't know anyone.
- How boring it was.
- That fish could live in such shallow water.
- Seeing all my friends again and how RUDE some of the counselors were!
- Seeing all my friends.
- How most people were—nice.
- That my cabin didn't do KP that much.
- How the staff were so nice and how fossils there were in the area, archeology sounds fun.
- The bird that was in the bathroom.
- That the camp was really organized.
- The campfire.
- Nothing.
- How little people there were.
- Nothing.
- How little people there were attending the camp.
- I really don't have anything that surprised me.
- Jay's seemingly endless knowledge.
- The long hikes.
- The counselors.
- The salmon
- The most surprising thing about camp was when we didn't get that much time to just hang out. We were sitting for too long listening to lectures!

### Which was your favorite?

| Camp Feature | # | Favorite         | Explanation                                                                                                                                                                                                               |
|--------------|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meal/food    | 5 | French toast     | <ul style="list-style-type: none"> <li>• It was yummy</li> <li>• It was good</li> <li>• Because I like it</li> <li>• Because it's my favorite breakfast</li> <li>• Because it tasted really good when I ate it</li> </ul> |
|              | 3 | Dinner           | <ul style="list-style-type: none"> <li>• Because I was awake</li> <li>• Because of the lemonade</li> <li>• Because I like the pizza</li> </ul>                                                                            |
|              | 2 | Pizza            | <ul style="list-style-type: none"> <li>• Because I love pizza and it's good</li> <li>• Because it was good</li> </ul>                                                                                                     |
|              | 2 | Teriyaki chicken | <ul style="list-style-type: none"> <li>• Cause it taste good</li> <li>• It was fun</li> </ul>                                                                                                                             |
|              | 1 | Pancakes         | They are good                                                                                                                                                                                                             |
|              | 1 | Meatloaf         | It was good                                                                                                                                                                                                               |
|              | 1 | Pumpkin bread    | Cause it tasted good!                                                                                                                                                                                                     |
|              | 1 | Alfredo!         | It was awesome                                                                                                                                                                                                            |
|              | 1 | Cereal           | It was good                                                                                                                                                                                                               |
|              | 1 | Nothing          |                                                                                                                                                                                                                           |



| Camp Feature | # | Favorite                | Explanation                                                                                                                                                                                                                                      |
|--------------|---|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part of camp | 4 | Campfire                | <ul style="list-style-type: none"> <li>• Because it was fun and meant it was almost time for bed</li> <li>• Because Rachel and I could sing and we could be loud and crazy!</li> <li>• Because it was fun</li> <li>• It made me tired</li> </ul> |
|              | 3 | Recreation/free time    | <ul style="list-style-type: none"> <li>• Friends</li> <li>• Because I could play with my friends</li> </ul>                                                                                                                                      |
|              | 2 | Swimming                | <ul style="list-style-type: none"> <li>• Because it was relaxing and it helped me cool off</li> <li>• It was a break from all of the boringness</li> </ul>                                                                                       |
|              | 2 | Bedtime                 | <ul style="list-style-type: none"> <li>• Sleep</li> <li>• I got to sleep</li> </ul>                                                                                                                                                              |
|              | 2 | Hiking                  | <ul style="list-style-type: none"> <li>• It was fun</li> <li>• It was fun and easy</li> </ul>                                                                                                                                                    |
|              | 1 | Climbing wall           | Because I like climbing and you didn't let me climb on other stuff                                                                                                                                                                               |
|              | 1 | The outdoor stream work | Because it was fun to learn that stuff                                                                                                                                                                                                           |
|              | 1 | Cabin                   | Sleep                                                                                                                                                                                                                                            |
|              | 1 | Having fun with friends | All the friends you make and have fun with                                                                                                                                                                                                       |
|              | 1 | Salmon bake             | Even though it hasn't happened yet, I love sitting around the elders                                                                                                                                                                             |
|              | 1 | The girls               | They're cool                                                                                                                                                                                                                                     |
|              | 1 | Nothing                 | I don't have an answer                                                                                                                                                                                                                           |

#### Additional Comments

- Do more hands on stuff.
- Have an activity to go to the library.
- I wanted to do some rock stuff (like cut and polishing)!
- Maybe try and think up some new camp songs.
- I think there should be a nap time/down time! Please?!
- Don't make the kids sit and listen to lectures all day. Do more hands on stuff!

## B-4: End-of-Session Survey Responses Enrichment Sessions 2004–2005

N=18

| Item                                                         | Ratings (4=Most positive rating) |            |            |          |                |
|--------------------------------------------------------------|----------------------------------|------------|------------|----------|----------------|
|                                                              | Percentage (n)                   |            |            |          |                |
|                                                              | No Way                           | Not Really | I Think So | Yes!     | Average Rating |
| Did Salmon Camp meet your expectations?                      | —                                | —          | 56% (10)   | 44% (8)  | 3.4            |
| Has this program made you more curious about science?        | —                                | 44% (8)    | 33% (6)    | 22% (4)  | 2.8            |
| Did you learn about resource management?                     | —                                | 11%(2)     | 50% (9)    | 39% (7)  | 3.3            |
| Did you gain skills in using technology in science research? | —                                | 6% (1)     | 39%(7)     | 56% (10) | 3.5            |
| Did you have fun?                                            | —                                | —          | 11%(2)     | 89% (16) | 3.9            |

Why would you recommend the program to others?

Is there something missing here?

Comment [BCK1]: Comment

What were the three most interesting things you learned at camp?

| # Responses | Knowledge/Skill/Activity                                              |
|-------------|-----------------------------------------------------------------------|
| 8           | About GPS                                                             |
| 7           | That forest fires can be good for the environment/they're not all bad |
| 3           | Vegetative sampling                                                   |
| 3           | Fossils                                                               |
| 3           | There were cheetahs in Oregon                                         |
| 3           | Don't know                                                            |
| 2           | Jay's presentation                                                    |
| 2           | Making graphs on the computer                                         |
| 2           | PH indicator                                                          |
| 1           | Central Oregon wasn't always a desert                                 |
| 1           | If someone is having seizures, make sure they can't hurt themselves   |
| 1           | Don't horseplay in the long house                                     |
| 1           | Be courteous to others!                                               |
| 1           | About the different types of rocks                                    |
| 1           | That some cabins were older than 50 years old                         |

### **What surprised you the most?**

- How many talks we were given.
- I didn't know anyone.
- How boring it was.
- That fish could live in such shallow water.
- Seeing all my friends again and how RUDE some of the counselors were!
- Seeing all my friends.
- How most people were—nice.
- That my cabin didn't do KP that much.
- How the staff were so nice and how fossils there were in the area, archeology sounds fun.
- The bird that was in the bathroom.
- That the camp was really organized.
- The campfire.
- Nothing.
- How little people there were.
- Nothing.
- How little people there were attending the camp.
- I really don't have anything that surprised me.
- Jay's seemingly endless knowledge.
- The long hikes.
- The counselors.
- The salmon
- The most surprising thing about camp was when we didn't get that much time to just hang out. We were sitting for too long listening to lectures!

