

FY 2003 SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS PROGRAM

ENVIRONMENTAL RESTORATION—
INDIVIDUAL/TEAM

**ANNETTE ISLAND PROJECT
DELIVERY TEAM, ALASKA DISTRICT,
U.S. ARMY CORPS OF ENGINEERS**



INTRODUCTION

By using the best technology and management practices available, the U.S. Army Corps of Engineers' (USACE) Project Delivery Team (PDT) made important environmental restoration contributions on Annette Island, Alaska, during fiscal years 2002 and 2003. The main sources of contamination on Annette Island are polychlorinated biphenyls; heavy metals, such as lead and liquid mercury; fuel; and solvents. The team overcame many challenges such as regulatory sovereignty of Annette Islands Reserve; multiple involved parties, each with their own organizational and mission constraints; and logistics of operating at the remote site with its unique environmental characteristics.

The many landowners, responsible parties, stakeholders, and regulatory agencies involved at Annette Island have unique schedules and approaches to site cleanup, as well as different definitions of success, all of which complicates environmental restoration. To add even more complexity, nearly 300 separate contaminated sites are located on the Metlakatla Indian Reserve, accessible only by boat or air. The multitude of barriers to success is staggering.

The Annette Island Environmental Cleanup and Restoration Team made many noteworthy accomplishments in the past two years.

Major accomplishments include:

- **Cost savings** approaching \$900,000 in fiscal year 2002 and fiscal year 2003
- **Reduction in number** of disputed sites from over 150 to less than 35
- **Schedule savings** estimated at five years, based on previous progress toward site closure
- **Removal** of 65 tons of contaminated soil and the recovery and recycling of four pounds of liquid mercury
- **Resourceful composting** of contaminated soil, using fish and wood waste, reducing contamination levels by a factor of three
- **Creation of a single database** replacing dozens of distinct and disconnected data sets, facilitating information sharing



▲ Contaminated soil removal at the former hospital area, courtesy of USACE/Jacobs.

BACKGROUND

The PDT is tasked with the mission of reducing risks from physical hazards and dangerous chemicals remaining from previous federal operations on Annette Island, which is an official Formerly Used Defense Site (FUDS). The PDT was assembled based on the unique mix of skills required for the successful execution of the Annette Island Project and modified based on the appropriate time in the life cycle of the project. Managing the breadth of the program by ensuring the right specialists were involved at the right time was critical to the success of the project team.



▲ Historic photo of Army dock used for off-loading of material and supplies. Courtesy of the Anchorage Museum of Natural History.

PROJECT DELIVERY TEAM

Team members who were instrumental in the success of the environmental restoration effort are listed below.

- Robert Johnston, USACE Project Manager
- Todd Fickel, P.E., USACE Engineer
- Julie Sharp-Dahl, USACE Chemist
- Gary Haynes, USACE Contracts Specialist
- Diane Hanson, Ph.D., USACE Archaeologist
- Lizette Boyer, USACE Environmental Specialist
- Tammy Phillips, USACE Quality Assurance Representative
- Anne Roth, USACE Legal Counsel
- Dave Morbach, USACE Real Estate Officer
- Kelly Davis, USACE Program Analyst
- Sarah Trent, USACE Legal Counsel
- Suzanne Beauchamp, P.E., USACE Program Manager
- Jon McVay, Jacobs Project Manager
- Eric Detmer, Jacobs Quality Control Supervisor
- Drew Anderson, Jacobs Engineer
- Kelly McGovern, Jacobs Chemist
- Betty Lewis, Jacobs Subcontracts Administrator
- Jennifer Anderson, Jacobs Environmental Engineer
- Heather Sather, Jacobs Environmental Scientist
- Sylvia Elliott, Jacobs Cultural Resources Specialist
- P.S. "Kiwi" Thompson, Jacobs Site Manager
- Jeremy Yancey, Jacobs Safety Officer
- Sarah Nutt, Jacobs Administrative Assistant

