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The Southeast Alaska Mitigation Fund

Prospectus

In Lieu Fee Compensatory Mitigation Program

Submitted To:
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Table of Contents Page

1. Introduction

Permits for activities conducted in jurisdictional waters of the United States, including streams and wetlands, are required by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act (CWA) of 1972 and Section 10 of the Rivers and Harbors Appropriation Act of 1899. Under the CWA Section 404 program permitting process, the COE requires that unavoidable losses of aquatic resource functions and values through permitted actions be replaced through compensatory mitigation (33 CFR Parts 325 & 332 and 40 CFR Part 230).

The Clean Water Act prohibits the discharge of materials, such as rock, soil or sand, into waters of the United States, unless authorized by a permit issued under Section 404 of that act. The COE, or a state program approved by the U.S. Environmental Protection Agency (EPA), has authority to issue such permits and to decide whether to attach conditions to them in order to achieve no net loss of wetlands within the Section 404 program. Compensatory mitigation requirements for impacts to wetlands and streams in Alaska can be met through permittee-responsible compensatory mitigation, mitigation banks, or in-lieu fee (ILF) programs.

This prospectus refers to the development of an ILF program that will offer third-party compensatory mitigation for unavoidable, regulated impacts. The proposed ILF program name is The Southeast Alaska Watershed Coalition Mitigation Fund. The Southeast Alaska Watershed Coalition (SAWC), an Alaska, non profit community-based natural resource management coalition will sponsor this program.

This prospectus outlines the circumstances and manner in which The Southeast Alaska Watershed Coalition Mitigation Fund will serve to satisfy compensatory mitigation requirements of the COE Regulatory Program.

The COE, Juneau Regulatory Division, Alaska District administers In-Lieu Fees ("Funds") contributed for unavoidable impacts to waters of the United States including streams and wetlands that result from activities authorized under Section 401 and 404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act. To establish and operate the SAWC ILF Program, SAWC will work cooperatively with an Interagency Review Team (IRT) that is established and chaired by the COE to ensure the program Instrument meets the requirements of the Final Rule on Compensatory Mitigation: Mitigation for Losses of Aquatic Resources; Final Rule (33 CFR Parts 325 and 332 and 40 CFR Part 230) dated April 10, 2008 (hereinafter referred to as the 2008 Final Rule). Once the Program is certified and operational, the IRT will play an integral role in reviewing proposed mitigation receiving sites and mitigation plans.

The steps required for those seeking approval for an in-lieu fee program have been clearly defined in the 2008 Final Rule. The first step towards seeking program approval is the submission of a prospectus to the IRT for review and comment. It is strongly recommended that potential sponsors submit a draft prospectus to the Corps for initial comment- SAWC did submit a draft prospectus to the Corps and IRT on March 23, 2012. Based upon the IRT working groups and the consultation SAWC received the coalition has adapted the initial Draft Prospectus and strived to incorporate agency comments and concerns into this Prospectus. One of the new requirements for ILF programs is that they go through two rounds of IRT review and two rounds of public review and comment in the program approval process in order to strengthen the final

program Instrument and ensure multiple stakeholder perspectives are taken into consideration and acknowledged within the final Instrument.

The Prospectus for all proposed in-lieu fee programs must include the following:

1. Objectives
2. How the in-lieu fee program will be established and operated
3. Proposed Service Area
4. Need and technical feasibility
5. Ownership arrangements and long-term management
6. Sponsor Qualifications
7. Compensation Planning Framework
8. Description of program account

The remainder of this document makes up the Prospectus for The Southeast Alaska Watershed Coalition Mitigation Fund sponsored by SAWC. Based on comments and suggestions received from the public and natural resource management agencies SAWC will develop the Draft Instrument and Final Instrument. Each document builds upon the last and requires additional information and specification that further details program operation and structure. Again, the purpose of the Prospectus is to provide a broad overview of the program. There are components of an in-lieu fee program that are significant but are not present in this document because they are not required until the sponsor is developing the draft Instrument. These include, method for determining project specific credit and fees and draft fee schedule, advance credit plan, default and closure provisions and reporting protocols.

2. Program Objectives

The primary objective of The Southeast Alaska Mitigation Fund is to replace area lost and/or the functions and values of aquatic resources and associated habitats that have been impacted as a result of permitted activities conducted in compliance or in violation of Section 404 of the Clean Water Act of 1972 and/or Section 10 of the River and Harbor Act of 1899. The program is intended to strive to uphold the national policy goal of "no net loss" to aquatic resources through the establishment and management of restoration, enhancement, creation, and preservation sites within target watersheds in the geographic service area.

The SAWC ILF Program will serve as one option available to permit applicants to provide compensatory mitigation for unavoidable impacts to jurisdictional waters of the U.S. Under this program, public and private applicants for COE permits may be allowed to pay into a mitigation fund instead of- or in addition to- performing permittee responsible mitigation. These funds will be used to carryout mitigation projects that have been identified by the program sponsor and IRT as appropriate compensatory mitigation sites on either private and/or public lands.

Furthermore, the 2008 Final Rule states that mitigation is most successful when it is based upon a "watershed approach" and provides strategies and processes for the district engineer, IRT and program sponsor to follow in mitigation site selection and project prioritization. In order to meet its primary objective of replacing aquatic resources this program will make mitigation decisions utilizing a "watershed approach". The objective of a watershed approach, as defined in the 2008 Final Rule, is to maintain and improve the quality and quantity of wetlands and other aquatic

resources in a watershed (additional information on the watershed approach and site selection and prioritization can be found in Section 7 -the Compensatory Planning Framework).

The primary goal of The Southeast Alaska Watershed Coalition Mitigation Fund will be to maintain and improve the quantity and quality of aquatic resources throughout Southeast Alaska. To accomplish this goal SAWC has incorporated the following objectives into the ILF Program:

1. Provide habitat restoration or enhancement as an option to mitigate for unavoidable, site-specific impacts to aquatic resources in Southeast Alaska.
2. Utilize a watershed approach as defined in the 2008 Final Rule to identify the most appropriate off-site mitigation options available.
3. Work in an efficient and transparent manner with the IRT, chaired by the COE, to review, analyze, and implement mitigation projects and enact amendments to the Program Instrument.
4. Utilize scale efficiencies by combining the impacts from individual smaller projects within each 8-digit HUC watershed into consolidated (larger) mitigation sites with greater ecological value.
5. Develop a program that identifies, prioritizes, and completes mitigation projects that collectively produce a no net resource loss on a watershed scale over time.
6. Provide an effective and transparent accounting structure for collecting in-lieu fees, disbursing project funds, and compliance reporting, as required under the 33 CFR § 332.8.
7. Provide public benefit by applying mitigation resources, deemed appropriate by the IRT, toward the restoration/enhancement of ecologically impaired publicly owned and those privately owned lands, which have important ecological value to the watershed.

3. How the in-lieu fee program will be established and operated

SAWC is incorporating as a private, non-profit Alaska corporation that will operate as a qualified ILF mitigation program sponsor for COE-authorized third-party mitigation services. The Southeast Alaska Watershed Coalition Mitigation Fund will be one of a few compensatory mitigation options available for use after permit applicants in Southeast Alaska have achieved avoidance and minimization of impacts to aquatic resources. The proposed program structure and processes for completing mitigation projects are based largely upon guidance outlined in the 2008 Final Rule issued in April 2008 by the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency (EPA) [33 CFR Part 332 and 40 CFR Part 230]. Ultimately it is the goal of this program and the IRT to carryout compensatory mitigation projects that are commensurate with the amount and type of impact occurring and replace the lost resources at an equal or greater value.

The establishment, use, operation, and management of SAWC's approved ILF Program will be carried out in accordance with the following principal authorities.

A. Federal:

1. Rivers and Harbors Act of 1899 (33 USC § 403)
2. Federal Water Pollution Control Act (33 USCA §§ 1251 to 1387.)
3. Regulatory Programs of the Corps of Engineers, 2008 Final Rule (33 CFR Parts 320- 332)
4. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under the Clean Water Act, Section 404(b)(1) Guidelines (February 6, 1990)
5. U.S. Army Corps of Engineers Regulatory Guidance Letter 05-1, Guidance on Use of Financial Assurances, and Suggested Language for Special Conditions for Department of the Army Permits Requiring Performance Bonds, U.S. Army Corps of Engineers, February 14, 2005
6. Guidelines for the Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230, Section 404(b)(1))
7. National Environmental Policy Act (42 USC §§ 4321 et seq.)
8. Council on Environmental Quality Procedures for Implementing the National Environmental Policy Act (40 CFR Parts 1500-1508)
9. Executive Order 11990 (Protection of Wetlands)
10. Executive Order 11988 (Floodplains Management)
11. Executive Order 13112 (Invasive Species)
12. Fish and Wildlife Coordination Act (16 USC §§ 661 et seq.)
13. Fish and Wildlife Service Mitigation Policy (46 FR 7644-7663, 1981)
14. Endangered Species Act (16 USC §§ 1531 et seq.)
15. Magnuson-Stevens Fishery Conservation and Management Act (16 USC §§ 1801 et seq.)
16. National Historic Preservation Act, as amended (16 USC § 470)

It is the intent of the sponsor that this program be established and operated in a collaborative manner with the IRT members (as described below) and potential mitigation site project partners.

The proposed IRT is the group of representatives from Federal and State regulatory and resource agencies that will provide guidance regarding the establishment and management of the Program pursuant to the provisions of the programs Final Instrument. The IRT consists of:

1. Chair: COE, Alaska District, Juneau Regulatory Office
2. EPA, Region 10
3. National Oceanographic and Atmospheric Administration, National Marine Fisheries Service Habitat Conservation Division (NOAA/NMFS)
4. U. S. Fish and Wildlife Service (USFWS), Conservation Planning Assistance Program
5. Alaska Department of Environmental Conservation (DEC)

6. United States Forest Service, Tongass Forest
7. Other relevant parties as invited by the Chair and/or the Sponsor on a project-by-project basis.

The role of the IRT is to:

- Assist the COE in their role as chair of the IRT;
- Review of the *Draft Prospectus*, Prospectus, and Draft Instrument and Instrument of ILF Program;
- Evaluate mitigation plans;
- Review monitoring reports;
- Recommend adaptive management measures;
- Approve credit releases to agreed-upon projects.

As sponsor of the program, SAWC will be responsible for all roles required of a program sponsor in 33 CFR Part 332.8, including:

- Ensuring the success of compensatory mitigation for which fees have been collected (*performance standards will be defined in project mitigation plans and will support the measured success of each project).*
- Maintaining accounting ledgers, tracking all fees collected and expenditures *(this system will be further defined in the Draft Instrument).*
- Monitoring and maintaining mitigation projects developed under the program.
- Attaining IRT approval for mitigation plans and expenditures from the ILF account.
- Maintaining sufficient funds for the long-term management (as defined in the project mitigation plan) of mitigation projects *(this system will be further defined in the Draft Instrument)*.
- Annually reporting on the progress and status of the program including financial accounting reports, credit transaction reports, mitigation receiving site monitoring and progress toward success, status of long term management endowment account, amount of mitigation provided for authorized impacts/fees collected, and any changes in land ownership or transfers of long term management responsibilities.

The ILF Instrument will provide authorization for the ILF program to provide credits and receive funds from applicants to satisfy compensatory mitigation requirements for Clean Water Act permits (§404 (B)(1) Guidelines (40 CFR 230.10(c)) and other regulated activities. The ILF Instrument will describe the program elements required by 33 CFR §§ 332.8 (6)(ii) & 332.8 (6) (iv), specifically:

1. Credit and debit accounting procedures
2. Provisions stating legal responsibility to provide compensatory mitigation
3. Default and closure provisions
4. Reporting requirements and protocols
5. Project selection criteria through a compensation planning framework (see section 7-*Compensation Planning Framework*)
6. Advance credits

7. Method for determining project-specific credits and fees and fee schedule
8. Description of the ILF program account (see section 8- *Description of Program Account*)

As projects are identified, SAWC will submit site-specific mitigation plans to the COE for review and approval. This is a separate review process for each proposed in-lieu fee project. Any time SAWC would like to implement a new mitigation project or add new acreage to an existing projects, it must submit a project mitigation plan, go through a public review and comment phase, and go through formal IRT review. This process ensures each mitigation site is well planned in advance with specific ecological performance standards and a long-term management plan. Mitigation plans will include the following information required by 33 CFR §§ 332.4 (c)(I)(iii) & 332.8 (i)(e).