### **Additional Comments**

- Do more hands on stuff.
- Have an activity to go to the library.
- I wanted to do some rock stuff (like cut and polishing)!
- Maybe try and think up some new camp songs.
- I think there should be a nap time/down time! Please?!
- Don't make the kids sit and listen to lectures all day. Do more hands on stuff!

**Appendix C**  
**Salmon Camp Research Team 2004**  
**Pre-implementation Survey Responses**

N=50

| Attitudes Toward Science |                                                                            | 5<br>Strongly<br>Agree | 4<br>Agree | 3<br>Undecided | 2<br>Disagree | 1<br>Strongly<br>Disagree | Mean (SD) |
|--------------------------|----------------------------------------------------------------------------|------------------------|------------|----------------|---------------|---------------------------|-----------|
| Q1                       | Understanding science will help me be a better community member.           | 22% (10)               | 67% (31)   | 4% (2)         | 7% (3)        | —                         | 4.0 (.7)  |
| Q2                       | Science is hard for me.                                                    | 2% (6)                 | 6% (3)     | 24% (12)       | 36% (18)      | 22% (11)                  | 2.5 (1.)  |
| Q3                       | Science teachers have made me feel I have the ability to go on in science. | 40% (19)               | 29% (14)   | 19% (9)        | 13% (6)       | —                         | 4.0 (1.)  |
| Q4                       | I am sure of myself when I do science.                                     | 18% (9)                | 44% (22)   | 32% (16)       | 4% (2)        | 2% (1)                    | 3.7 (.9)  |
| Q5                       | Doing well in science is not important for my future.                      | 10% (5)                | 16% (8)    | 12% (6)        | 30% (15)      | 32% (16)                  | 2.4 (1.4) |
| Q6                       | My teachers think advanced science will be a waste of time for me.         | 2% (1)                 | 12% (6)    | 24% (12)       | 36% (18)      | 26% (13)                  | 2.3 (1.1) |
| Q7                       | I would choose to take an elective science class.                          | 26% (13)               | 34% (17)   | 28% (14)       | 8% (4)        | 4% (2)                    | 3.7 (1.1) |
| Q8                       | I think I could handle more difficult science.                             | 16% (8)                | 46% (23)   | 24% (12)       | 6% (3)        | 8% (4)                    | 3.6 (1.1) |
| Q9                       | It's hard to get science teachers to respect me.                           | 6% (3)                 | 6% (3)     | 16% (8)        | 42% (21)      | 30% (15)                  | 2.2 (1.1) |
| Q10                      | Most subjects I can handle OK, but I just can't do a good job in science.  | 8% (4)                 | 12% (6)    | 12% (6)        | 36% (18)      | 32% (16)                  | 2.3 (1.3) |
| Q11                      | My teachers have been interested in my progress in science.                | 22% (11)               | 38% (19)   | 28% (14)       | 10% (5)       | 2% (1)                    | 3.7 (1.)  |
| Q12                      | I'll need a good understanding of science for my future work.              | 38% (19)               | 36% (18)   | 24% (12)       | —             | 2% (1)                    | 4.1 (1.)  |

| Skills Checklist                                                   |                                                         | 5<br>Strongly<br>Agree | 4<br>Agree | 3<br>Undecided | 2<br>Disagree | 1<br>Strongly<br>Disagree | Mean (SD) |
|--------------------------------------------------------------------|---------------------------------------------------------|------------------------|------------|----------------|---------------|---------------------------|-----------|
| <b>The kinds of things I do a lot on a computer at SCHOOL are:</b> |                                                         |                        |            |                |               |                           |           |
| Q1                                                                 | Subject-specific software (for math, reading, etc.)     | 10% (5)                | 38% (18)   | 19% (9)        | 23% (11)      | 10% (5)                   | 3.2 (1.2) |
| Q2                                                                 | <b>WORD PROCESSING ACTIVITIES</b>                       | 44% (22)               | 44% (22)   | 6% (3)         | —             | 6% (3)                    | 4.2 (1.0) |
| Q3                                                                 | Spreadsheet activities                                  | 22% (11)               | 37% (18)   | 20% (10)       | 12% (6)       | 8% (4)                    | 3.5 (1.2) |
| Q4                                                                 | <b>DATABASE ACTIVITIES</b>                              | 22% (11)               | 27% (13)   | 29% (14)       | 16% (8)       | 6% (3)                    | 3.4 (1.2) |
| Q5                                                                 | Creating presentations (PowerPoint, KidPix, etc.)       | 47% (23)               | 35% (17)   | 8% (4)         | 4% (2)        | 6% (3)                    | 4.1 (1.1) |
| Q6                                                                 | <b>LOOKING UP INFORMATION ON CD-ROMS</b>                | 22% (11)               | 37% (18)   | 12% (6)        | 18% (9)       | 10% (5)                   | 3.4 (1.3) |
| Q7                                                                 | Looking up information on the World Wide Web (Internet) | 68% (34)               | 26% (13)   | 2% (1)         | —             | 4% (2)                    | 4.5 (.9)  |