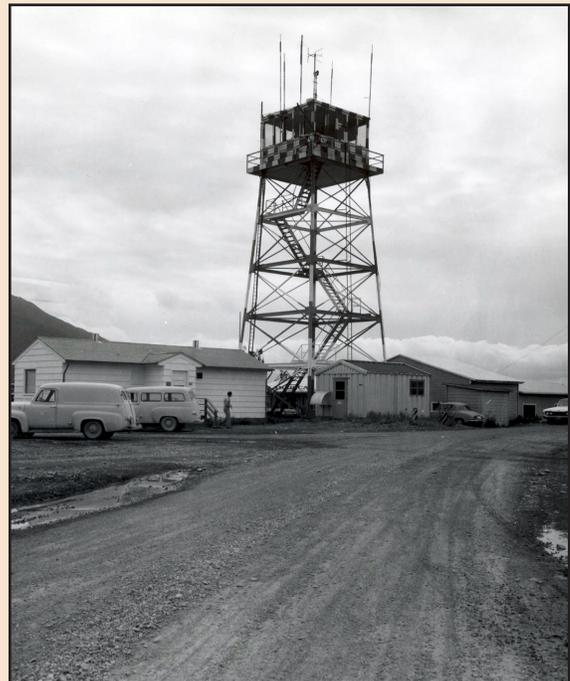
POSITION DESCRIPTION

The primary duties required to support the FUDS Program are assessing and mitigating risk to human health and the environment associated with former Department of Defense (DoD) properties on Annette Island. In support of these duties, the PDT plans actions, investigates problems and remediates sites on Annette Island following the Comprehensive Environmental Response, Compensation, and Liability Act process. This process involves investigations, reports, interim removal actions, feasibility studies, design of remedial alternatives, implementation of plans, and determination of no further action. Secondary duties include supporting other stakeholder projects that are managed through the Alaska District.

BACKGROUND

Annette Island is located in southeast Alaska, approximately 900 miles southeast of Anchorage, Alaska, and 700 miles north-northwest of Seattle, Wash. The Department of Defense began activities on Annette Island prior to the outbreak of World War II, and by 1942 had completed construction of a station that included a naval facility, infantry training facilities, a coastal defense system and two runways with support facilities. The Annette facility expanded to become a major stopover point for aircraft headed to the North Pacific Theater of Operations. After the war, the airport and support facilities were operated by a number of parties, including government agencies, private corporations and the Annette Island Metlakatla Indian Community. In 1973, the construction of Ketchikan International Airport displaced the use of the Annette Island Airport as the primary civilian airport in the area. DoD involvement is currently limited to environmental cleanup and restoration of the FUDS on the island.

The Bureau of Indian Affairs (BIA) holds real estate property in trust for the Metlakatla Indian Community, a group of Tsimshian Indians who migrated from Metlakatla, British Columbia, in 1887 seeking religious freedom. Annette Island is the only Indian Reserve in Alaska; the land belongs to the U.S. Department of the Interior and is administered through the BIA. At present, the National Weather Service, United States Coast Guard, and the Federal Aviation Administration (FAA) operate and maintain minor facilities at the station.



▲ Historical photo of Army Air Traffic Control Tower. Courtesy of the FAA.

ACCOMPLISHMENTS

Overview

Stakeholder Coordination

The primary aspect of program management that makes this project so successful is coordination between stakeholders. Stakeholder management is of the utmost importance to the team. Potentially responsible parties for the hundreds of sites on Annette Island include five federal agencies, private corporations and the Metlakatla Indian Community (MIC) as a sovereign entity. The stakeholders' interests had to be managed and potential conflicts were mitigated through the Memorandum of Understanding (MOU) Work Group process.