1. Objectives
2. Site selection rationale § 332.2(d)
3. Site protection instrument § 332.7(a)
4. Baseline information
5. Determination of credits § 332.2(f)
6. Mitigation work plan
7. Maintenance plan
8. Performance standards § 332.5
9. Monitoring requirements § 332.6
10. Long-term management plan §§ 332.7 & 332.8(u)
11. Adaptive management plan § 332.7(c)
12. Financial assurances § 332.3 (n)

Once the program is approved to provide compensatory mitigation for unavoidable impacts to the waters of the United States, credits will be sold to Section 404 permittees. The funds received from permittees will be consolidated and used to implement identified and prioritized mitigation projects. In Southeast Alaska regulated activities are often dispersed across large areas and over time. Therefore achieving compensatory mitigation may sometimes benefit from combining funds from several permit applicants. At the IRT's discretion project funds may be disbursed among adjacent or disparate watersheds to ensure timely delivery of mitigation commitments as required in the final rule.

Compensatory mitigation projects will be selected based on an analysis of their ability to mitigate for impacts and provide measureable ecological benefits. The over-reaching goal is to maintain and restore the quantity and quality of aquatic resources within the service area.

To ensure successful operation of the ILF program SAWC will value fee amounts by setting credit prices that will allow the sponsor to meet all of the requirements of the 2008 Final Rule. Much criticism has been levied against in-lieu fee programs over the years for setting credit prices too low and failing to cover all of the costs necessary to deliver the promised mitigation.

The 2008 Final Rule states that the cost per credit must be based on "full cost accounting" – all the costs associated with the restoration, establishment, enhancement, and/or preservation of aquatic resources. The 2008 Final Rule lists the specific activities that may be considered in setting credit fees. These are:

- Land acquisition
- Permitting
- Project planning and design, including site selection
- Construction and inspection
- Plant materials
- Legal fees
- Monitoring
- Maintenance and or adaptive management activities
- Program administration
- Contingency costs appropriate to the stage of project planning, including uncertainties in construction and real estate expenses
- The resources necessary for the long- term management and protection of the in-lieu fee project, including compliance inspection.
- Financial assurances that are necessary to ensure successful completion of in-lieu fee projects

Additionally, the rule states third party mitigation programs will use funds generated from credit sales for program administration. The program administration for this ILF programs are describe in part as follows:

(1) A percentage of funds generated (not to exceed 15% of total fees collected) will defray administrative costs associated with operation of the ILF program. Examples of administrative costs include: staff time; planning and project identification costs; landowner contacts; contaminants investigations; meetings with the IRT, watershed representatives, and project partners; developing conservation easements and other legal protections for project sites; reporting; accounting; and others.

(2) In addition to this 15% administrative cost, the sponsor will also create two separate contingency accounts. The first will represent a contingency held separately for each project to defray unanticipated costs associated with maintaining the long-term success of the project. The second will be a general contingency that will be deposited into a program-wide contingency account to ensure long-term viability of the ILF program. This general contingency account will provide financial assurances for unexpected costs such as easement defense or others that may arise affecting several projects or the ILF program as a whole. SAWC will work with the IRT- during the Draft Instrument phase- to determine a standard percentage of a total project site cost to be deposited into these two contingency accounts. All other fees collected will be used by SAWC for project implementation, which will include, but may not be limited to: design, construction, construction oversight, site monitoring up to the time of credit release (do we

anticipate calling SAWC ILF fees credits?), and perpetual protection of mitigation sites which may include easement or fee title purchase, project site fencing, and others.

Once the COE has required the permitee to pay an appropriate credit amount, SAWC and/or SAWC partners will agree to accept legal responsibility for satisfying the mitigation requirements for all COE, for which mitigation fees from a permittee have been accepted under the terms of the program's instrument. Any transfer of mitigation responsibility is contingent upon the prior approval of the Corps.

Based on the 2008 Final Rule SAWC expects the following responsibilities of the COE – as Chair of the IRT- in establishing and operating the program

A. The COE agrees to provide appropriate oversight in carrying out their responsibilities under the provisions of the 2008 Final Rule and any special considerations written into the Programs final Instrument.

B. The COE agrees to review and provide comments on project plans, monitoring reports, contingency and remediation proposals, and similar submittals from the SAWC in a timely manner.

C. As IRT Chair, the COE will coordinate their review with the other members of the IRT.

D. The COE agrees to review requests to provide guidance in the development of the SAWC ILF Program Prospectus, Draft Instrument and Final Instrument. As well as, once the program is approved, the COE agrees to review requests to modify the terms of the Instrument, to transfer title or interest in any real estate subject to the program, to determine achievement of performance standards in order to evaluate the award of credits for each phase of the Program's mitigation projects, or to approve the Long-Term Management Plans. As Chairs, the COE will coordinate review with the members of the IRT so that a decision is rendered or comments detailing deficiencies are provided in a timely manner. The COE agrees to not unreasonably withhold or delay action on such requests.

E. The COE agrees to act in good faith when rendering decisions about acceptability of financial assurances, requiring corrective or remedial actions, requiring long-term management and maintenance actions, and releasing credits. The COE shall exercise good judgment in accessing financial assurances, and will utilize those monies only to the extent they reasonably and in good faith conclude that such remedial or corrective actions are an effective and efficient expenditure of resources. In implementing this process the COE will act in good faith in determining the scope and nature of corrective actions to be undertaken, shall act in good faith in conducting monitoring, developing reports, and assessing compliance with performance standards; and will not unreasonably limit options available as corrective action activities or otherwise apply their discretion so as to unduly prejudice the Sponsor regarding the timing or number of credits released. Approval by the COE of the identity of any assignee responsible for executing the Long Term Management Plan, and approval of the terms of any long-term management assignment agreement, will not be unreasonably withheld.

F. The COE will periodically inspect the mitigation sites as necessary to evaluate, in consultation with the other members of the IRT, the achievement of performance standards, to assess the results of any corrective measures taken, to monitor implementation of Long Term

Management Plans, and, in general, to verify SAWC's compliance with the provisions of the programs approved Instrument.

Upon satisfaction of the requirements of any mitigation site phase under the approved Instrument, the COE will certify, following consultation with the SAWC and the other members of the IRT, that the establishment period of a mitigation site has terminated, all credits associated with the site have been released, and that the site has entered the long-term management phase. Certification will occur upon the SAWC's receipt of a letter issued by the COE to the Sponsor confirming that all credits are released.

The 2008 Final Rule, requires all ILF programs to have a Compensation Planning Framework as part of the program's prospectus and final instrument (§332.8(d)(2)(vii). The compensation-planning framework is a detailed and extensive section of the prospectus and instrument that is "used to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities."[1] This element of the in-lieu fee program instrument was added to the 2008 Final Rule to improve the practice's "accountability and performance" of ILF programs. Please refer to the compensation-planning framework in this prospectus for information, including site selection, prioritization, and implementation of the SE Alaska Mitigation Fund.

4. The proposed service area

(*The ILF program service area is described in more detail in the Compensation Planning Framework section)*

The service area for the SAWC ILF Program is the organization's existing area of focus servicing municipalities, tribes and local organizations throughout Southeast Alaska. Common usage describes Southeast Alaska as a coastal ecosystem located between 55 and 60 degrees latitude, extending about 500 miles from the Canadian border (south of Ketchikan) northwest to Yakutat Bay and roughly 120 miles in width. Southeast Alaska encompasses about 22 million acres. Within this vast region, SAWC is relying on established USGS Hydrologic Unit Code (HUC) delineations, which are defined by watersheds for program management purposes. These identifications of watersheds assist in framing a regional analysis that complements the 2008 Final Rule's focus on compensatory mitigation on a watershed basis.

Existing delineations define the SE Alaska service area watersheds and organize available aquatic resource data and management information, as follows:

- The U.S. Geological Service identifies four 6-digit and eleven 8-digit Hydrologic Unit 26 Codes: 19010101 – 19010401 covering the watersheds in the Service Area. (Natural Resources Conservation Service; www.ak.nrcs.usds.gov/technical/southeasternhucs.html)
- The U.S. Forest Service identifies 22 Biogeographic Provinces comprised of groups of watersheds, with further delineation of 926 "Value Comparison Units" (VCU) within the provinces. Each VCU generally encompasses a drainage basin (watershed) with one or more large stream system and includes estuaries and adjacent marine habitats associated

[1] 2008 Final Rule (§332.8(c)(1)

with the terrestrial drainage system (*Tongass National Forest Land and Resource Management Plan*, 1997; 2008).

- The Nature Conservancy and Audubon Alaska further combine the Forest Service's 22 Biogeographic Provinces into five sub-regional groupings based on climate, physiography, and plant distribution and provide watershed-scale information in a GIS format (*The Coastal Forests & Mountains Ecoregion in Southeastern Alaska and the Tongass National Forest*, 2007).

SAWC will rely on these watershed delineations in mitigation project identification and will maintain records using both the 8-digit USGS HUC and the biogeographic province nomenclature. SAWC will attempt, to the extent workable, to match mitigation projects within and/or near the watershed that received the unavoidable permitted impact.

The fees for jurisdictional impacts in each of the eleven 8 digit HUCs in Southeast Alaska will be collected and combined to fund mitigation projects in that HUC. In situations deemed appropriate by the IRT and Sponsor, the SAWC's ILF program funds may be used to compensate for an impact that occurs outside of the 8-digit HUC impacted. If the COE determines that SAWC has sold, used, or transferred credits at any time to provide compensatory mitigation for loss of aquatic resources outside of the HUC where the impact occurred without prior approval under the terms of this instrument, the COE, in consultation with other applicable members of the IRT, may direct that the sale, use, or other transfer of credits immediately cease. The COE will determine, in consultation with the IRT, SAWC, and the appropriate regulatory authority, what remedial actions are necessary to correct the situation.

5. The general need for and technical feasibility of the proposed in-lieu fee program

Commercial, urban and rural development, road and utility infrastructure, industrial sites, historic logging practices, and other human actions have altered aquatic habitat in Southeast Alaska. Valuable freshwater wetlands and estuarine habitat have been filled and/or isolated; stream channels have been blocked, straightened and disconnected from their floodplains; forests and riparian areas have been degraded by legacy issues; sections of the coastline have been degraded or lost due to habitat modifications and water pollution; and abandoned crab pots, fishing nets and other gear litter the bottom of the ocean floor near and around Southeast communities.[2]

Despite a nationwide goal of no-net-loss of wetlands, Southeast Alaska and the State continue to experience losses to the functions and values of wetlands, streams, riparian areas and other aquatic resources. Based on a gap analysis conducted by the SAWC three central factors have been identified as contributing to these losses: 1. Actions being permitted under the Section 404 and Section 10 programs without credible mitigation plans and projects that meet the requirements of the 2008 Final Rule, 2. A lack of identified and prioritized mitigation projects

[2] Alaska Region Step-down Plan 2007-2011; Partners for Fish and Wildlife and http://www.fs.fed.us/r10/tongass/projects/tlmp/2003_monitoring_report/17.5_wetlands.pdf

and, 3. A lack of third party mitigation programs operating in Southeast Alaska and the State that offers restoration, enhancement and creation opportunities.

Currently there are two ILF programs in Southeast Alaska that offer preservation opportunities to Section 404 and Section 10 permit applicants- The Southeast Alaska Land Trust and the Great Alaska Land Trust. There are no *active* third party mitigation programs (mitigation banks and/or in-lieu fee programs) that carryout restoration, enhancement and/or creation to offset unavoidable permitted impacts to aquatic resources in Southeast Alaska.