| Skills Checklist                               |                                                                                                                   | 5<br>Strongly<br>Agree | 4<br>Agree | 3<br>Undecided | 2<br>Disagree | 1<br>Strongly<br>Disagree | Mean (SD) |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------|------------|----------------|---------------|---------------------------|-----------|
| <b>I feel confident that I could:</b>          |                                                                                                                   |                        |            |                |               |                           |           |
| Q8                                             | Use advanced features of a word processor (tables, headers and footers, macros, table of contents, columns, etc.) | 32% (16)               | 42% (21)   | 16% (8)        | 8% (4)        | 2% (1)                    | 3.9 (1.0) |
| Q9                                             | IMPORT DATA FROM A GLOBAL POSITIONING SYSTEM (GPS) TO A DATABASE                                                  | 12% (6)                | 26% (13)   | 34% (17)       | 20% (10)      | 8% (4)                    | 3.2 (1.1) |
| Q10                                            | Use formulas and/or functions in a spreadsheet (Excel, SPSS, SAS, etc.)                                           | 12% (6)                | 26% (13)   | 34% (17)       | 20% (10)      | 8% (4)                    | 3.1 (1.1) |
| Q11                                            | Create database reports                                                                                           | 13% (6)                | 46% (22)   | 27% (13)       | 10% (5)       | 4% (2)                    | 3.5 (1.)  |
| Q12                                            | Create a graph from spreadsheet data                                                                              | 24% (12)               | 56% (28)   | 16% (8)        | —             | 4% (2)                    | 4.0 (.9)  |
| Q13                                            | Use statistical software for data analysis                                                                        | 6% (3)                 | 32% (16)   | 40% (20)       | 18% (9)       | 4% (2)                    | 3.2 (.9)  |
| Q14                                            | Use ArcView to make maps                                                                                          | 10% (5)                | 24% (12)   | 38% (19)       | 8% (4)        | 20% (10)                  | 3.0 (1.2) |
| Q15                                            | Use Geographical Information Systems (GIS) software to analyze data                                               | 6% (3)                 | 22% (11)   | 38% (19)       | 16% (8)       | 18% (9)                   | 2.8 (1.2) |
| <b>Using the Internet, I can proficiently:</b> |                                                                                                                   |                        |            |                |               |                           |           |
| Q16                                            | Manage names and groups in an address book                                                                        | 38% (19)               | 40% (20)   | 14% (7)        | 2% (1)        | 6% (3)                    | 4.0 (1.1) |
| Q17                                            | Reply to and forward e-mail messages                                                                              | 64% (32)               | 24% (12)   | 8% (4)         | 2% (1)        | 2% (1)                    | 4.5 (.90) |
| Q18                                            | Create and use bookmarks/favorites                                                                                | 48% (24)               | 36% (18)   | 8% (4)         | 4% (2)        | 4% (2)                    | 4.2 (1.0) |
| Q19                                            | Send, receive, and open e-mail attachments                                                                        | 50% (25)               | 34% (17)   | 6% (3)         | 6% (3)        | 4% (2)                    | 4.2 (1.1) |
| Q20                                            | Create a Web page                                                                                                 | 20% (10)               | 26% (13)   | 28% (14)       | 20% (10)      | 6% (3)                    | 3.3 (1.2) |
| Q21                                            | Maintain/edit a Web site                                                                                          | 20% (10)               | 14% (7)    | 38% (19)       | 20% (10)      | 8% (4)                    | 3.3 (1.2) |
| Q22                                            | Search for and find the Smithsonian Institution Web site                                                          | 37% (18)               | 39% (19)   | 14% (7)        | 4% (2)        | 6% (3)                    | 4.0 (1.1) |
| Q23                                            | Create an electronic presentation                                                                                 | 34% (17)               | 26% (13)   | 18% (9)        | 12% (6)       | 10% (5)                   | 3.6 (1.3) |
| <b>I can proficiently:</b>                     |                                                                                                                   |                        |            |                |               |                           |           |
| Q24                                            | Scan a document                                                                                                   | 20% (10)               | 34% (17)   | 32% (26)       | 8% (4)        | 6% (3)                    | 3.5 (1.1) |
| Q25                                            | Reduce, enlarge, or crop a graphic                                                                                | 40% (20)               | 28% (14)   | 20% (10)       | 8% (4)        | 4% (2)                    | 3.9 (1.1) |
| Q26                                            | Convert graphics from one file format to another                                                                  | 20% (10)               | 34% (17)   | 32% (16)       | 6% (3)        | 8% (4)                    | 3.5 (1.1) |
| <b>Science and technology disposition:</b>     |                                                                                                                   |                        |            |                |               |                           |           |
| Q27                                            | I can explain computer applications used in science                                                               | 8% (4)                 | 34% (17)   | 32% (16)       | 16% (8)       | 6% (3)                    | 3.2 (1.0) |
| Q28                                            | I can explain how resource managers use technology to analyze and interpret data                                  | 8% (4)                 | 34% (17)   | 32% (16)       | 20% (10)      | 6% (3)                    | 3.2 (1.0) |
| Q29                                            | I want to learn more about using technology in science or resource management                                     | 28% (14)               | 46% (23)   | 18% (9)        | 6% (3)        | 2% (1)                    | 3.0 (.9)  |
| Q30                                            | I have been involved in activities that help me think about career options                                        | 34% (17)               | 40% (20)   | 18% (9)        | 6% (3)        | 2% (1)                    | 4.0 (1.)  |
| Q31                                            | I know which classes to take to help me succeed in a science career                                               | 28% (14)               | 24% (12)   | 42% (21)       | 6% (3)        | —                         | 3.7 (.9)  |
| Q32                                            | I know of steps I can take to prepare for a career in science/resource management                                 | 14% (7)                | 33% (16)   | 37% (18)       | 12% (6)       | 4% (2)                    | 3.4 (1.0) |

|    | Workplace and Basic Skills                                                                                          | I'm great | Quite good | OK       | Not bad, could be better | Bad news | Mean (SD) |
|----|---------------------------------------------------------------------------------------------------------------------|-----------|------------|----------|--------------------------|----------|-----------|
| W1 | I plan my time, money, materials, and work space, to get things done.                                               | 6% (3)    | 26% (13)   | 28% (14) | 24% (12)                 | 16% (8)  | 3.1 (1.2) |
| W2 | I work well on teams, teach others, lead, negotiate, and work well with people from culturally diverse backgrounds. | 4% (2)    | 2% (1)     | 24% (12) | 34% (17)                 | 36% (18) | 3.6 (1.2) |
| W3 | I think creatively to imagine new ideas.                                                                            | —         | 4% (2)     | 26% (13) | 40% (20)                 | 30% (15) | 4.0 (.9)  |
| W4 | I use logical reasoning to make decisions.                                                                          | 6% (3)    | 14% (7)    | 30% (15) | 36% (18)                 | 14% (7)  | 3.4 (1.1) |
| W5 | I take careful steps when I am trying to solve problems.                                                            | 6% (3)    | 24% (12)   | 24% (12) | 28% (14)                 | 18% (9)  | 3.3 (1.2) |
| W6 | I can draw conclusions from reliable evidence.                                                                      | 6% (3)    | 16% (8)    | 34% (17) | 34% (17)                 | 10% (5)  | 3.3 (1.0) |
| B1 | Overall Basic Skills                                                                                                | 14% (7)   | 38% (16)   | 36% (15) | 10% (4)                  | 2% (1)   | 3.0 (.9)  |
| B2 | Reading                                                                                                             | 29% (14)  | 31% (15)   | 25% (12) | 12% (6)                  | 4% (2)   | 3.7 (1.1) |
| B3 | Writing                                                                                                             | 26% (13)  | 28% (14)   | 22% (11) | 22% (11)                 | 4% (2)   | 3.5 (1.2) |
| B4 | Mathematics                                                                                                         | 30% (15)  | 36% (18)   | 18% (9)  | 4% (2)                   | 12% (6)  | 3.7 (1.3) |
| B5 | Speaking                                                                                                            | 22% (11)  | 34% (17)   | 16% (8)  | 20% (10)                 | 8% (4)   | 3.4 (1.3) |
| B6 | Listening                                                                                                           | 38% (19)  | 20% (10)   | 30% (15) | 6% (3)                   | 6% (3)   | 3.8 (1.2) |