MOU WORK GROUP

- U.S. Army Corps of Engineers
- Federal Aviation Administration
- Bureau of Indian Affairs
- United States Coast Guard
- Metlakatla Indian Community

Because of the large number of agencies involved, each with its own potential environmental cleanup responsibilities, a Memorandum of Understanding (MOU) was signed and a MOU Work Group was formed to address environmental impacts of past government activities on Annette Island. The group evolved



▲ The draining and removal of pipelines often entails a lot of manual labor, as the marsh/bog conditions are not conducive to heavy equipment. Courtesy of USACE/Jacobs.

into a highly integrated team, comprised of government and contractor personnel. Members demonstrated their collective ability to plan and execute consensus based environmental restoration activities with exemplary results due to an outstanding level of communication, information sharing and coordination.

Funding Identification and Cost Savings

The team worked diligently to identify the appropriate funding sources to attain the goals of the mission. To date, USACE capitalized on the Defense Environment Restoration Program-Formerly Used Defense Sites (DERP-FUDS) program and Native American Lands Environmental Mitigation Program (NALEMP) for funding and execution of restoration work. FUDS and NALEMP have been the primary source of funding for DoD cleanup and restoration; however, when other sources are recognized they are shared with members of the group. For instance, through information sharing, the community is seeking funding through the Brownfield Program to augment areas at sites not covered by FUDS or NALEMP.

Additionally, USACE partnered with other federal agencies to stretch the power of the cleanup dollar. Methods have included:

- Proactive identification of potential problems and planning appropriate mitigation actions
- Coordinated efforts with other agencies to leverage the Total Environmental Restoration Contract (TERC) mechanism and utilize this contract to conduct distinct phases of work for multiple federal programs and agencies
- Compliance with regulations using unusual approaches to project challenges
- Capitalizing on similarities among various stakeholders to build a unified team, including a common database and work plans, sharing of resources and sequencing fieldwork to maximize use of local resources
- Real-time, measured performance of project progress, to ensure that disparate sources of funding are all used efficiently and appropriately

Project tracking and coordination

The PDT established a method to track progress among the agencies, grouped them into similar categories and searched for ideas to accomplish the activities cost effectively and within the constraints of their respective programs. The method the PDT used was the Web-based database and mapping program called Portal—a complex integration of inter-related data that replaces dozens of distinct databases. Portal is a single repository for all program related documents. All documents open to the public are housed on Portal. The team developed the Portal database to exchange and share information and used measured performance to monitor progress. The management system enabled the team to mitigate potential adverse effects and maintain compliance with program and regulatory requirements. Environmental data are entered onsite during preparation of the chains of custody for sample management. The field crew on Annette Island has nearly immediate access to every report prepared for, and every sample collected on Annette Island, to facilitate informed and timely decisions. When back in the office, whether in Anchorage or Washington, D.C., each member of the team can access and share the same project information.

Effective communications and information sharing

Communication is key to effectively transferring lessons learned from the Annette Island project. Affected stakeholders were involved in every step of the process, from inclusion in meetings, to development of strategies, to removal of contaminated soil. The PDT developed both communications and stakeholder management plans. The success of the program is greatly affected by stakeholder involvement.



▲ The recovery of drums from a sensitive salmon stream bed is a time-consuming process. The majority of the drums recovered are empty. Courtesy of USACE/Jacobs.

The project team sought community involvement at several levels. The NALEMP work was assigned to the Metlakatla Indian Community through a cooperative agreement. More than 20 MIC members have been hired to support FUDS and NALEMP work, through which they can be directly involved and experience the benefits of their efforts and the efforts of the project team. Partnering with the community through NALEMP improved the USACE relationship with local regulators. Under NALEMP, aesthetic and physical hazards have been prioritized and mitigated. The local regulators experience firsthand the effectiveness of using the NALEMP and FUDS funding approach to meet the PDT's objectives. The community can use NALEMP to level the resource requirements within the community, extending employment to nearly year-round, which is good for the community and well received by the MIC regulators.