Federal regulations have identified in-lieu fee programs as one potential option to correct some of the shortcomings in existing mitigation techniques. A regulatory program that includes an ILF program provides the opportunity for consolidating compensatory mitigation projects and resources to target more ecologically significant functions, provide financial planning, provide scientific expertise, reduce temporal loss of function, and reduce uncertainty about project success. By consolidating resources and utilizing scientific expertise, this program will provide applicants an appropriate mitigation option for offsetting unavoidable impacts in a timely manner.

The population of Southeast Alaska region is expected to grow in coming years. In addition to pressures on Southeast Alaska's biogeographical regions from general population growth in certain communities, existing industry and land uses will continue to expand. This expected growth and development does and will continue to require more effective mitigation.

At this time- there are no state-wide or regional processes, structures or strategies that support third party mitigation programs in Southeast Alaska. SAWC is the only natural resource organization that is addressing and building awareness about aquatic resource mitigation- in the form of restoration/enhancement/creation in the region. There are limited natural resource managers and professionals in the region who are well informed and have an in depth understanding of the 2008 Final Rule. The COE regulatory office in Juneau has a staff of two, which means COE regulatory staff located in Anchorage are approving permit applications for impacts occurring in Southeast Alaska. Natural resource managers and conservation organizations all agree that the technical capacities of one entity to effectively carryout mitigation projects and manage the sites associated with an in-lieu fee program does not currently exist in Southeast Alaska. After a review of past restoration projects carried out in Southeast Alaska it is obvious that the majority of projects require partnerships between various organizations as well as the landowner(s) in order to develop project designs, construct the project, monitor the project over the long-term, and secure a site projection mechanism.

Therefore, SAWC is proposing to create strategic restoration partnerships with Mitigation Fund Partners (Appendix c)- for each mitigation project- with the agencies, organizations and consultants that are addressing aquatic resource management issues and carrying out restoration projects near and around the program's proposed site. SAWC is confident that the technical needs required to meet the objectives of the proposed ILF program are feasible. SAWC with oversight from the COE and IRT will undertake specific mitigation plans that compliment the organizational capacity of SAWC, as well as the technical expertise of the partnering organizations. See Section 7 for more information on qualification of sponsor and partners to carryout proposed structure.

Communities, scientists, government, tribes, natural resource managers, contractors and conservation groups are ripe with interest to utilize Section 404 and Section 10 mitigation funds to restore, enhance and create aquatic habitat in Southeast Alaska. Acting as a coalition, SAWC has access to extensive scientific resources, organizational partners, and technical service contractors to support its mitigation activities. Drawing from its network of natural resource professionals and managers that represent diverse stakeholder groups, including resource agencies, tribes, municipalities, industry, non-profit organizations, the Alaska State Legislature and environmental consultants and contractors SAWC will be able to respond to the technical requirements of this ILF program. Technical needs and requirements include mitigation site selection and prioritization, mitigation project design and construction, long-term monitoring of project site, data collection and storage and financial management.

6. The proposed ownership arrangements and long-term management strategy for the in-lieu fee project sites

SAWC will consider mitigation projects on public or private lands based on site-selection criteria within a watershed, which will be detailed in the ILF Instrument. Private properties with existing conservation easements or equivalent protections as well as lands held and protected by state, federal, tribal, or other entities in the public trust present opportunities to optimize mitigation on a watershed scale as land costs may represent one of the largest component costs of a mitigation project. Mitigation sites on private land will be protected by permanent conservation easement, deed restrictions, or other legal instruments as provided in the 2008 Final Rule. SAWC intends to partner with statewide and regional land trust entities that can hold a conservation easement or fee title to property on which mitigation is conducted, as well as other land owners both public and private who have the authority to hold legal instruments that dictate land and resource use.

Long-term stewardship and management of in-lieu fee project sites can take many different shapes. In some cases, the in-lieu fee sponsor is a government agency or non-profit conservation organization with land conservation as a mission and the sponsor fully intends to retain ownership and management responsibilities for project sites. In other cases, the in-lieu fee sponsor may intend to transfer the project sites to another entity for ownership or long-term management. In these cases, mitigation project sponsors may have difficulty securing a long-term steward until after the project is further along and the risks are clearer (i.e., the site is completed and meeting performance standards). As a result, the in-lieu fee instrument and project-specific mitigation plan(s) generally identify the sponsor as the long-term steward (the "default" long-term steward). Long-term management and funding then can be transferred to another party with the approval of the district engineer and IRT at some later point. This, presumably, holds true for the portion of the long-term management plan that describes long-term management needs (e.g., annual cost estimates for these needs) and how those needs will be financed.

SAWC will work with the IRT to develop a Final Instrument and mitigation plans under the proposed program that addresses the several different aspects of long-term management of mitigation sites, such as the long-term site protection duration and instrument, the long-term management activities themselves, the party responsible for long-term management, the

mechanism(s) for financing long-term management activities, and if and how the responsibility and funding for long-term management will be transferred to another entity.

Following the project performance period (process of implementing mitigation project and carryout project tasks), mitigation projects will be managed in accordance with long-term stewardship guidelines. Credit pricing will include costs associated with long-term management and monitoring of ILF mitigation receiving sites. In addition to long-term monitoring and management specified in the ILF program instrument, the ILF sponsor will protect ILF sites used for mitigation in perpetuity. SAWC has several legal mechanisms whereby its approved ILF Program compensatory mitigation properties could receive long-term protection and management:

1. SAWC can partner with a land trust to execute and hold a conservation easement on certain properties with willing public or private landowners.
2. SAWC can partner with a property owner that holds a conservation easement.
3. SAWC can partner with an appropriate public agency and place deed restrictions (per 2008 Mitigation Rule 33 CFR 332.7(a)).

Under the ILF Program, the specific project mitigation plan or terms of a project-specific conservation easement would clearly describe the conservation values being protected and the permitted/prohibited uses/activities for each project site. In accordance with 33 CFR 332.6, the mitigation plan for each mitigation site identifies the specific monitoring required for that specific site. The ILF Program legal instrument between the COE and SAWC will require reporting of all monitoring actions.

For projects on private lands, the ILF sponsor must require that a site protection mechanism, such as a conservation easement or restrictive covenant, be placed on the land. The site protection mechanism must grant the sponsor access for monitoring and enforcement, and stipulate long-term protection obligations.

Regardless of the legal mechanism protecting the mitigation site, SAWC or an identified partner in the Project Mitigation Plan will be responsible for long-term management of the site. The long-term management strategy will include the following components:

1. Specific needs for long-term success of the project including a general discussion of watershed and functional benefits that will be considered. Generally, the long-term management strategy for a project will consider long-term sustainability of the project where restoration and enhancement activities provide self-sustaining processes to produce and maintain aquatic resource benefits.

2. Each ILF project will meet the COE's Alaska District long-term protection requirements. Agreements will require that project sites be protected from adverse future land uses with a permanent conservation easement, deed restriction, or other legal mechanism. SAWC will submit a proposal for permanent conservation easement, deed restriction, or other legal mechanism to the COE and the IRT for review and approval prior to release of credits. Enactment of protection may serve as the basis for release of advance credits as identified in the credit release schedule.

3. Mitigation projects may be conducted by SAWC on lands protected by easements held by a separate land trust entity. SAWC may either continue to assume responsibility for long-term management or delegate monitoring and/or management responsibilities to that land trust entity. However, it may be most advantageous or necessary to transfer responsibility for long-term management to a third party; e.g. where property owners request that a single entity hold the easement and provide long-term management. Where long-term management becomes the responsibility of a third party, a Stewardship Management Agreement may be presented to the COE for approval that describes how the third party will implement the strategy. In either case, the responsible party will maintain long-term management funds sufficient to ensure long-term protection of the site.

4. Monitoring of mitigation sites will be required for a minimum five-year period. However, the COE may release credits prior to completion of the five years if it believes it is warranted. The COE may require longer periods of monitoring when necessary; e.g. where an ILF project involves restoring forested wetlands, to ensure performance standards are met.

5. Mitigation projects will involve deposits to both a project-specific and a general, program-wide contingency account. SAWC or a SAWC partner- that has agreed to assume monitoring and/or long-term management responsibilities for a project- may hold these long-term management funds.

Accomplishment of Sponsor Responsibilities; Transfer of Ownership of a Mitigation Site*:* SAWC will remain responsible for complying with the provisions of the final Instrument throughout the operational life of the Program, regardless of the ownership status of the underlying real property where mitigation sites are located, unless those responsibilities have been re-assigned. The SAWC is not required to, but may transfer ownership of all or a portion of the mitigation sites' real property interest to another party, provided the COE, expressly approves the transfer in writing. The SAWC will provide no less than 60 days written notice to the IRT of any transfer of fee title or any portion of the ownership interest in the Program real property interest to another party.

Transfer of Long Term Management Responsibilities: The Sponsor may assign its long-term management responsibilities to a third party assignee, which will then serve as Long-Term Steward in place of the Sponsor. The identity of the assignee and the terms of the long-term management and maintenance agreement between the SAWC and the assignee must be approved by the COE following consultation with the IRT, in advance of assignment.

Upon execution of a long-term management assignment agreement and the transfer of the contents of the Long-Term Management Account, and upon satisfaction of the remaining requirements for termination of the establishment phase of the ILF Program, SAWC shall be relieved of all further long-term management responsibilities under this Instrument, which are associated with the site for which responsibilities have been transferred.

Funding for ownership agreements and long-term management:

Mitigation Fees will comprise of two fees: a Credit Fee and a Land Fee. The Credit Fee price will reflect average costs for implementing all components of a mitigation project. Once in operation for a few years SAWC will strive to adapt an average Credit Fee for each 8-digit HUC

based on cost analyses of recent projects completed by The Southeast Alaska Watershed Coalition Mitigation Fund.

The Land Fee prices will be based on an analysis of average cost of recent land acquisitions made by various stakeholders including the Southeast Alaska Land Trust ILF program within different areas and zoning categories.

As the 2008 Final Rule requires, the Mitigation Fee prices will thus be formulated to reflect full-cost accounting for establishment and management of mitigation sites, which includes: costs associated with site selection, permitting and design, construction, monitoring and maintenance, **long-term management**, program administration, **contingencies and property right acquisition**.[3]

7. The qualifications of the sponsor

SAWC is a natural resources management coalition and is committed to the strategic conservation and promotion of the aquatic, natural, and cultural resources in communities throughout Southeast Alaska. The mission of SAWC is to inspire Southeast Alaskans and support community organizations to wisely manage our watersheds. SAWC does this by facilitating a professional network for natural resource practitioners, offering trainings to build local and state natural resource management capacities and providing aquatic resource mitigation services to municipalities, tribes, landowners, resource management agencies, industry, and the private sector throughout Southeast Alaska.

The Southeast Alaska Watershed Coalition Mitigation Fund will serve the critical need for identifying mitigation opportunities and establishing mitigation projects where private mitigation banks do not exist, lack available credits, or are not expected to begin operating in the foreseeable future. The ILF program can strengthen SE Alaska's ability to mitigate and conserve its aquatic resources. Additionally, the ILF Program may collaborate, by contributing mitigation–based restoration elements to projects with other entities, including public agencies, watershed groups, conservation organizations, land trusts, and others. Partnering with other restoration ventures is in the public interest. The ILF program can mobilize mitigation funds for larger-scale restoration projects, including those where mitigation funds alone may be insufficient to implement restoration at an effective watershed scale

To meet the needs of each mitigation project, the best available science will be incorporated along with an appropriate monitoring program to evaluate the effectiveness of the implemented strategies and inform adaptive management. The IRT and other relevant experts will review the mitigation and monitoring plans of each project site to ensure the greatest chance of success.