### Anticipated Gains from Involvement in Salmon Camp

One open-ended survey item asked students what they hoped to gain from participation in Salmon Camp. A content analysis of responses was conducted on the qualitative comments. High school students looked forward to a three-week camp compared to middle school students who were participating in a one-week camp. Since the difference in lengths of their experience may have effected their expectations, they were analyzed separately to capture an accurate picture of what their hopes were for Salmon camp. Overall, high school students were more concrete about their hopes for Salmon Camp and had greater interest in career-related benefits.

#### High School Students

All twenty-nine high school students commented on what their hopes were for Salmon camp. Most comments were related to either their future careers (8) or the environment (8). Representative comments included:

*I hope to gain some of the skills I will need to begin a career in forestry and resource management. (Career)*

*I want the participation to help me in the future on job applications. (Career)*

*I hope to learn more about fish and their habitat and where they spawn and what they're like. (Environment)*

*Learning more about our area's wildlife and biology. (Environment)*

Students also expressed their hopes to meet people and/or make friends (4). As one student stated, "I want to be able to meet new people and the different backgrounds they come from."

Some students (5) made broader statements that they wanted to gain knowledge and learn. For example, one student said, “Knowledge. I hope to learn as much as I can about as many different subjects as I can.”

### Middle School Students

Of the nineteen (out of 21) middle school students who responded, the majority (14) stated their hope was to learn and/or gain knowledge. Some emblematic statements included:

*I hope to gain more knowledge about my cultural background and also I want to learn more in this branch of science.*

*I hope to gain extensive knowledge for my near future.*

*I hope to gain more knowledge on nature and nature resources.*

Other students (4) provided a range of comments from hoping to have “fun” to hoping they’ll gain “everything.” Another student commented, “I hope to gain friends.”

### DEMOGRAPHICS

| Grade*           | Percentage (number) |
|------------------|---------------------|
| 8 <sup>th</sup>  | 30% (15)            |
| 9 <sup>th</sup>  | 14% (7)             |
| 10 <sup>th</sup> | 26% (13)            |
| 11 <sup>th</sup> | 12% (6)             |
| 12 <sup>th</sup> | 18% (9)             |

\*Note: Some high school students attended the middle school camp session

| Gender | Percentage (number) |
|--------|---------------------|
| Male   | 54% (27)            |
| Female | 46% (23)            |

| Ethnicity*                         | Percentage (number)    |
|------------------------------------|------------------------|
| Alaskan Native/<br>Native American | Middle School 80% (12) |
|                                    | High School 91% (32)   |
|                                    | Combined 88% (44)      |
| Black/African American             | —                      |
| White/Caucasian                    | Middle School 53% (8)  |
|                                    | High School 31% (11)   |
|                                    | Combined 38% (19)      |
| Asian/Pacific Islander             | Middle School 7% (1)   |
|                                    | High School —          |
|                                    | Combined 2% (1)        |
| Latino/Hispanic                    | Middle School 13% (2)  |
|                                    | High School 11% (4)    |
|                                    | Combined 12% (6)       |
| Other:                             |                        |
|                                    | German 2% (1)          |
|                                    | Jewish 2% (1)          |
|                                    | Basque 2% (1)          |

\*Note: Students chose all ethnic groups that applied therefore totals are greater than 100%

## **Appendix D**

### **In-camp Interview Report**

#### **Report of SCRT participants' interests in careers and job skills— results from summer 2004 in-camp interviews**

##### **Introduction**

This document contains results from in-camp interviews conducted with OMSI's Salmon Camp Research Team (SCRT) summer 2004 high school participants. These results are to be integrated with results from other methods (e.g., pre-camp assessments, end-of-session feedback, end-of-session debriefs, logbook records, and other logistical documents). The results are intended to help guide program improvements with respect to the program objectives.

It needs to be noted that in addition to *in-camp interviews*, the following report also mentions *pre-camp phone interviews* and *pre-camp assessments*. The latter two methods are described because they produced information that was used in the in-camp interviews. However, keep in mind that this report only includes results from the in-camp interviews.

##### **Salmon Camp objectives**

The goal of the Salmon Camp project is to create a continuum of culturally relevant, IT-focused, science experiences for middle school through high school students with Native American community affiliations to address their educational career needs.

The objectives of the Salmon Camp are to:

- 1a. Develop and disseminate a model science IT program that addresses national and state education standards and is relevant to the cultural experience of Native American students.
- 1b. Immerse students in a culturally relevant, IT intensive, scientific research experience that will allow them to apply information technology to the resolution of real world natural resource problems.
2. Enable students to gain experiences and skills necessary to obtain science and IT-related internships and jobs.
3. Enable students to work together with educational and professional mentors through cooperative hands-on, inquiry-based research activities.
4. Provide students with opportunities to interact in a positive and supportive learning and work environment.



## **SCRT summer 2004 high school camps**

Three SCRT high school camps were held in the summer of 2004. The camps were held in three different geographical locations—Oregon, California, and Washington—and each lasted three weeks. All shared common curriculum goals related to technology and natural resource management. That is, despite the unique geographical regions, they were not intended to have a unique focus on any particular area of technology or science.

## **SCRT summer 2004 high school participant selection process**

SCRT participants were selected through an application process. High school students had to complete an application, write a letter of interest, and participate in a phone interview. The students had knowledge that SCRT was a program for youth with Native American community affiliations to learn more about technology and natural resource management. The SCRT coordinator selected applicants with a clear interest in science and technology based on information gathered from these methods (see Appendix A for the phone interview questions).