Accelerating Cleanup/Reducing Risk to Human Health and the Environment

Vigorous coordination developed opportunities to accelerate cleanup and save money in the process. For example, the NALEMP program coordinated to use the same subcontractor as the other programs to eliminate the need to remobilize equipment and resources in November 2002, saving approximately \$150,000 in one field season. This opportunity would have been missed if the NALEMP team had not been communicating with the FUDS and FAA teams as part of the overall program management strategy of the MOU.

Other means to accelerate cleanup developed as the program matured. The team recognized that the types of work conducted at multiple sites throughout the island were similar enough



▲ In some cases, helicopter transport of contaminated and backfill material was more economical and less environmentally damaging when compared to the construction of access roads. Courtesy of USACE/Jacobs.

to allow for a common management plan to manage fieldwork. The team developed a common Operations and Management Plan and a common Quality Assurance Program Plan to support clean-up operations. The plans contain commonalities among work activities including contract specifications that would be applicable to any contractor conducting the work. The plans also give the team flexibility in implementation. As new sites are slated for action, relatively brief site-specific addenda are prepared. This saved both time and money and resulted in savings of approximately \$45,000 per annum.

The team modified specialty resource involvement throughout the project to provide best value to the federal government. When feasible, USACE identifies in-house resources to work for several customers. One example is a single USACE archaeologist supporting FUDS, NALEMP and FAA work. This results in a unified approach and consistent documentation as appropriate.

Another example is preparing environmental assessments (EAs) to support work to be conducted by multiple programs. Rather than having separate EAs for the FUDS, NALEMP and FAA projects, efficiencies are achieved through simultaneous preparation of EAs for all work. This saved an estimated 85 hours of work over the past two field seasons.

Beginning in fiscal year 2002, the team held meetings with stakeholders to identify individual goals and pursue common causes such as restoration of the island, managing budgets as effectively as possible and lowering the high local unemployment rate. The team was able to identify programmatic requirements and available funding sources to execute work required to complete site cleanup and meet stakeholder needs. In a move that saved considerable time, resources and money, separate projects funded by the Department of Transportation and DoD were executed simultaneously. This resulted in cost savings approaching \$900,000 since the beginning of fiscal year 2002. Each department determined that a shared plan would avoid the

costs of developing two different plans, having two different field crews and creating two different reports. The team conducted community outreach for this project simultaneously as well. This saved considerable time and resources as only one presentation was prepared and less staff traveled to the island (travel for a two-hour meeting takes three days).

Cost savings and other efficiencies have directly impacted the progress towards site remediation. With nearly 300 sites and severely constrained budgets, the team was able to turn the \$900,000 savings into accelerated progress toward site closure. This, combined with accelerated agreements regarding site restoration, shaved nearly five years off the total project schedule.



▲ One of many drum dumps on Annette Island. Courtesy of USACE/Jacobs.

COST SAVINGS			
	FY02	FY03	FY02+FY03
DoD	\$55,000	\$213,000	\$268,000
Other Agencies	\$293,000	\$330,000	\$623,000
Total	\$348,000	\$543,000	\$891,000

The team used interim removal actions such as the removal of contaminated soil to reduce the source of contamination and reduce risk to human health and the environment. Small pools of mercury, one of the most toxic metals, were identified at an area that could only be accessed by foot. Calculations of in-situ conditions revealed that the team has removed over five tons of contaminated soil and recovered and recycled four pounds of liquid mercury. The team also emphasizes hazardous waste exclusions to recycle lead-laden scrap metal in lieu of disposal. Recycling has removed hundreds of tons of metal from the waste stream on Annette Island and eliminated short-term disposal costs while also reducing potential long-term liabilities associated with the landfill.