Below is a list of events and/or services that SAWC has facilitated and/or presented that demonstrates the qualifications of SAWC as *the* natural resource management organization in Southeast Alaska that understands the goals and objectives of the 2008 Final Rule for mitigation providers offering *restoration, enhancement and creation* opportunities to permit applicants. SAWC's investment in facilitating trainings, regional scoping discussions and workshops to build the institutional knowledge of local, regional and state organizations and agencies and the

[3] 33 CFR 332.8(o)(5)(ii)

awareness of the public of the CWA Section 404 has been significant over the past three years. SAWC has demonstrated that it has the capacity to facilitate and coordinate an aquatic resource mitigation program that meets the requirements of the 2008 Final Rule and is committed to supporting the COE in achieving the functional lift of aquatic resources in the Southeast region. SAWC has reached over 200 southeast Alaskan natural resource professionals through the following events:

1. *Scoping Discussion: Wetland and Aquatic Resource Mitigation*, October 21st, 2011, Juneau Alaska. 43 participants; including 5 COE staff and 20 other agency staffer. Presenters: COE, FS and USFWS Staff and WA mitigation experts. (SAWC, 2011).

2. *Clean Water Act Section 404 Program and Identifying and Planning for Mitigation in Your Community*, Public Meeting with Borough, Tribes, Local Agency Staffers, Petersburg AK, October 17th 2011.

3. *Clean Water Act Section 404 Program and Identifying and Planning for Mitigation in Your Community*, Public Meeting with Borough, Tribes, Local Agency Staffers, Wrangell AK, October 18th 2011.

4. *Introduction to Wetland Functional Assessments and Delineations to support Permitting Process*, Haines AK, August 12th, 2011. Trainers: COE Staff

5. American Water Resources Association, Alaska Section 2012 Annual Conference. Juneau March 2012. *Developing a Third Party Aquatic Resource Mitigation Program and the Need for Science to Inform Credible Mitigation in Southeast Alaska.*

6. *Wetland Functional Assessment Training: WESPAK-SE*, Haines AK September 20th 2012. Trainer: Dr. Paul Adamus

7. Sub-contractor with PND Engineers to conduct the functional assessments and support the development of the Mitigation Plan for the Petersburg Drive Down Facility. Petersburg, 2012.

8. Sub-contracting with Chilkoot Indian Association to support the development of a Wetland Management Plan with the Tribe and Haines Borough staffers. Haines AK. January 1, 2013- 2016.

SAWC recognizes that, though it has an in-depth understanding of the 2008 Final Rule and developing an ILF program, it does not have extensive experience conducting on-site mitigation. Based on the extensive needs assessments conducted by SAWC over the past three years there is no *one* organization, agency, and/or environmental consultant operating in Southeast Alaska that understands the requirements listed in the 2008 Final Rule nor that has the experience and expertise to conduct all stages of a restoration, enhancement and creation project from site selection to long-term monitoring. The Southeast Program Director for Trout Unlimited, Alaska emphasized this point in an email dated March 13, 2013:

> "In my mind it is the very lack of comprehensive expertise on the part of any one group which makes partnerships essential and why organizations in the region gravitate towards them. At TU-AK we have particular experience and expertise in bringing funding resources to a project and influencing decision makers and the public to support restoration. However, we rely on and partner with the FS/USFWS/SCS/NOAA to provide the science, engineering and monitoring expertise. "

Multiple organizations and contractors coming together to carryout mitigation projects is not an uncommon process. Across the country ILF programs facilitate partnerships to carryout mitigation. SAWC has worked with COE staff and the IRT since 2009 to develop a structure for this ILF program- similar to ILF programs in WA, OR, NH and ME. These ILF programs invest in and capitalize on the expertise of organizations operating in the program service area to carryout various elements of the mitigation projects.

SAWC, the COE, and other regulatory agencies understand that in order to uphold the requirements of the Section 404 program it is in their best interest and the best interest of the public to support the development of an ILF mitigation program that brings together the diverse expertise in the region needed to ensure mitigation sites are planned and carried out in a way that meets the 2008 Final Rule.

Throughout SE Alaska, conservation organizations, state and local agencies, tribes and municipalities collaborate to identify, plan, and execute watershed protection, restoration and enhancement projects that meet salmon recovery, ecosystem conservation, water quality improvement and other federally and state mandated and local natural resource management objectives. These largely grant-funded collaborative efforts have a successful track record restoring the impacts to aquatic resources in both rural and urban communities. The main objective of The Southeast Alaska Watershed Coalition Mitigation Fund is to support and bolster these successful collaborations in a mitigation context.

SAWC will work with **Mitigation Fund Partners** and **Mitigation Fund Service Providers** to carryout the mitigation plans for each mitigation site**.**

Mitigation Fund Partners are those organizations, local, state and federal agencies, tribes, and municipalities that have the capacity and experience administrating and/or acting as a project manager for aquatic resource restoration, enhancement, creation, and preservation within the 8 digit HUC's that make up the program's service area. Mitigation Fund Partners will be considered by SAWC and the IRT, with final approval by the COE, to provide project management and/or long term monitoring activities that are carried out under the Mitigation Fund. In order to be considered a Mitigation Fund Partner SAWC must receive a statement of qualifications and how the services being offered will support the operations of the ILF program. The list of qualification for these entities will be made available on the SAWC website and will be presented to the IRT on a yearly basis as updates and changes are made annually to the list by the program manager. The program sponsor has identified "Local" Mitigation Fund Partners and "Regional" Mitigation Fund Partners. A list of qualifications for each Partner can be found in the Appendices. Local Partners operate within a specific 8 digit HUC, where Regional Partners offer their services across Southeast Alaska.

Mitigation Fund Technical Service Providers are those entities that provide technical services that support the mitigation of aquatic resources throughout Alaska and the greater Pacific Northwest region. These entities will provide contractual services to carryout specific elements of mitigation projects. This list does not include all of the potential Service Providers, however, it does identify the expertise that does exist and is available to SAWC and Mitigation Fund Partners to draw upon to ensure successful mitigation. Similar to the list of Mitigation Fund Partners, SAWC will keep a list of potential Service Provides that will be made it available to the IRT on a yearly basis as the program manager makes updates and changes annually to the list.

At the time this instrument is signed the program sponsor will focus program resources towards the 8-digit HUC watersheds within the service area where the coalition has established Mitigation Fund Partners. In addition, the type of projects the program carries out will match the experience and expertise of the Mitigation Fund Partners and Technical Service Providers.

Listed below are the local and regional Mitigation Fund Partners and Technical Service Providers that SAWC has established relationships with at the time this Instrument is being developed. These entities have vetted the Southeast Alaska Mitigation Fund and have the capacity and expertise to support mitigation activities under the ILF program. In the table below, the *Watershed of Operation* column is the 8-digit HUC watershed within the service where the program sponsor will focus its mitigation activities at the onset of the program. Please see the service area map in Appendix A to reference specific HUC names and locations. Again, this list is not a comprehensive list of all potential partners and contractor operating in the region. The Technical Service Providers listed below have provided SAWC Mitigation Fund Partners with technical expertise to accomplish various elements of habitat restoration activities and/or have been contracted by SAWC to support in the development of the Southeast Alaska Mitigation Fund.

Mitigation Fund Partner List

Organization and Name of Restoration Contact	Expertise	Watershed of Operation (8digitHUC)
Local Partners		
City and Borough of Yakutat Bill Lucey: Planning and Natural Resources	Aquatic resource restoration project management, watershed research and assessment, wetland delineations	Yakutat Bay HUC
Takshuanuk Watershed Council Brad Ryan: Executive Director	Aquatic resource restoration project management, watershed research and assessment, wetland functional assessments	Chilkat Skagway HUC
Sitka Conservation Society Scott Harris: Watershed Restoration Coordinator	Aquatic resource restoration project management, watershed research and assessment, watershed prioritization	KKMEZW HUC

Juneau Watershed Partnership	Aquatic resource restoration project management and assessment	Lynn Canal HUC
The Nature Conservancy, Alaska Norman Cohen: Executive Director	Aquatic resource restoration project management, watershed research and assessment, site prioritization	Ketchikan HUC
The Nature Conservancy, Alaska Norman Cohen: Executive Director	Aquatic resource restoration project management, watershed research and assessment, site prioritization	Prince of Wales HUC
Regional Partners		
The Nature Conservancy, Alaska Norman Cohen: Executive Director	Aquatic resource restoration project management, watershed research and assessment, site prioritization	Southeast Region
The Southeast Alaska Land Trust Diane Mayer: Executive Director	Aquatic resource mitigation in the form of preservation	Southeast Region
Trout Unlimited, Alaska Mark Kaelke: Southeast Alaska Director	Project funding acquisition, pre-project implementation coordination. Contract development and awards	Southeast Region
United States Fish and Wildlife Service, Coastal Program Neil Stichert: Juneau Field Office	Aquatic resource mitigation, specifically Fish Passage, assessment	Southeast Region
United States National Forest, Tongass National Forest Sheila Jacobson: Fish Biologist	Aquatic resource mitigation, watershed research and assessment, watershed inventory and prioritization	Southeast Region

Mitigation Fund Technical Service Provider

Contractual Service Provider and Point of Contact	Expertise	Region(s) of Service
Herrera Integrated Environmental and Engineering Services Mark Merkelbach:	Fish passage, bank stabilization, Engineering, design and on-site construction management assistance	Pacific North West and Alaska
DowlHKM Brad Melocik	Hydrologic analyses, Fish passage design, Flood hazard analysis, Permitting	Alaska

Waterman Mitigation Partners Steve Sego	Permitting mitigation projects including site selection, permit support, design coordination, site monitoring and maintenance	Washington, Oregon and Southeast Alaska
Ecological Land Services Francis Naglich:	Wetland delineations, Functional assessments, mitigation banking, wetland creation, land and easement acquisition	Washington, Southeast Alaska
Interfluve Dan Miller, PE	Wetland creation/enhancement, design, construction oversight, mitigation planning, fish passage design	Pacific Northwest, Alaska
Please note: there are other identified contractors who work with Mitigation Fund Partners on a regular basis throughout the service areas. These contractors are listed in the "Statement of Qualifications" of the Mitigation Fund Partners. See Appendix		

In addition to the watershed expertise listed above SAWC has developed specific organizational partnerships with The Nature Conservancy (TNC) and the Southeast Alaska Fish Habitat Partnership (SEAKFHP), in order to, enhance and facilitate the flow of relevant and scientifically based information and services regarding aquatic resource management and mitigation throughout the programs entire service area.

Once the ILF program is certified SAWC will utilize the expertise within its Mitigation Fund Partners to support the identification of mitigation sites and ensure mitigation plans are equipped with the best available science.

SAWC will utilize the expertise of the SEAKFHP Science and Data Committee and Steering Committee to inform the development and review the ecological performance standards and monitoring protocols at the mitigation sites to ensure functional lift of aquatic resources.

8. The Compensation Planning Framework:

The *Compensation Planning Framework for The Southeast Alaska Watershed Coalition Mitigation Fund* presents the condition of aquatic resources, and the historic losses and potential threats to those resources (due to urbanization, local and regional transportation infrastructure, hydropower development and transmission, resource development, etc.) as best possible considering aquatic resource impacts have not been tracked in a systematic way that is available to the public and third party mitigation programs in Alaska. The compensation-planning framework (the Framework) explains how the ILF Sponsor will use permittee-provided fees to mitigate aquatic resources on land parcels to offset impacts to aquatic functions and services throughout the service area. Further, the Framework identifies the ILF Program goals and objectives, and a strategy for prioritizing the selection and implementation of mitigation projects

a. The geographic service area(s), including a watershed-based rationale for the delineation of each service area;

The service area for the SAWC ILF Program is the organization's existing area of focus servicing municipalities, tribes and local organizations throughout Southeast Alaska. Common usage describes Southeast Alaska as a coastal ecosystem located between 55 and 60 degrees latitude, extending about 500 miles from the Canadian border (south of Ketchikan) northwest to Yakutat Bay and roughly 120 miles in width. Southeast Alaska encompasses about 22 million acres. Within this vast region, SAWC is relying on established USGS Hydrologic Unit Code (HUC) delineations, which are defined by watersheds (8 digit HUC) for program management purposes. These identifications of watersheds assist in framing a regional analysis that complements the 2008 Final Rule's focus on compensatory mitigation on a watershed basis.