## **In-camp interview objective**

The in-camp interviews were conducted with participants near the end of the three-week camp experience. They were intended to yield data related to program objective #2: *students will gain experiences and skills necessary to obtain science and IT-related internships and jobs*. Results from the interviews should help staff members better understand participants' interests in careers and job skills and how to adapt the program to serve those interests.

## **In-camp interview method**

### **Participants**

Each of the three programs (Oregon, California, and Washington) had ten participants for a total of 30 SCRT participants; 12 of the participants were females and 18 were males. The in-camp interviews were individualized using responses from the pre-camp phone interviews and the pre-camp assessment surveys.

The pre-camp phone interview method had 25 participants; the pre-camp assessment method had 27 participants; the in-camp interview method had 24 participants. Of the 25 phone interview participants, 20 said they had attended some type of Salmon Camp activity prior to this summer. See Table 1 for the overall summary of participation (see Appendix B for summaries of participation separated by the three individual programs).

Table 1. Participation in summer 2004 data collection activities.

|                                                                       | Female | Male | Total                | Comments                                                                                              |
|-----------------------------------------------------------------------|--------|------|----------------------|-------------------------------------------------------------------------------------------------------|
| Camp participants                                                     | 12     | 18   | 30                   |                                                                                                       |
| Phone interview participants*<br>(Conducted prior to camp)            | 11     | 14   | 25<br>(86% of<br>30) | 20 out of 25 respondents said they had attended a Salmon Camp activity before—7 females and 13 males. |
| Pre-camp assessment participants<br>(Conducted upon arriving at camp) | 12     | 15   | 27<br>(90% of<br>30) |                                                                                                       |
| In-camp interview participants<br>(Conducted near the end of camp)    | 9      | 15   | 24<br>(83% of<br>30) |                                                                                                       |

\*Although more participants may have completed a phone interview, no record of the interviews exist.

### In-camp interview instrument

The in-camp interview guides were created to learn more about the participants' interests in science careers, computers and technology, job skills, and the relationship of SCRT to success in school. The interviews had 7 questions that were common across interviews (see sample in Appendix C). At the same time, each participant's interview guide was uniquely adapted by inserting information on career and job skill interests that participants had shared prior to the program through pre-camp phone interviews and pre-camp assessments.

### In-camp interview procedure

The in-camp interviews were conducted near the end of the three-week camp so that participants could share their interests after exposure to SCRT. The SCRT coordinator conducted 23 of the 24 in-camp interviews. An experienced instructor conducted one of the 24 interviews. The interviewers typed each participant's responses into an electronic document (on a laptop computer) as each interview was being conducted.

### In-camp interview results

All of the phone and in-camp interview questions were open-ended. The responses to each question were categorized into meaningful groups; then the responses in each group were totaled. Some participants had responses that fell into more than one group. The totals for each of the areas of interest—science careers, computers and technology, job skills, and school—are provided below.

### Science career interests

SCRT applicants were asked about their career interests during the pre-camp phone interview. Recall, only applicants that were interested in careers related to science and resource management were invited to participate in the camp. The types of science careers that interested the participants were fairly diverse (see Table 2). However, many had common interests in marine biology, fisheries, forestry, and resource management. These more common interests

may have been influenced by prior experience with Salmon Camp (recall, 20 out of 25 phone interview respondents had been involved in some type of Salmon Camp program before).

Table 2. Pre-camp interests in science careers; N = 25 phone interviews.

| Category of response               | Total     |
|------------------------------------|-----------|
| Marine biology                     | 10        |
| Fisheries                          | 6         |
| Science in general                 | 6         |
| Wildlife or animals in general     | 4         |
| Environmental skills and knowledge | 3         |
| Forestry                           | 3         |
| Resource management                | 3         |
| Fire ecology                       | 2         |
| Geology                            | 2         |
| Oceanography                       | 2         |
| Animal protection                  | 1<br>each |
| Aquatics                           |           |
| Environmental law                  |           |
| Geography                          |           |
| Green architecture                 |           |
| Hydrology                          |           |
| Law enforcement                    |           |
| Recreation specialist              |           |
| Riparian restoration               |           |
| Salmon                             |           |
| Surveying                          |           |
| Tree research                      |           |

During the in-camp interview, which was conducted toward the end of the three-week camp experience, participants were reminded of what they stated as their career interest during the pre-camp phone interview; then they were asked how they would describe their career interests “today.” The participants’ responses fell into four categories with respect to their earlier interests: 1) many participants listed additional careers; 2) some participants stated an interest that incorporated their Native culture with their career; 3) some participants discussed a career interest in specific detail; and 4) two participants said their career interests had stayed the same (Table 3).

Table 3. In-camp interests in science careers with respect to pre-camp responses; N = 22 pairs of phone interviews and in-camp interviews

| Category of response                                                                              | Total | Sample responses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The in-camp response suggested additional interests beyond those stated in the pre-camp response. | 13    | Animal behaviorist<br>Archaeologist<br>Counselor for Salmon Camp<br>Paleontologist<br>Park interpreter<br>Water quality specialist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| The in-camp response incorporated Native culture.                                                 | 7     | We did a lot of interesting things, but I think the most interesting was the Historian at the Umatilla reservation. He did flint knapping. I am also interested in linguistics. So, I thought it was cool to find out that the Umatilla and Nez Perce languages are related to the Crow language and in the same family. I am interested in Anthropology.<br><br>I am interested in working with Native Americans through the national and state parks as an interpreter.<br><br>I definitely want to find a scientific career that will allow me to explore my own tribal heritage. I think that this camp has encouraged me to learn more about my tribal heritage. |
| The in-camp response included using specific methods they had learned at camp.                    | 6     | I learned a lot more than I knew before; I learned how to use a GPS Unit and how to map.<br><br>I like fieldwork. I liked GPSing channel cross-sections in Lost Man Creek.<br><br>I liked doing pebble counts with inter-tribal fishery commission.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| The in-camp response was the same as the pre-camp response.                                       | 2     | I am still interested in the same things—mostly marine biology.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

During the in-camp interview, the participants were asked for suggestions on how Salmon Camp programs could help them take steps toward their science career goals. The participants' responses fell into seven categories: 1) Offer more field experience, 2) Offer more exposure to professionals and career options, 3) Help me acquire knowledge, 4) Help me get internship, 5) Offer more exposure to college and university programs, 6) Keep doing what you've been doing, and 7) Support the practice of skills. Responses most commonly fell into the categories "Offer more field experience" (7 responses), "Offer more exposure to professionals and career options" (7 responses), and "Help me acquire knowledge" (6 responses) (Table 4).