One of the main management techniques used to keep the program within schedule and budget is a long-term plan or agenda. The PDT conducted work to meet the annual and semi-annual milestones with the end goal in mind. Another

technique is to collaborate on a master schedule. This allows the PDT to look for ways to share or reduce costs. The PDT attempts to capitalize on specialized equipment already mobilized to the site. Additionally, members of the team sequence work so that local resources may be fully utilized and not overwhelmed. Simple sequencing levels the resources substantially while maintaining critical milestones.

AWARDS AND SERVICES

Government and contractor team members alike have been recognized for efforts on a variety of projects. The team includes Diane Hanson, Sylvia Elliot, Drew Anderson, Suzanne Beauchamp and Gary Haynes who received the fiscal year 2002 Secretary of the Army Award for Cultural Resources Management. The Jacobs team members received recognition for “efforts made during fiscal year 2002 in support of the Annette Island Project, fostering relationships in the community and identifying local sources to meet project needs.” (*Dan Sweet, Federal Small Business Liaison*)

Dr. Diane K. Hanson is the senior district archaeologist for the Alaska District. She is currently the president of the Alaska Anthropological Association and the Alaska Consortium of Zooarchaeologists. She received a teaching excellence award as an adjunct professor in 2000. Jacobs’ cultural resources planning coordinator, Sylvia Elliot, was on the board of directors of the Alaska Association for Historic Preservation from 1996-1998.

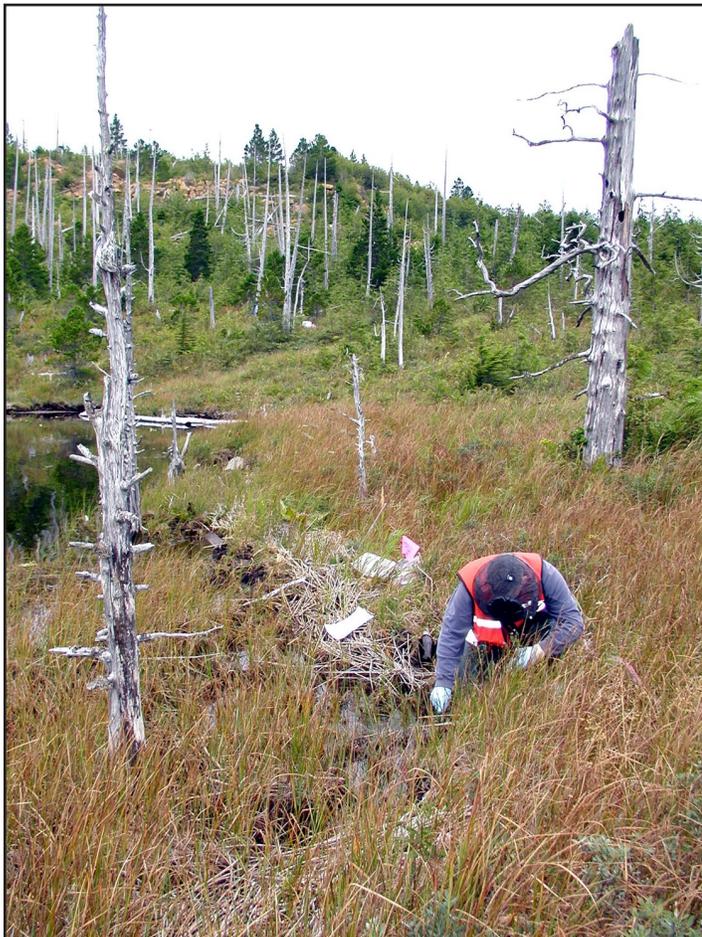
Stakeholder Involvement

The MIC formed an Environmental Restoration Advisory Committee (ERAC), similar to a Restoration Advisory Board. The ERAC includes members of the MIC, which is the local governing authority. The PDT makes regular visits to Annette Island for meetings with the mayor and ERAC.