Existing delineations and planning documents define the SE Alaska service area watersheds and organize available aquatic resource data and management information, as follows:

- The U.S. Geological Service identifies four 6-digit and eleven 8-digit Hydrologic Unit 26 Codes: 19010101 – 19010401 covering the watersheds in the Service Area. (Natural Resources Conservation Service; www.ak.nrcs.usds.gov/technical/southeasternhucs.html)
- The U.S. Forest Service Watershed Condition Framework for Southeast Alaska: http://apps.fs.usda.gov/WCFmapviewer/ offers ratings of the condition of the USFS managed watersheds.
- The U.S. Forest Service identifies 22 Biogeographic Provinces comprised of groups of watersheds, with further delineation of 926 "Value Comparison Units" (VCU) within the provinces. Each VCU generally encompasses a drainage basin (watershed) with one or more large stream system and includes estuaries and adjacent marine habitats associated with the terrestrial drainage system (*Tongass National Forest Land and Resource Management Plan*, 1997; 2008).
- The Nature Conservancy and Audubon Alaska further combine the Forest Service's 22 biogeographic provinces into five sub-regional groupings based on climate, physiography, and plant distribution and provide watershed-scale information in a GIS format (*The Coastal Forests & Mountains Ecoregion in Southeastern Alaska and the Tongass National Forest*, 2007).
- The Alaska Department of Environmental Conservation list of Impaired Waterbodies identified for water quality improvements
- The Alaska Department of Fish and Game Southeast Alaska Fish Passage Culvert Inventory. Now in its third year of inventory, assessing and mapping stream/road crossings in Southeast Alaska, this program offers improved access to fish passage information in the region.

SAWC will rely on these regional delineations and assessments in mitigation project identification and will maintain records using both the 8-digit USGS HUC and the more broadly defines biogeographic province nomenclature. SAWC will attempt, to the extent workable, to match mitigation projects within and/or near the watershed that received the unavoidable permitted impact.

The fees for jurisdictional impacts in each of the twelve 8-digit HUCs in Southeast Alaska will be collected and combined to fund mitigation projects in that HUC. In situations deemed appropriate by the IRT and Sponsor, the SAWC's ILF program funds may be used to compensate for an impact that occurs outside of the 8-digit HUC impacted.

To meet its primary objective of maintaining and improving the quantity and quality of aquatic resources in Southeast Alaska SAWC and the IRT will make mitigation decisions utilizing a "watershed approach". The 2008 Final Rule states that mitigation is most successful when it is based upon a "watershed approach" and provides strategies and processes for the district engineer, IRT and program sponsor to follow in mitigation site selection and project prioritization. Making mitigation decisions according to a "watershed approach" is an important requirement of the 2008 Final rule, and is a guiding principle for The Southeast Alaska Watershed Coalition Mitigation Fund. The 2008 Final Rule states:

> "*Watershed approach* means an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed. It involves consideration of watershed needs, and how locations and types of compensatory mitigation projects address those needs. A landscape perspective is used to identify the types and locations of compensatory mitigation projects that will benefit the watershed and offset losses of aquatic resource functions and services caused by activities authorized by DA permits. The watershed approach may involve consideration of landscape scale, historic and potential aquatic resource conditions, past and projected aquatic resource impacts in the watershed, and terrestrial connections between aquatic resources when determining compensatory mitigation requirements for DA permits." [33 CFR 332.2]

At this time the state of Alaska does not have comprehensive and coordinated aquatic resource mitigation policies and strategies to support third party mitigation programs identify and prioritize mitigation sites using a watershed approach- like those in WA, OR, NC, and/or MT. However various stakeholder groups in Southeast Alaska have developed a wealth of information and data about the ecological conditions of Southeast Alaska watersheds to use in making decisions about implementing mitigation according to a *watershed approach* as required in the 2008 Final Rule.

For example, the following regional resources provide a great deal of information that will enable mitigation decisions to be made according to a watershed approach. The Nature Conservancy in partnership with the Audubon Society developed *A Conservation Assessment and Resource Synthesis for the Coastal Forests and Mountains Ecoregion in Southeastern Alaska and the Tongass National Forest.* This assessment identified the core watersheds of high biological value of both intact and impacted watersheds throughout Southeast Alaska. In addition the Forest Service has recently completed its Watershed Condition Framework, which has helped set restoration priorities for the next 5 years in watersheds located in the Tongass Forest. Both of these assessments provide regionally appropriate and meaningful information regarding aquatic resource needs within watershed in Southeast Alaska.

In addition to information related to regional assessment of watershed conditions, there are also resources available regarding conditions within a particular watershed based on a smaller scale. These natural resource management plans and land use plans will also help guide the process for making decisions using a watershed approach. Examples of these types of resources and plans include but are not limited to: The *Pullen Creek Action Plan,* the *Taiya Inlet Stream Condition Assessment* and the *Stormwater Best Management Practices Manual for the City of Skagway* developed by the Taiya Inlet Watershed Council and the United States Fish and Wildlife Service, the *Hoonah Community Forest*, *The Kake Community Forest,* and the *Wrangell Community Forest* sponsored by the Southeast Alaska Conservation Council, the *Haines Area Fish Passage Inventory* completed by the Takshanuk Watershed Council and USFWS, *The Peterson Hill Creek Watershed Mapping and Conservation Plan*, the *Auke Lake Watershed Assessment* and the *Vanderbilt Creek Watershed Recovery and Management Plan* and the *Jordan Creek Urban Hydrography Mapping and Stormwater Management Plan* developed by the Juneau Watershed Partnership, and the *Staney Community Forest Project* sponsored by The Nature Conservancy.

Collectively, these reports, plans and analyses provide a more complete picture of how the ecological conditions in watersheds throughout Southeast Alaska have changed through time in the face of development, and which aquatic functions within a watershed are most important to protect and/or restore; this body of work will provide a solid scientific basis (as well as information about societal value of resources) for making decisions about how to implement mitigation that will achieve "no-net-loss" policies and have the greatest benefit to aquatic resources in Southeast Alaska.

Depending on which 8-digit HUC is receiving impacts and therefore needs mitigation sites SAWC will do a thorough aggregation of the plans, reports, and documents within that HUC in order to ensure mitigation site identification and prioritization process is being carried-out utilizing existing scientific information and a watershed approach.

The information available to guide mitigation decisions is by no means static. Scientists and planners in SE Alaska continue to collect new data, perform new analyses and employ innovative methods in examining the ecological systems across the region landscape. As new reports and analyses become available, they will be added to the resources informing mitigation decisions through the SAWC and be incorporated by reference into this instrument.

b. A description of the threats to aquatic resources in the service area(s), including how the in-lieu fee program will help offset impacts resulting from those threats;

This analysis of the current conditions of aquatic resources and the potential threats to these resources in Southeast Alaska is based on a review of region-wide or local publications and online information sources including, but not limited to Alaska Department of Fish and Game Catalog of Anadromous Waterbodies Catalog, DEC Total Maximum Daily Load reports, EPA/DEC list of impaired Waterbodies, TNC and Audubon Conservation Assessment for Southeast Alaska, the Forest Service's Tongass Watershed Framework, the National Wetland Inventory and Juneau Watershed Partnership Resource Library. Given the size of the service area, SAWC did not perform site-specific field documentation for this Compensation Planning

Framework. As a result site-specific field documentation will accompany all Project Mitigation Plans. Examples of site-specific mitigation information will be presented in the Draft Instrument.

From a regional perspective, the potential future threats that aquatic resources face depend on the extent that resource development (timber harvest, mining, energy, and small-scale activities), intraregional highway and power transmission, and community redevelopment or expansion occur. In general, future community and resource developments in Southeast Alaska -- and the associated, unavoidable impacts to aquatic resources -- are likely to be similar to those that have occurred in the past. We do not anticipate unfamiliar development activities to occur that would have unique or unusual impacts on aquatic resources not already experienced in Southeast Alaska. Thus, the types of historic impacts to aquatic resources discussed below are also those that may occur in the future, although the extent, severity and duration of future impacts may be minimized as a result of improved scientific knowledge, enhanced developer cooperation, increased community land use planning, and targeted regulatory actions. One exception to this might be the future development of one or more ocean kinetics (tidal) projects in Southeast Alaska, which could lead to potential impacts to submarine, near shore aquatic resources heretofore not experienced in Southeast Alaska.

Urbanization

Because of the relative remoteness of Southeast communities and the high proportion of federal and state public lands throughout the region, the effects of urbanization in Southeast Alaska will likely remain localized.

In the region as a whole and at the individual community level, future public funding is likely to focus primarily on the rehabilitation and maintenance of existing roads, streets, water/sewer utilities, docks/harbors, airports and public buildings, rather than substantial new construction of public infrastructure as occurred in past decades. The economic vitality of communities will largely determine the amount of private capital invested in new homes, commercial buildings, etc. in the future. Looking forward, fairly stable government and fishing employment provide the regional economy some insulation from external events affecting the other two engines of the Southeast economy – tourism and mining.

To the extent Southeast communities expand or are renewed in the future, there is likely to be an increase in impervious surfaces (new/rehabilitated roads, building roofs, bridges, and parking lots) and continued loss of riparian, wetland and shoreline habitat and vegetation. In addition to the unavoidable impacts to aquatic resources, other valuable functions (open space, recreation, drinking water protection) may be compromised and diminish a community's aesthetics or livability.

Timber Harvest

New timber road construction is currently anticipated to be less than 30 miles per year on average (USFS TLMP 2008 Revision EIS). Prince of Wales Island, the Petersburg and Wrangell areas, and northeastern Chichagof Island are currently at greatest risk of potential threats to aquatic resources from continued logging activities, largely on existing road networks.

Community Infrastructure and Road Development

As communities develop they face additional infrastructure demands and/or need to replace old infrastructure with new infrastructure. This is true for the development and/or repair of roads, as well as, schools, fire halls, hydroelectric faculties, clinics, business etc. In many communities throughout southern Southeast it is nearly impossible to build without impacting aquatic resources, including wetlands.

Mining

The current high price of metals is encouraging additional mineral exploration, at existing mines (Kensington and Greens Creek), as well as reopening historic mining sites (AJ and Niblack). Future mining activity in the Southeast region is largely contingent on worldwide demand and the pricing of silver, gold or base metal commodities. While not subject to COE mitigation, some Canadian mine prospects along the Taku River (Tulsequah Chief), Stikine River (Galore Mine) and Unuk River (Kerr-Sulphurets-Mitchell) could have downstream water quality impacts in Southeast Alaska.

Tourism

New remote tourism lodges or developments to satisfy potential demand for ecotourism niche markets in the future could cause localized impacts to aquatic resources. For example, Sealaska Native Corporation is seeking federal legislation to complete its Alaska Native Claims Settlement Act lands selections, including some remote coastal sites for potential cultural tourism operations.

Aquaculture

Aquaculture is the breeding, rearing, and harvesting of plants and animals in all aquatic environments, including ponds, rivers, lakes, and near- and off-shore ocean areas. Currently, salmon hatcheries for fish stock enhancement dominate the aquaculture industry in Southeast Alaska, and the footprint of this coastal infrastructure has been in place for decades. No new fish hatcheries are slated for Southeast Alaska. Freshwater aquaculture and the farming of marine finfish are prohibited in Alaska state waters. Although offshore fish farming has received some attention at the federal level in recent years, no current efforts are underway off Alaska.