Table 4. Suggestions on how SCRT can help take steps toward those science career goals;  
N = 24 in-camp interviews

| Category of response                                | Total | Sample responses                                                                                                                                                                                                 |
|-----------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Offer more field experience                         | 7     | I would like hands-on activities; it would be fun to do more archaeology work.<br><br>I would like to work outside more and learn more about the Earth.<br><br>Give me experience so I can find out what I like. |
| Offer more exposure to professionals/career options | 7     | Introduce me to scientists and show me what degrees they have.<br><br>By showing what exactly career options exist.                                                                                              |
| Help me acquire knowledge                           | 6     | I want to learn more about endangered animals.<br><br>I want to learn more about traditional ecological knowledge as well as fire ecology, redwood ecology, and fisheries.                                       |
| Help me get internship                              | 2     | I would really like to find an internship in one of the careers that we learned about.                                                                                                                           |
| Offer more exposure to colleges/university programs | 2     | Do college stuff; visit college campuses.                                                                                                                                                                        |
| Keep doing what you're doing                        | 2     | I think this is going good.                                                                                                                                                                                      |
| Support the practice of skills                      | 1     | Learn the skills I need to be a manager.                                                                                                                                                                         |

### Computer and technology interests

All of the selected participants expressed a general interest in computers and technology during the pre-camp phone interviews. During the in-camp interviews that were conducted near the end of Salmon Camp, participants were asked to describe their interest in computers and technology “today.” All of their responses mentioned an interest in some technology that had been used at camp. The most commonly mentioned were Global Information Systems (GIS) and Global Positioning Systems (GPS) with 14 responses each (Table 5).

Table 5. Interests in computers and technology toward the end of camp; N = 24 in-camp interviews

| Category of response | Total | Sample responses                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GIS                  | 14    | <p>GIS maps—how you can overlap “views” and how you can use aerial photographs taken from the satellites.</p> <p>My mom does GIS and I always like playing with her computers. But, I really like exploring GIS more here at Salmon Camp.</p> <p>I think the technologies like GPS and GIS were great because they are used in so many fields and I like getting a head start. I like to learn about things that I can use.</p> |
| GPS                  | 14    | <p>It was cool using the GPS units. Before this I never even touched a GPS.</p> <p>I thought GPS was a lot of fun. Learning more about computers and technology I think will help me find a career in the future.</p>                                                                                                                                                                                                           |
| ArcView              | 3     |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PowerPoint           | 2     | PowerPoint was cool. It was new for me.                                                                                                                                                                                                                                                                                                                                                                                         |
| Photoshop            | 1     |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Other                | 4     | In today’s world you have to have some knowledge of computers and technology. This program has done a lot to help me with this. This is really helping me get ready for college.                                                                                                                                                                                                                                                |

During the in-camp interview, the participants were asked for suggestions on how Salmon Camp programs could help them explore their computer and technology interests. Many of the participants asked for more time using specific applications such as GPS, PowerPoint, GIS, and Excel. At the same time, some participants had more general requests such as more hands-on projects, more time on the computer, more time on the Internet, help with typing skills, and the opportunity to choose their own research topic (Table 6).

Table 6. Suggestions on how SCRT can help take steps toward computer and technology goals;  
N = 24 in-camp interviews

| Category of response                                       | Total | Sample responses                                                                                                                                                                                                                                                 |
|------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GPS                                                        | 8     | I think having a set course where you use a compass and a GPS and try and find your way around sort of an orienteering course.                                                                                                                                   |
| PowerPoint                                                 | 4     | Keep on doing PowerPoint presentations. It's a great way for us all to teach each other. If we keep using the computer technology we will become advanced people.<br><br>This year I have been working on a PowerPoint presentation. More of this would be good. |
| GIS                                                        | 3     | I also want to learn more about GIS.                                                                                                                                                                                                                             |
| Excel                                                      | 1     | I want to work in Excel more.                                                                                                                                                                                                                                    |
| Hands-on projects                                          | 4     | Try and make it into games, most high school students really like games.<br><br>Do hands-on work with computers and other technology.                                                                                                                            |
| Exposure to more computer applications; use computers more | 3     | Have computers ready to take notes on rather than writing on or in a notebook.                                                                                                                                                                                   |
| More Internet-oriented                                     | 1     | More Internet-oriented, this would help us get more resources and become more prepared for the job market.                                                                                                                                                       |
| Typing skills                                              | 1     | I need better typing skills. I am willing to learn anything.                                                                                                                                                                                                     |
| Pick my own research topics                                | 1     | I like picking my own subjects to do research on.                                                                                                                                                                                                                |

### Job skill interests

During the pre-camp assessment survey, participants were asked to think about job skill development. Based on the camp curriculum and the SCANS skills (U.S. Dept. of Labor, 2000), the SCRT staff presented five skills they thought SCRT would most likely exercise. The five were science, information technology, resource management, critical thinking, and interpersonal skills. The participants were asked to choose two of these five skills as priorities to strengthen during their SCRT experience. Some participants chose more than two and some less, but most chose two skills. The most commonly chosen skills were science (15 responses), information technology (13), and resource management (11) (Table 7).

Table 7. Interest in skills at the beginning of camp; N = 27 pre-camp assessments

| Category of response   | Total | Sample responses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Science                | 15    | <p>I have always thought that science was interesting, but after listening and learning from scientists at the Bioneers conference I have become fascinated by it. Speakers like David Suzuki made it very clear to me that although I'm thinking of myself as just a kid, I can make a difference in this world and I can do it now. I don't have to wait till I grow up.</p> <p>I love science. It's one of my favorite subjects, but I can never get the grade I want. So, I want to study it more and see what I need to do to work up to my expectations.</p> <p>So I can learn more about what is going wrong in the environment around me and how I can help fix those problems.</p> <p>I failed science this year and my teacher did everything out of the book. I wonder if there is another way to learn.</p> |
| Information technology | 13    | <p>I really would like to learn a lot more about computers and how they work. I am very educated on one, but there are so many other things that I know have not learned yet.</p> <p>I want to know more about technology and how I can put it to use in my future.</p> <p>It's basically impossible to get anywhere in the modern world without technical skills.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Resource management    | 11    | <p>I believe that it is extremely important that we manage our natural resources. It seems as though we are being selfish, thinking only about ourselves and neglecting to think about our future generations.</p> <p>To help me in the future with my current job in fisheries.<br/>To help me with my pay rate after college.</p> <p>Because I want to help my native nation.</p> <p>My father was learning resource management and he inspired me to want to learn more in this field.</p>                                                                                                                                                                                                                                                                                                                           |
| Critical thinking      | 6     | <p>Because I love to think things over and I would try to find a better way to solve problems.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Interpersonal          | 2     | <p>The skill I want to work on is how to talk with people and explain to them how fun science really is.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

During the in-camp interviews toward the end of camp, participants were asked if they wanted to change the skills they chose as their priority. All of the participants that answered this question said that they wanted to keep the same skills as their priority. Only three participants mentioned



slight differences—two participants said they would change the order of the two skills they chose as their priority and one student said he wanted to additionally focus on math.