All stakeholders meet regularly to discuss and align organizational goals. The MOU team, led by USACE, communicates via teleconference every two weeks to share plans, challenges and solutions. The MOU team has increased face-to-face meetings from less than once per year prior to 2002 to at least three times a year now.

Educating the community of the risks associated with the remnants of past DoD activities and the hazards of cleanup was difficult. The team created a community relations plan to keep interested

residents and local officials informed about the progress of environmental cleanup activities performed by the agencies. The goals included communicating progress, encouraging two-way communications and providing opportunities for the public to contribute. The team also uses face-to-face techniques to involve and educate the community. Members of the community work with the team to remove contaminated material and collect samples. It was during these times that the team educated and trained the community about risks, providing significant learning opportunities through hands-on experience during government cleanup. Through involvement of the stakeholders, the number of disputed sites was reduced from over 150 to fewer than 35. The primary stakeholders are pleased and the EPA is also satisfied. Not coincidentally, this project was identified as an Environmental Justice Case Study.



▲ Head nets are a must, as the most prevalent inhabitants on Annette Island are whitesocks, mosquitoes and no-see-ums. Courtesy of USACE/Jacobs.

“Knowing people at the other agencies has been a tremendous help. You get to know people in the other agencies, and you start to look to them for other project partnerships dealing with other issues.”

— Interviewee, Metlakatla Partnership
Towards an Environmental Justice Collaborative Model:
Case Studies of Six Partnerships Used to Address
Environmental Justice Issues in Communities
January 2003

Involvement with the community also impacted the local infrastructure. In terms of money infused into the community, approximately \$350,000 per year was spent in local businesses and disbursed through the hiring of local community members. This had a positive effect on small businesses: the number of small, local businesses able to support field operations grew from 62 in early fiscal year 2002 to 124 in late fiscal year 2003.

Regulatory Coordination

The regulatory environment for this project is challenging. Conflicting state, local and federal regulations have been further complicated by executive orders related to working with Indian Nations like the Metlakatla Indian Community

on the Annette Island Reserve. Although the site is not on the National Priorities List, the project team maintains communications and interactions with the EPA to ensure full compliance with federal requirements. MIC is the primary regulatory agency; however, the regulations for the state of Alaska are more comprehensive and complete. Thus, regulatory criteria are often absent and additional coordination efforts are required to establish criteria. Phone, email and fax are used regularly due to distance between stakeholders. The geographic area spans from Anchorage, Ala., to Pasadena, Calif. In order to bridge this distance, active communication, coordination and consultation with the MIC, EPA and the Annette Island community are keys to the success of the restoration effort.

Cost Avoidance

The PDT is diligently striving to find cost-effective measures to reduce risks associated with previous DoD activities. Yet whenever activities associated with other agencies are identified, costs are reassessed to ensure that the government does not fund the cleanup of environmental contamination caused by others. One example is the disqualification of fuel pipeline systems that were used by private companies, a usage identified only through examination of obscure documents. Without close cooperation led by USACE, the relevant information would not have been available to the right parties, and the correct determination of fiscal liability could not have been made. By sharing information, the team reduced costs to complete investigation and cleanup work by over \$1,000,000.



▲ To access certain sites today, the construction of roads was necessary. This access road was constructed across a salmon stream, requiring timing and specialized engineering to minimize impacts to spawning salmon. Courtesy of USACE/Jacobs.

The project team works with multiple agencies as customers to integrate the TERC contractor as a cost savings method. In fiscal year 2002, while working for FUDS, FAA and the USCG, the team saved nearly \$60,000 by conducting work for multiple agencies during a single mobilization. Substantial mobilization costs forced the PDT to implement a systematic approach to evaluate creative solutions.