Shellfish aquaculture projects potentially could occur anywhere in Southeast Alaska where growing, tending, and harvesting conditions are favorable. Marine shellfish operations culturing oysters and clams are likely to increase as technology improves, shellfish farms become more profitable, and people are drawn to the remote lifestyle where few other economic opportunities exist. The State has identified 42 sites in coastal Southeast Alaska that are available as potential shellfish farm locations through its over-the-counter lease program. Shellfish operations have the potential to harbor and spread marine invasive species: the first documented occurrence of an invasive sea squirt Didemnum vexcillum is in Whiting Harbor, Sitka.

SAWC and its member watershed councils have been working within individual Southeast communities to help develop solutions that restore functioning aquatic resources as well as protect these less tangible but important community values. As a regional in-lieu fee program sponsor, SAWC will continue to focus first at the community level to identify compensatory mitigation projects that ameliorate local aquatic resource losses from a community's renewal or expansion. If local restoration opportunities are not available in a timely manner, SAWC intends

to look farther afield in adjacent biogeographic provinces for projects that will restore important aquatic resources.

c. An analysis of historic aquatic resource loss in the service area(s);

To date there is no in-depth database that shows the cumulative aquatic resource loss across Southeast Alaska. This type of data collection and analysis has not been conducted by any natural resource agency and/or conservation organization working in the region. However, there are several scientific papers, natural resource agency management reports, spatial analysis tools and local and traditional watershed plans that SAWC has aggregated over the past three years to support the development of the Southeast Alaska Mitigation Fund. These documents and resources provide valuable scientific information to any mitigation provider operating in Southeast Alaska. SAWC will utilize these plans and reports to understand aquatic resource loss in a watershed. These resources will guide the site selection and prioritization process, as well as, inform the advance credit scheme for the Draft Instrument and Instrument. Listed below is a summary of a few of the documents and spatial analysis tools the program sponsor will use to analyze historic aquatic resource loss across the service area. Additional resources are listed on page 25 of this document.

- On February 19, 2013 the COE, Alaska District Office of Council provided the program sponsor documentation regarding data for 404 permits issued within Southeast Alaska over the past 5 years. The information in this database provides the IRT and SAWC with information on the type(s) and amount of aquatic resources that have been impacted. With this information the IRT can encourage permittee applicants and third part mitigation providers to identify mitigation sites that replace the area and/or functions being lost due to permitted impacts.
- In 2011 the Nature Conservancy published *Mapping Human Activities and Designing an Index of Cumulative Use within Estuarine and Nearshore Marine Ecosystems in Southeast Alaska.* This project and the accompanying report sought to assemble the best available spatial data on human activities and their impacts associated with coastal, estuarine and nearshore marine ecological systems. The purpose of the project and report was to provide an integrated GIS tool to support coastal planning, permitting and decision-making. The results of the data selection and final analyses show that the highest level of impact activity is around urban and community centers and the next highest level of activity displayed can be roughly characterized by transportation "hotspots", such as concentrated road networks or shipping traffic centers.
- In 2009- 2010 the USFWS partnered with the Juneau Watershed Partnership to develop the *Aquatic Habitat Rehabilitation, Enhancement and Mitigation in Juneau, Alaska: Inventory and Case Studies (REM Report)*. The primary goal of this project was to inform and improve the success of future restoration and enhancement projects in Juneau waterways. Using "lessons learned" from past restoration projects, this inventory can be used as an adaptive watershed management tool for future projects. The inventory also identifies sites that may benefit from additional restoration or enhancement work, in order to improve fish and wildlife habitat and water quality in our watersheds. In addition, it can be deduced from this information the type of aquatic resources that have been loss and have required mitigation techniques.

- USFS, Tongass National Forest has a wetland-monitoring component to its Forest Plan. For the fiscal year 2006 Forest Plan the wetland-monitoring component included a goal to document the physical and hydrologic impacts to wetlands. The program sponsor will work closely with FS staffers to incorporate the agency information and resources regarding aquatic resource loss on the Tongass.

- In 1994 the ADF&G published a report entitled *Restoration and Enhancement of Aquatic Habitats in Alaska: Case Study Reports, Policy Guidance, and Recommendations (Perry and Seaman 1194).* Similar to the REM Report, the program sponsor will utilize this resource to understand what types of aquatic resources have been impacted throughout Southeast Alaska. This information will inform site selection and the advance credit scheme.

- *ShoreZone.org.* The Alaska ShoreZONE Coastal Inventory and Mapping Project. ShoreZone is a standardized coastal habitat mapping system that covers the supratidal, intertidal and some subtidal areas of the coast at lowest tides of the year. The mapping system provides data to support coastal management, community planning, facilities citing, conservation planning, research and fisheries management

- Alaska Department of Environmental Conservation's List of Impaired Watersbodies. This list depicts historic aquatic resource loss, as well as, a list of waterbodies that should be considered during the site selection and prioritization process.

- The Wetlands Module of the Southeast Alaska GIS Library: An online compilation and data visualization website. The purpose is to provide planning-level information and links to wetland and aquatic resource data sets. Most importantly, these data sets support evaluation of wetland functions using the WESPAK-SE aquatic function assessment methodology.

The Mitigation Fund intends to mitigate for unavoidable impacts to aquatic resources that are most likely to occur in the areas of concentrated human development and at the occasional remote site development for hydropower, mining, tourism activities, and intra-region hydropower sites, power transmission lines and highways.

The high precipitation of the temperate rainforest and flat coastal topography yield productive forested and emergent estuarine wetlands that have inevitably experienced losses because people and their activities are also found along the coastline of Southeast Alaska. In general, impacts to aquatic resources in Southeast Alaska are locally concentrated in towns, along roads radiating from the towns, and also where timber harvest, transfer or milling has occurred. To a lesser extent, impacts occurred at isolated cannery or mine sites occupied along the coast in the early decades of the 20th century and at modern-day seafood processing, mining, and a few tourism-related sites found in the region. Hydropower sites with associated transmission lines have also impacted aquatic resources in locations throughout the region. Human activities and impacts historically occurred primarily along the coastline where flat and buildable land, fish-bearing marine and freshwaters, and access to relatively inexpensive marine transportation are found.

In Southeast Alaska towns, miles of marine shoreline are developed and stabilized; forested and scrub-shrub wetlands are replaced by roads, buildings, and other impervious surfaces; streams are channelized and impacted by road crossings, fill and runoff; and floodplains and wetlands are developed for residences and commercial sites. Urban shoreline alteration may disrupt nearshore

primary productivity by blocking sunlight, altering water circulation patterns, and converting fine sediment shallows to rocky deep-water shoreline, as in the case of riprap fill. While not regulated under the COE authority and not a primary focus of this Framework, additional human activities impact aquatic resources through storm water runoff leading to chemical and biological pollutants, stream bank erosion, increased sediment loads, and water temperature changes; the disposal of poorly treated wastewater (sewage, detergents, chlorine, etc.) into the groundwater and the near shore marine waters; and the introduction of invasive plants or aquatic organisms.

In general, aquatic resource functions have been affected most intensively within and around the larger communities of Southeast Alaska and at heavily utilized areas of timber production and mineral extraction. The landscapes around many medium or small-sized Southeast communities are dominated by altered habitat resulting from past timber harvest, impacted by roads built primarily to facilitate that timber harvest, and community infrastructure. Away from urban centers and timber production areas, long reaches of wild shoreline and large areas of pristine rainforest, alpine tundra, and ice fields occur.

In a document developed by ShoreZone Coastal Habitat Mapping Program, *Southeast Alaska Data Summary Report,* dated October 2011 anthropogenic modifications to the shoreline have occurred along 140.9 km of shoreline, mostly in the communities of Ketchikan, Sitka and Juneau. The types of shore modification features and their relative proportions of the intertidal zone are mapped into the Shore Zone database.

d. An analysis of current aquatic resource conditions in the service area(s), supported by an appropriate level of field documentation;

In addition to the information below, the documents listed on pages 23, 24, 25, 29 and 30 add significant field documentation in regards to the aquatic resource conditions in the programs proposed service area.

Southeast Alaska is a collection of over 2000 islands and is framed by a narrow band of mountainous mainland. The archipelago lies between the coastal mountain ranges of western North America and the North Pacific Ocean and contains the world's largest temperate rainforest. The region is characterized by a maritime climate, moderated by warm ocean currents from the south, and is dominated by heavy precipitation and cool, overcast conditions year-round. At lower elevations in the southern end of the region, nearly all of the 50 to 200 inches of annual precipitation falls as rain, whereas in the north and at higher elevations snow is typical in winter. This abundant precipitation maintains rainforests, extensive wetlands, thousands of small streams, rivers, lakes, ponds, estuaries, and large ice fields and glaciers. Southeast Alaska encompasses an astounding 1,030 watersheds (Schoen and Dovichin 2007).

Southeast Alaska Land Cover

The Tongass National Forest, which covers approximately 78 percent of the service area, supports approximately 4,000,000 acres of wetlands (USFS 2008, p. 3-43); other landowners may support another 880,000 acres of wetlands (assuming similar ratios of uplands and wetlands). The terrestrial landscape is dominated by rainforest and muskegs (*Sphagnum* bogs) in the lower elevations, with alpine meadows, tundra, and glaciers at higher elevations. In some areas along the mainland, glaciated landscapes extend from sea level to the mountaintops, which reach to 18,000 feet at Mount St. Elias at the northwestern edge of the service area.

Vegetation and land cover statistics for Southeast Alaska are shown in Table 1. In summary, forests cover just over half of the landscape of Southeast Alaska (51 percent), ice/glaciers and rock about one-third (30 percent), non-forested upland (non-wetland) vegetation about one-seventh (15 percent), and non-forested waters of the U.S. (wetlands/meadows, lakes, stream, rivers, and marine shorelines) cover the remaining 4 percent. Clearly, the non-forested freshwater and coastal wetlands that provide important ecological functions are not abundant in Southeast Alaska and are worthy of restoration and mitigation.

Table 1. Vegetation and Land Cover Classes for Southeast Alaska across all Land

Ownerships (Albert and Schoen 2007)

Land Cover	Acres	Percent
Forest (including forested wetlands)		
Productive Old Growth	5,807,155	26.5
Clear-cut and 2nd growth	786,285	3.6
Other Forests	4,498,746	20.5
Non-forest Upland		
Alpine tundra	544,293	2.5
Slide zone	808,010	3.7
Shrub land	961,977	4.4
Herbaceous meadow	22,280	0.1
Other nonforest	1,059,347	4.8
Freshwater wetlands		
Muskeg meadow	261,579	1.2
Emergent wetlands	47,630	0.2
Lake	204,547	0.9
River bars and channels	199,082	0.9
Coastal Cover/Wetlands		
Algal bed (marine)	82,370	0.4
Rocky shore	38,703	0.2

Salt marsh	33,458	0.2
Sand/gravel beach	5,795	0.0
Tide flat	12,577	0.1
Unconsolidated sediments	111,824	0.5
Unvegetated		
Ice and snow	3,596,244	16.4
Unvegetated	2,999,016	13.7
Urban	9,831	0.0
Total	**21,891,885**	**100.0**

Freshwater Wetland Types, Functions and Services

Ecological and societal services provided by forested wetlands include water storage, filtration, and release; wildlife habitat; timber production; recreation; and carbon sequestration. *Sphagnum*-dominated bogs store, release, and filter water, store carbon, and provide wildlife habitat. Sedge-dominated fens typically have higher rates of photosynthesis than bogs, and therefore store more carbon while storing, filtering, and releasing water. The fens also provide feeding and nesting habitat for many wildlife species. Streams, lakes and ponds provide fish and wildlife habitat and water supply for human and wildlife needs. The Tongass National Forest encompasses 45,000 miles of known streams and more than 20,000 lakes and ponds. Of this vast freshwater habitat, about 10,800 miles (25%) of streams and 4,100 (21%) of lakes and ponds are documented anadromous fish habitat (Schoen and Dovichin 2007, Ch 9.5). The Alaska Department of Fish and Game's *Catalog of Waters Important for the Spawning, Rearing, and Migration of Anadromous Fishes* identifies numerous salmon streams throughout Southeast Alaska, and the Forest Service identifies these as Class 1 anadromous and high-value resident fish streams.