The in-camp interviewer proceeded to ask the participants how Salmon Camp programs could help them practice these skills. The participants' responses fell into three categories: 1) Offer more hands-on experience, 2) Offer more opportunities to meet and work with professionals, and 3) Keep doing what you've been doing. The most common request was for more hands-on experience (12 responses) (Table 8).

Table 8. Suggestions on how Salmon Camp can help you practice these skills; N = 24 in-camp interviews

| Category of response                                         | Total |
|--------------------------------------------------------------|-------|
| Offer more hands-on experience, activities                   | 12    |
| Offer more opportunities to meet and work with professionals | 5     |
| Keep doing what you're doing                                 | 5     |

## School

During the in-camp interview, participants were asked if they could imagine ways that their participation in Salmon Camp might help them in school. Their responses fell into nine categories (in order of frequency): 1) It will help me with science classes, 2) I will take back deeper knowledge/understanding than I would have from school alone, 3) I will have higher self-esteem in school, 4) It will help me to use technology, 5) It will give me school credit, 6) I will integrate my culture with my school, 7) It will help me to work with a group, 8) It will motivate me to stay in school, and 9) I will know what career options are available for me. The most common response was, "It will help me with science classes" (10 responses) (Table 9).

Table 9. Ways participants can imagine Salmon Camp helping them in school; N = 24 in-camp interviews

| Category of response                                                            | Total | Sample responses                                                                                                                                                                                            |
|---------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| It will help me with science classes.                                           | 10    | I have learned a lot from this camp about a lot of different things. I think Salmon Camp will help me with my science class.<br><br>I think this will help me take some higher science classes.             |
| I will take back deeper knowledge/understanding than I would from school alone. | 5     | In school we learn biology and geology but here I learn a lot more because we spend a lot more time on specific subjects.<br><br>I think it will help me understand science better and bring in more ideas. |

| Category of response                                  | Total | Sample responses                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I will have higher self-esteem in school.             | 5     | I am going to be taking a marine biology college prep class and I think this program has done a lot to improve my ability to excel. Before this program I didn't think I would do very good in the class.<br><br>I think this program has boosted my confidence and has given me skills that I can use in high school. |
| It will help me to use technology.                    | 2     | I think this class will help me learn how to better use IT technology.                                                                                                                                                                                                                                                 |
| It will give me school credit.                        | 2     | It gives me credit in school as well as helps me with my science classes.                                                                                                                                                                                                                                              |
| I will integrate my culture with my school.           | 2     | From a cultural standpoint, this has helped me reconnect with my native heritage to a large extent and I would like to introduce more of that way of thinking to my school and to the world in general.                                                                                                                |
| It will help me to work with a group.                 | 1     | I think this class will help me learn how to better work with a group.                                                                                                                                                                                                                                                 |
| It will motivate me to stay in school.                | 1     | I think this has been great motivation for me to stay in school.                                                                                                                                                                                                                                                       |
| I will know what career options are available for me. | 1     |                                                                                                                                                                                                                                                                                                                        |

### Other suggestions or comments

During the in-camp interview, the participants were asked if they had any other recommendations for camp. These comments were not directly related to careers, information technology, job skills, or school, but they are listed below.

- Improve the food (one specific request for more meat)
- Want to know more about UAT (Umatilla Program)
- More free time
- More hikes (specifically: check out Carbon River, go to OMB for Spring Break)
- Go rafting
- Go rock climbing (specifically: climb Smith Rock)
- Spend more time working with Conawe.

### Summary of participants' interests

The results presented in this report can help OMSI staff better understand and describe the participants in the SCRT high school program. Although this report does not contain specific recommendations, it is expected that this general information might benefit staff as they make decisions about curriculum, extra-curricular support, and educational techniques. In addition, the information can be used to describe the SCRT participants to future candidates, guest speakers, and program partners.

## Science careers

Something is missing.

- At the start of the program, participants expressed interest in fieldwork and resource management. In fact, participants were selected such interests.
- Toward the end of their summer camp experience, most participants' descriptions of their interests in careers seemed to be enriched by their SCRT experience. That is, many of the participants listed additional careers, which suggests SCRT had exposed them to attractive options; some of the participants stated an interest in incorporating their Native culture with their career, which suggests SCRT helped them see the connection between career and culture; and some of the participants discussed a career interest in specific detail, which suggests SCRT had helped them try some methods from a career of interest.
- When asked how future Salmon Camp programs could support their career goals, participants asked for even more opportunities to engage in fieldwork, meet professionals, and learn about Native ecology and traditions. In addition, some participants asked for more exposure to internships and university programs.

Comment [BCK2]: Comment

## Computers and technology

- At the start of the program, participants expressed a general interest in computers and technology. Again, participants were selected for such interests.
- Toward the end of their summer camp experience, participants expressed interest in learning more about many of the technologies they had used at camp. For instance, GPS and GIS were particularly popular.
- When asked how future Salmon Camp programs could support their goals to learn more about computers and technology, participants asked for more GPS, GIS, PowerPoint, and Photoshop. In addition, individual requests were made to learn Excel, to learn typing, and to use the Internet more.

## Job skills

- At the start of the program, participants stated two job skills they wanted to strengthen through their SCRT experience. Most of the participants stated science skills, information technology skills, or resource management skills as their priorities.
- Toward the end of the program, participants had the option of choosing new skills to strengthen, but all of them reiterated their interest in science, information technology, and resource management skills.