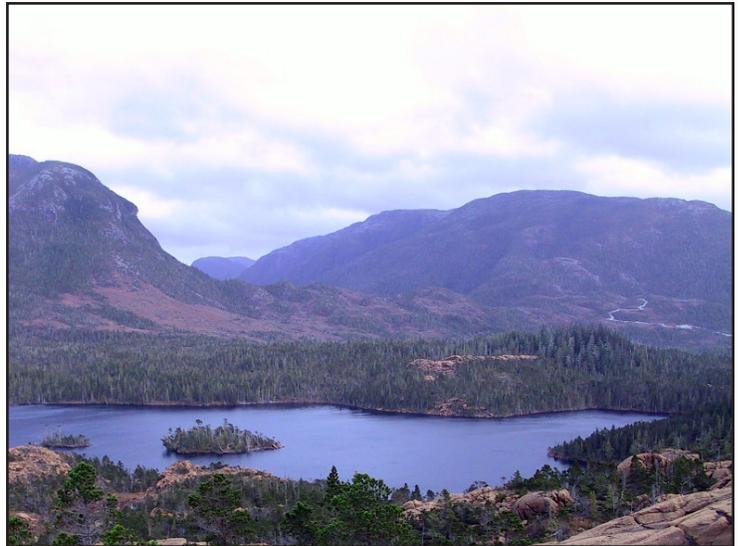
During cultural resource evaluations, there were over 100 features potentially eligible for preservation as significant sites under the National Historic Preservation Act. USACE joined financial forces with the FAA to share costs associated with mobilizing qualified subcontractors to the remote sites to make definitive determinations of eligibility. The PDT also sequenced NALEMP funded removal work to coincide with mitigation of eligible features. In all, cost sharing between FAA and FUDS, and actively sequencing work appropriate to the critical tasks, \$168,000 was saved in fiscal years 2002 and 2003 during the documentation of these eligible features.

Because of the relative isolation and the unique environmental conditions characteristic of Annette Island, many standard approaches to site investigation and remedial action are reviewed and deemed infeasible. Site conditions consist primarily of wet muskeg and rain-saturated, thick vegetation. These characteristics make new approaches imperative to the success of the project. Travel and material logistics can be challenging due to intermittent services between the city of Ketchikan, Ala., and Annette Island.

Treatment pilot studies were conducted to assess the viability of certain techniques under local conditions, including composting and land farming of petroleum contaminated soil and phytoremediation of polychlorinated biphenyls and other contaminants. Unique conditions to Annette Island, such as the abundance of fish and timber, made composting of petroleum-contaminated soil a potentially viable treatment option. Locally available resources including fish waste from the local processing plant and wood waste from the years of logging and the local timber mill were used to compost the contaminated soil. These resources, coupled with the rareness of topsoil and the costs associated with remoteness of the island, determined the feasibility of a pilot study for this option. The results of the study revealed that composting, using locally available resources, reduced contamination by a factor of three. This technology was determined potentially feasible and provides lower lifecycle costs by using the waste from local fish processing and timber industries. The resulting product of treated soil was a cleaner, high-organic-content soil that could be used on the island, which is mostly covered by rock, water and peat.

Other Benefits

The USACE, under the FUDS program, has the primary responsibility for cleaning up former military sites, including Annette Island. Through the FUDS program, the USACE responds to DoD generated pollution that occurred before the property transferred to private owners or



▲ View from Yellow Lake. Courtesy of USACE/Jacobs.

to federal, state, tribal or local government entities. DoD involvement is currently limited to environmental cleanup and restoration of the FUDS on the island.

The PDT is managing work that impacts the quality of life on Annette Island by:

- Infusing money into the community;
- Providing jobs, thereby reducing the 80 percent unemployment rate
- Providing on-the-job training; and
- Increasing the number of small businesses.

Involvement of local residents improves relationships and fosters trust.

CONCLUSION

The events and accomplishments over the past two years demonstrate the outstanding benefits of cross-agency cooperation, innovative approaches to site restoration and efficient logistics management. The cooperative effort also expedited the cleanup of Annette Island, improved the infrastructure of the remote town of Metlakatla and provided a means for community members to learn new skills.