Local, intact aquatic resources also provide valuable services as open space, recreation sites, (drinking) water quality protection, and flood control that enhance the human use and aesthetics of a community. The functions and services are subject to unavoidable impacts when the COE issues permits for projects that clear, drain, and fill wetlands as communities grow or redevelop and transportation or resource developments occur throughout Southeast Alaska.

Coastal Marine Habitats

Southeast Alaska has approximately 30,000 km (18,000 mi) of marine shoreline that supports abundant populations of shellfish, fish, and wildlife in a complex mosaic of geophysical and biological features where uplands, freshwater, estuarine, and marine environments interface (Schoen and Dovochin 2007). These combined features support primary productivity from plankton, algae, kelps, eelgrasses and marsh grasses; shellfish production from Dungeness crab, clams and shrimp; fish production from herring, flatfish, rockfish and salmon; and a diverse

ecosystem that includes many species of marine birds and marine mammals. The communities of Southeast Alaska rely on these coastal resources to support significant components of their economies dependent on subsistence, sport and commercial fishing, hatcheries, tourism, recreation, and wildlife viewing.

The ShoreZone system maps the occurrence of common organisms as distinct biological features along the shoreline and nearshore areas. Some features, such as eelgrass and kelp beds, are considered high value because of the primary productivity, structure and spawning/rearing habitat these provide for shellfish, fish and wildlife of ecological, subsistence, sport, commercial and cultural importance.

The ShoreZone project also classifies larger scale features such as mudflats, estuaries and man-modified shoreline (i.e., shoreline altered by bridges, docks, fill, etc.). Mudflats and estuaries are considered high-value habitat, while man-modified shorelines offer less valuable habitat. Mudflats are important for many species of shellfish and flatfish and are critical to migrating shorebirds. Estuaries are nursery areas for many fish species, including juvenile salmon out-migrating from freshwater to the ocean. These high-value coastal habitats are relatively rare: mudflats being less than 1% and estuaries less than 15% of the shoreline.

The mudflats and estuarine habitats provide accessible, low-gradient shorelines, and many Southeast Alaska communities are located near these valuable habitats. The ShoreZone project provides SAWC with enhanced and readily accessible information about high-value coastal habitats and a tool to help identify opportunities for coastal restoration sites throughout the service area.

e. A statement of aquatic resource goals and objectives for each service area, including a description of the general amounts, types and locations of aquatic resources the program will seek to provide;

The overall aquatic resource goals for The Southeast Alaska Watershed Coalition Mitigation Fund are to:

a) Substantially increase the extent and quality of restoration, enhancement, creation, and protection of natural resources for activities that impact wetlands, and other waters of the U.S.

b) Achieve ecological improvements in the service areas by directing ILF funds to restore, enhance, and create aquatic resource types and functions that are appropriate to the geographic service area, and by integrating ILF projects with other conservation activities (including preservation) whenever possible;

c) Identify wetland systems and other aquatic resources of watershed significance that should be protected through fee acquisition, conservation easements, or other tools for permanent conservation;

d) Improve coordination among and between agencies with respect to wetland policies and regulatory programs to ensure efficiency in effort, consensus in outcome, and consideration of wetlands at the landscape scale

In Southeast Alaska there are few defined aquatic resources mitigation goals and objectives set for each of the 8-digit HUC's in the ILF Program's service area. In addition, there is very little publically available information that describes the cumulative aquatic resource loss incurred to date. SAWC will use the resources listed in **Section c**. of this Compensation Planning Framework to further define the resource goals and objectives in the required mitigation plan for each mitigation site.

Under The Southeast Alaska Mitigation Fund the ILF Program sponsor will look to mitigate all types of aquatic resources, including wetlands, streams, shorelines, estuaries, floodplain areas, upland buffers, and riparian zones. It is the long-term goal for the ILF Program sponsor to carryout a wide spectrum of mitigation techniques and methods to maintain and improve the quantity and quality of aquatic resources in the services area.

The scale, scope and the level of expertise required to reach functional life of the mitigation sites offered through this program *must* match the capacity of SAWC to administer funds, provide project management oversight and the expertise of the site partners to carry-out activities. After completing an initial analysis of potential restoration sites in areas of Haines, Skagway and Juneau it is apparent to regulatory staff and SAWC where mitigation opportunities do exist the necessary scientific documentation and expertise to successfully implement and monitor the project vary significantly. Therefore, mitigation techniques that have a lower level of risk with attainable ecological performance standards, monitoring protocols and scientific documentation demonstrating success will be prioritized.

SAWC used the Statement of Qualifications provided by the Mitigation Fund Partners, as well as, the *Aquatic Habitat Rehabilitation, Enhancement, and Mitigation in Juneau Alaska: Inventory and Case Studies* (Hudson, Seifert 2012) to inform the list of possible project types. The types of projects listed below have been supported by natural resource managers and carried out by Mitigation Fund Project Partners. In addition, there is information pertaining to project design and monitoring for these types of mitigation projects. Resource managers agree that there is enough scientific research and information, as well as expertise and experience in this region to carry out the following types of mitigation projects. In general, the program sponsor will pursue the following types of mitigation projects, while reserving the right to carry out other types of mitigation when deemed appropriate by the COE and IRT.

1. **Stream bank stabilization**
2. **Stream channel creation or reconfiguration**
3. **Plant/enhance riparian vegetation**
4. **Flood plain restoration/reconnection**
5. **Wetland and tideland restoration, enhancement and creation**
6. **Restore and/or enhance fish habitat (e.g. instream structures)**
7. **Stormwater attenuation and management**
8. **Restore and/or enhance fish passage (man-made barriers)**

As stated on Page 6 of this prospectus, each mitigation site will have a detailed mitigation plan. These mitigation plans will outline specifically the techniques that will be used to carry out each

type of mitigation. In this way, the IRT, other agencies, interested and/or concerned stakeholders and members of the general public will be able to provide input to SAWC on project site design, implementation and ecological performance standards.

f. A prioritization strategy for selecting and implementing compensatory mitigation activities;

This section provides an overview of how the program sponsor will select and prioritize mitigation sites.

SAWC has developed a prioritization and site selection strategy that is based on a watershed approach that is specific to Southeast Alaska and works to ensure each mitigation site meets the requirements of the 2008 Final Rule. SAWC's prioritization strategy for selecting and implementing compensatory mitigations sites is a two-step process. The first step is to identify which watersheds and restoration sites within the impacted 8-digit HUC are of top priority based from existing assessments and other sources. The second step is to identify which of the restoration sites selected can be implemented and meet the necessary requirements of the 2008 Final Rule for mitigation sites.

To accomplish the first step – *to identify which watersheds and restoration sites within the impacted 8-digit HUC are of top priority based from ecological assessments and other sources*- SAWC will rely heavily on the methods for prioritizing restoration that have been developed for Southeast Alaska in recent years. Each of these methods incorporates a watershed approach.

- *The Watershed Condition Framework* (USFWS 2011). The USFS recently identified priority watersheds for restoration in the Tongass using its national Watershed Condition Framework. The framework includes a strategic planning outline and includes 6 key steps: 1. Classify Watershed Condition, 2. Prioritize Watersheds for Restoration, 3. Develop Watershed Restoration Action Plans, 4. Implement Integrated Suites of Projects, 5. Track Restoration Accomplishments, 7. Verify and Monitor Accomplishments.
    - *Watershed Restoration Plans (FS 2011, ongoing).* Over 20 watershed restoration plans have been written for 6th code (12 digit) watersheds based on the projects identified through this assessment.
- *A Conservation Assessment and Resource Synthesis for The Coastal Forests and Mountains Ecoregion in Southeast Alaska (TNC/Audubon 2011).* The assessment includes a Map Gallery of GIS products developed as part of the assessment; a ranking of ecological values among watersheds throughout the region in Watershed Matrix, and a GIS database that provides a common inventory of ecosystem and habitat values that encompass lands throughout Southeastern Alaska.
- *Prince of Wales Watershed Restoration (TNC)*
- *Ecological Forest Restoration in the Tongass National Forest (TWS/SEAWEAD Assessment 2012).*
- *Alaska's Anadromous Waters Catalog (ADF&G)*
- *Fish Passage Culvert Inventory (ADF&G and USFS)*
- *Upstream Habitat Assessments and Prioritizations Schema for Culverts for Remediation (USFS)*
- *Southeast Alaska Impaired Waterbodies (DEC)*
- *ShoreZone*

- *Watershed Restoration Priorities: A Strategic Plan for the Sitka Community Use Area (SCS 2012)*
- *A Framework for Setting Watershed-/scale Priorities for Forest and Freshwater Restoration on Prince of Wales Island (TNC/USFWS/FS/Klawock Watershed Council 2008)*

In addition to these larger collaborative efforts there are many ecological assessments conducted on watershed scales smaller than the 8-digit HUC boundary that have been conducted throughout the region. These are listed on page 25. The program sponsor will utilize these assessments and others as part of this first step to ensure that watershed and project selection are based on a watershed approach and based on best available science.

To accomplish the second step: *to identify which of the restoration sites identified using a watershed approach will meet the requirements of the 2008 Final Rule for mitigation sites –* SAWC will base its site selection process on the State of Maine's ILF program.

The program sponsor will utilize elements from the *State of Maine- In Lieu Fee Program Instrument, August 17, 2011* to ensure the sites selected can meet the requirements of the 2008 Final Rule. The State of Maine ILF Program has a very similar structure to that of the proposed Southeast Alaska Mitigation Fund. SAWC endorses this prioritization strategy for the Southeast Alaska Mitigation Fund because of its step-wise approach to ensuring the project meets the requirements written in the 2008 Final Rule and that the sponsor and project partners have the capacity to carry-out the technical aspects and provide stewardship actions over the long-term.

This selection criterion will support the program sponsor and the IRT to evaluate in a fair and transparent manner whether or not a proposed mitigation project meets or exceeds the core requirements of the 2008 Final Rule.

The Southeast Alaska Mitigation Site Selection Criteria encompasses the following 6 elements:

1. **Potential to Meet the Southeast Alaska Mitigation Fund Goals**
2. **The "Landscape Context"**
3. **Project Readiness/Feasibility**
4. **Project Sponsor Capacity**
5. **Cost Effectiveness**
6. **Other Benefits**

These six elements are explained below:

1. Potential to Meet the Southeast Alaska Mitigation Fund Goals: Assesses the extent to which the proposed project meets the core program requirements that a compensatory mitigation project must restore, enhance, preserve, or create aquatic resources that have been prioritized using a watershed approach, best available science and/or by the district engineer of the COE. All project sites must be conserved with a durable instrument. Considerations include:

a) The sustainability of the proposed conservation action (restoration, enhancement, preservation, and creation) and the acreage affected.

b) The resource types to be restored, enhanced, preserved or created and the degree to which the proposed project replaces the area and/or functional benefits of impacted resources in the biophysical region based on a functional assessment or best professional judgment of the site.

c) Proximity of proposed project to impacted resources in the watershed.

d) When preservation is considered include, if possible, upland areas sufficient to protect, buffer, or support identified resource functions and ecological connectivity to other conservation areas or undeveloped large blocks of habitat.

e) Inclusion of upland areas sufficient to protect, buffer, or support identified resource functions and ecological connectivity to other conservation areas or undeveloped large blocks of habitat.

f) Current and proposed condition of the property, and functional lift provided by project (e.g., proposed change in habitat quality, contribution to functioning biological systems, water quality, etc.

g) Other specific conservation objectives developed for each biophysical region or watershed, as described in watershed plans, municipal management plans, statewide conservation objectives

2. Landscape Context: Assesses the extent to which the proposed project meets the core program requirement to consider the location of a potential project relative to focus areas for land conservation or habitat preservation identified by a state agency, or other regional or municipal plans.