## School

- Toward the end of the program, participants were asked how they imagined SCRT might help them in school. Most participants imagined that SCRT would help them in science class and would help them better understand science. Some participants mentioned improved self-esteem or motivation at school. Two participants said they would receive school credit for SCRT. Two participants said SCRT increased their interest to integrate their Native culture with their school experience.

## Data inventory separated by program

### *Oregon*

The Oregon program had 10 participants. Eight of these participants completed phone interviews. Nine of these participants completed in-camp interviews (Table 1).

Table 1. Participation in summer 2004 Oregon data collection activities.

|                      | Female | Male | Total | Comments                                                   |
|----------------------|--------|------|-------|------------------------------------------------------------|
| Camp participants    | 3      | 7    | 10    |                                                            |
| Phone interviews     | 3      | 5    | 8     | 4 males said they had attended a Salmon Camp event before. |
| Pre-camp assessments | 3      | 6    | 9     |                                                            |
| In-camp interviews   | 3      | 6    | 9     |                                                            |

### *California*

The California program had 10 participants. Eight of these participants completed phone interviews. Eight of these participants completed in-camp interviews (Table 2).

Table 2. Participation in summer 2004 California data collection activities.

|                      | Female | Male | Total | Comments                                                                 |
|----------------------|--------|------|-------|--------------------------------------------------------------------------|
| Camp participants    | 4      | 6    | 10    |                                                                          |
| Phone interviews     | 3      | 6    | 9     | 2 females and 6 males said they had attended a Salmon Camp event before. |
| Pre-camp assessments | 4      | 6    | 10    |                                                                          |
| In-camp interviews   | 3      | 5    | 8     |                                                                          |

### *Washington*

The Washington program had 10 participants. Eight of these participants completed phone interviews. Seven completed in-camp interviews (Table 3).

Table 3. Participation in summer 2004 Washington data collection activities.

|                      | Female | Male | Total | Comments                                                                 |
|----------------------|--------|------|-------|--------------------------------------------------------------------------|
| Camp participants    | 6      | 4    | 10    |                                                                          |
| Phone interviews     | 5      | 3    | 8     | 5 females and 3 males said they had attended a Salmon Camp event before. |
| Pre-camp assessments | 5      | 3    | 8     |                                                                          |
| In-camp interviews   | 3      | 4    | 7     |                                                                          |

**APPENDIX E**  
**SALMON CAMP RESEARCH TEAM: DETAILED SCHEDULE**  
**WESTERN WASHINGTON AUGUST 1–AUGUST 19, 2004**

**Sunday August 1—OMSI to Pack Forest, near Eatonville, WA.**

- 3:00 p.m. arrive at the Pack Forest
- Introductions, respect, personal goals, staff roles, our expectations
- 4:00 p.m. set up camp
- 5:00 p.m. evaluation with Marcie and Phyllis

**Monday August 2—Pack Forest**

- 9:00 a.m. meet Nisqually Tribe, Florian, and Sayre at Pack Forest Conference Center for a presentation about Life History Salmon and species that live in the Nisqually River.
- 10:30–lunch (after presentation) leave for tour of research sites on the Michelle River. We are going to visit a healthy site and then an impaired site in need of restoration to compare the differences.
- 1:00–4:00 introduce GPS units to students. Practice using units by taking GPS units and taking points of log-jams on two reaches of the upper Michelle River.
- 7:30 environmental.

**Tuesday August 3—Pack Forest**

- 9:00 a.m. meet Nisqually Tribe at Luhr beach on the lower Michelle River near the estuary and mouth of the Michelle River. We will be using seine nets to monitor and survey juvenile fish in saltwater habitat.
- 1:00–4:00 tour several nearby restoration projects.
- 4:30 p.m. return to Pack Forest (*camp*).
- 7:30 p.m. introduce idea of projects to students.

**Wednesday August 4—Pack Forest**

- 9:00 a.m. 1/2 day session with [researcher]. Students will help conduct gravel surveys on the lower Michelle River.
- 12:00–1:00 p.m. lunch.
- 1:00–4:30 snorkeling with [member] of the Northwest Indian Fish Commission.
- 5:00 p.m. free time.
- 6:00 p.m. dinner.

**Thursday August 5—Pack Forest**

- 9:00 a.m. Juvenile Salmon Survey with Nisqually.
- 1:30–3:30 Pack Forest tour with [researcher] of the University of Washington Pack Forest. He plans to help us with teaching GPS and GIS by having kids plot point and take lines of forest trails. We will load into ArcView program later during an evening GIS session.
- 7:30 p.m. evening GIS program with [researcher] in Pack Forest classroom.

**Friday August 6—Pack Forest to Mount Rainier**

- 12:00–1:00 p.m. lunch.
- 1:00–5:00 meet with woman from Earth Corp.—learn about ecology of Mt. Rainer.
- 5:00 p.m. project time.

**Saturday August 7—Mount Rainier, west side near Ashford**

- 9:00 a.m. work with Earth Corp. and Mount Rainier staff, do GPS work in campsite area.
- Hike in Paradise meadow.

**Sunday August 8—Mount Rainier to English Camp, San Juan Islands**

Travel day

**Monday August 9—English Camp, San Juan Islands**

Whale watching cruise and meeting with Orca researcher.  
Sunset dinner at San Juan state park.

**Tuesday August 10—English Camp, San Juan Islands**

- 10:00 a.m. meet with whale museum staff member for guided tour.
- Work on projects and tour of fire house.

**Wednesday August 11—Friday Harbor to Olympic Peninsula, Lyre River Park**

- 2:15 p.m. arrive at Lyre River Park.
- 5:00 p.m. project time.
- 6:00 p.m. dinner.
- 7:30 p.m. evening activity.

**Thursday August 12—Lyre River Park**

- Work with exotic/invasive plant species biologists.
- Visited Elwah Dams.

**Friday August 13—Lyre River Park (working in Elwah River Valley)**

Backpacking in Olympic National Park.

**Saturday August 14—Lyre River Park to Olympic National Park, Elwah River Valley**

- Backpacking in Olympic National Park.
- Drive to Neah Bay.

**Sunday August 15—Olympic national park for another night or to Neah Bay**

- Tour Makah museum.
- Shower, work on projects.
- Cultural activities.

**Monday August 16—Neah Bay**

- Makah Cultural and Research Center.
- Work on projects.

**Tuesday August 17—west side of the Olympic**

- Stayed and hiked at Hoh River in Olympic National Park.

**Wednesday August 18—Millersylvania State Park**

- Salmon bake.
- Project presentations.

**Thursday August 19—Millersylvania to OMSI**