Considerations include:

a) Presence within or adjacent to habitat areas of statewide conservation significance or other natural resource priority areas.

b) Presence within or adjacent to public or private conservation lands to maintain and preserve habitat connectivity.

c) Presence of natural resources of significant value and/or rarity within the project site boundaries

3. Project Readiness/Feasibility*:* Assesses the extent to which the proposed projects meets the core program requirement to demonstrate project readiness and likelihood of success, where success is defined by the ability of the project to meet the requirements stated in the 2008 Final Rule and the goals of the Southeast Alaska Mitigation Fund. Considerations include:

a) Documentation of landowner willingness to participate in proposed project, including conveying a conservation easement or fee title, with conservation covenants, to the property (for projects not on public or private conservation lands).

b) Level of project urgency (e.g., area of rapid development or on-going site degradation, other available funding with limited timing, option to purchase set to expire, etc.)

c) Degree to which proposed conceptual plan demonstrates understanding of resource conservation issues and needs.

d) Soundness of the technical approach presented in conceptual plan for the proposed project.

e) Initial progress (e.g., planning, fundraising, contracting, site design, etc.).

f) Likelihood that the project will meet proposed schedule and/or required deadlines.

g) Likelihood that the proposed actions will achieve the anticipated ecological benefits and results.

h) Completeness and feasibility of long-term stewardship and monitoring plan.

i) Potential for adverse impacts (such as flooding or habitat loss) associated with the project.

j) Conformance with any applicable COE and state mitigation policy, guidance and permitting requirements, including appropriate financial assurances for various construction activity.

4. Project Sponsor Capacity: Assesses the extent to which the proposal meets the core program requirement to provide for long-term management and/or stewardship by a responsible state or federal resource agency, or conservation organization. Considerations include:

a) Presence of qualified, capable conservation entity willing to sponsor and/or maintain the project.

b) Level of support and involvement of other relevant agencies, organizations, and local community.

c) Degree to which project sponsor, and any associated partners, demonstrate the financial, administrative, and technical capacity to undertake and successfully complete the project.

d) Adequacy of long-term stewardship to ensure the project is sustainable over time and funding mechanism for the associated costs (e.g., endowment or trust).

e) Legal and financial standing of the project sponsor.

f) Quality and completeness of proposal materials.

5. Cost Effectiveness: Assesses the extent to which the proposal meets the program requirement that a project represent an efficient use of funds expended given the condition, location and relative appraised values of properties. Considerations include:

a) Clarity and detail of budget submitted.

b) Sufficiency of funds available in the applicable biophysical region.

c) Availability and source of matching funds necessary to complete the project.

6. Other Benefits: Assesses the potential for this project to support recreational access, scenic enhancements, economic activity, or other contributions to the community or region where the project is located.

Following review and approval by the IRT of the selected site and associated conceptual plans SAWC staff will develop a Mitigation Plan for IRT review. Upon IRT approval of the Mitigation

Plan, The Southeast Alaska Mitigation Fund program manager will begin implementing the mitigation project according to the credit fulfillment steps that will be outlined in the Draft Instrument and Final Instrument. In all cases, "Land acquisition and initial physical and biological improvements must be completed by the third full growing season after the first advance credit in that service area is secured by a permittee, unless the district engineer determines that more or less time is needed to plan and implement an in lieu fee project." (33 CFR 332.8(n)(4))

In the event of failure to meet this schedule without appropriate justification and approval by the COE following consultation with the IRT, SAWC shall be subject to non-compliance provisions that will be described in the program instrument. Additionally, "if the sponsor fails to provide the required compensatory mitigation, the district engineer may pursue measures against the sponsor to ensure compliance." (33 CFR 332.3(l)(3)). These measures will be discussed with the sponsor and/or other responsible parties and, "may include site modifications, design changes, revisions to maintenance requirements, and revised monitoring requirements. The measures must be designed to ensure that the modified compensatory mitigation project provides aquatic resource functions comparable to those described in the mitigation plan objectives." (33 CFR 332.7(c)(2),(3))

g. An explanation of how any preservation objectives identified in paragraph (c)(2)(v) of 33 CFR part § 332.8 and addressed in the prioritization strategy in paragraph (c)(2)(vi) satisfy the criteria for use of preservation in 33 CFR part § 332.3(h);

Generally, SAWC does not expect to propose preservation as a mitigation option as its core service. However, SAWC views itself as a cooperating agent and catalyst that can help developers and agencies identify solutions that meet mitigation goals and development needs. In cooperation with the COE and IRT preservation may be decided upon as a solution or partial solution to maximize the overall ecological health and sustainability of watersheds and aquatic resources in Southeast Alaska.

h. A description of any public and private stakeholder involvement in plan development and implementation, including, where appropriate, coordination with federal, state, tribal and local aquatic resource management and regulatory authorities;

As stated above, under Section 7, the Mitigation Fund will ensure there is both public and private stakeholder involvement throughout the entire process from mitigation site selection to the long term monitoring of the sites. The primary stakeholders involved with the development of this prospectus and the Final Program Instrument are the IRT members which have a review and advisory role to the COE regarding the approval of SAWC's In-Lieu Fee Program under the 2008 Final Rule. In an effort to explain The Southeast Alaska Mitigation Fund and the current review to other potentially interested parties in the Southeast Alaska region, SAWC has been and will continue to conduct outreach to Southeast community land use/planning officials, non-profit organizations, tribes, municipalities, landowners, native corporation land managers, and other resource and real estate professionals. SAWC developed a *Draft* Prospectus, which is not required under the 2008 Final Rule, in order to build knowledge and awareness of SAWC staff, advisory board, board of directors, and IRT members. We have incorporated feedback, concerns, and questions into this Prospectus. In addition, over the past two years, we have

organized significant outreach and public education opportunities in order to understand better the diverse spectrum of stakeholder perspectives of aquatic resource mitigation and what strategies and processes a third party mitigation program provider should consider in order to respond to the unique aquatic resource mitigation challenges and opportunities that exist throughout Southeast Alaska. We invite questions or comments and provide a link to the SAWC website (www.alaskawatershedcoalition.org) for the public and agencies alike to review our draft documents and provide comments to the COE Chair and IRT during the public review process.

i. A description of the long-term protection and management strategies for activities conducted by the in-lieu fee program sponsor;

See section 5 of this document.

j. A strategy for periodic evaluation and reporting on the progress of the program in achieving the goals and objectives in paragraph (c)(2)(v) of 33 CFR part § 332.8, including a process for revising the planning framework as necessary;

SAWC will be obligated to provide an annual accounting to the COE and the IRT in the form of a credits-debits ledger to quantify and account for permit-specific aquatic resource losses and SAWC's offsets gained through compensatory mitigation projects.

SAWC anticipates that it will meet regularly with the COE and IRT as the ILF Program matures. Also, SAWC will be obligated to submit an annual report on the in-lieu fees received and disbursed from its ILF Program Account, income generated through investments, and expenditures for compensatory mitigation projects and administrative costs.

As part of these overall evaluations, SAWC would examine its efforts in achieving the previously identified goals and objectives of the SAWC ILF Program. At that time this Framework and other documents associated with this ILF will be reviewed.

9. A description of the in-lieu fee program account

The program sponsor establishes the ILF program account to track the fees accepted and disbursed. The account must track funds accepted from permittees separately from those accepted from other entities and for other purposes (i.e., fees arising out of an enforcement action, "such as supplemental environmental projects," donations, and grants.) The account must be established after the instrument is approved and before any fees are accepted.

SAWC, as the ILF Sponsor, will maintain the SE Alaska Mitigation Fund program account with a financial institution that is a member of the Federal Deposit Insurance Corporation (FDIC). The ILF program account will be professionally managed, funds to be held in FDIC-insured sub-accounts and certificates of deposit, and interest earned is regularly deposited into the account. The ILF payments received will be deposited in the ILF Program Account, with a 15% administrative fee directed to the ILF Sponsor's unrestricted funds account and used for reasonable overhead and the administrative costs to operate and manage the ILF Program.

Funds from the ILF Program Account will be used for the selection, design, acquisition, implementation, monitoring, long-term stewardship or management, and permanent protection of ILF mitigation projects. The ILF Sponsor will track staff time and other routine expenses to specific ILF Program activities as they evaluate, select, acquire and establish long-term stewardship or management of preservation properties. The COE has the authority to audit the ILF Program Account at any time. Any interest accruing from the account must remain in the account for the program to use for the purposes of providing compensatory mitigation.

Fees will only be used for the purposes of directly replacing and managing aquatic resources, such as: identification and selection of appropriate compensation sites, survey and design of mitigation projects, acquisition-related costs (e.g., appraisals, surveys, title insurance, etc.), fees associated with securing a permit for conducting mitigation activities, activities related to the restoration, enhancement, creation, and/or preservation of aquatic resources, maintenance and monitoring of mitigation sites, and the purchase of credits from mitigation banks.

SAWC's ILF program Instrument will include a provision that requires SAWC to establish and maintain an annual report ledger and individual ledgers. The credits and financial transactions must be tracked not only on a programmatic basis (i.e., the number of credits available for the entire program and the total amount of funds accepted and expended by the program), but for each individual compensation project undertaken by the program sponsor (i.e., the number of credits generated for each individual project and the amount of funds accepted and expended for each individual project).

SAWC will work with the IRT and establish and maintain an electronic system for tracking the production of credits, credit transactions, and financial transactions between the ILF Sponsor and permittees, as follows:

- **Credits Ledgers** will account for the credit transactions. The ledgers will track credits sold to permittees (that become ILF Sponsor "debits") as well as the credits that are fulfilled (and released) when ILF mitigation projects are completed. The Sponsor will maintain a *routine projects ledger* that tracks credit transactions for projects with smaller-scale wetlands impacts throughout the service area. The running balance of advance credits available for the entire ILF Program will be calculated as routine project credits transactions occur. Individual *large project ledgers* will also be maintained, as needed, for the less frequent, larger-scale project with separate accounting of credit transactions as the credits are sold and subsequently fulfilled when mitigation projects are executed. The production of credits from each ILF mitigation project (i.e., released credits) will also be tracked.

- The **ILF Financials** (i.e., the ILF payments accepted and the ILF funds expended from the ILF Program Account) will be tracked according to standard accounting practices and reported annually.

10. Next Steps

After reviewing this Prospectus and public comments, if the COE determines that SAWC may proceed with submission of a draft instrument, SAWC will develop the following elements required of a complete draft instrument:

- Service area
- Accounting procedures
- Provision stating legal responsibility to provide compensatory mitigation
- Default and closure provisions
- Reporting protocols
- Compensation planning framework
- Advance credits
- Method for determining project specific credits and fee and draft fee schedule
- In-Lieu Fee program account

References:

(2001) Montana Statewide In-Lieu Fee Program*. Montana Departmen of Environmental Quality and Trout Unlimited – Montana Waters Project*

(2010) Oregon In-Lieu Fee Program. *Oregon Department of State Lands*

(2011) Aquatic Resource Mitigation Fund*. New Hampshire Department of Environmental Services*

(1994) Alaska Wetlands Initiative: Summary Report*. EPA, COE, USFWS, National Marine Fisheries Service*

(*2009) Alaska District Regulatory Guidance Letter: RGL ID No. 09-01*. COE

(*2008) Compensatory Mitigation for Losses of Aquatic Resources Final Rule: 33 CFR Parts 325 and 332 and 40 CFR Part 230*. EPA, COE

(*2009) In-Lieu Fee Mitigation: Model Instrument Language and Resources. *Environmental Law Institute

(2010) In Lieu Fee Prospectus. *Puget Sound Partnership*

(2011) Southeast Alaska Land Trust In-Lieu Fee Program. *Southeast Alaska Land Trust*

(2009) ***Alaska District Regulatory Guidance Letter: RGL ID No. 09-01*AKCOE**

(2011) King County Mitigation Reserves Program In Lieu Fee Program Instrument. *King County Department of Natural Resources and Park*

(1994) Alaska Wetlands Initiative; Summary Report. *EPA, COE, USFWS, NOAA*

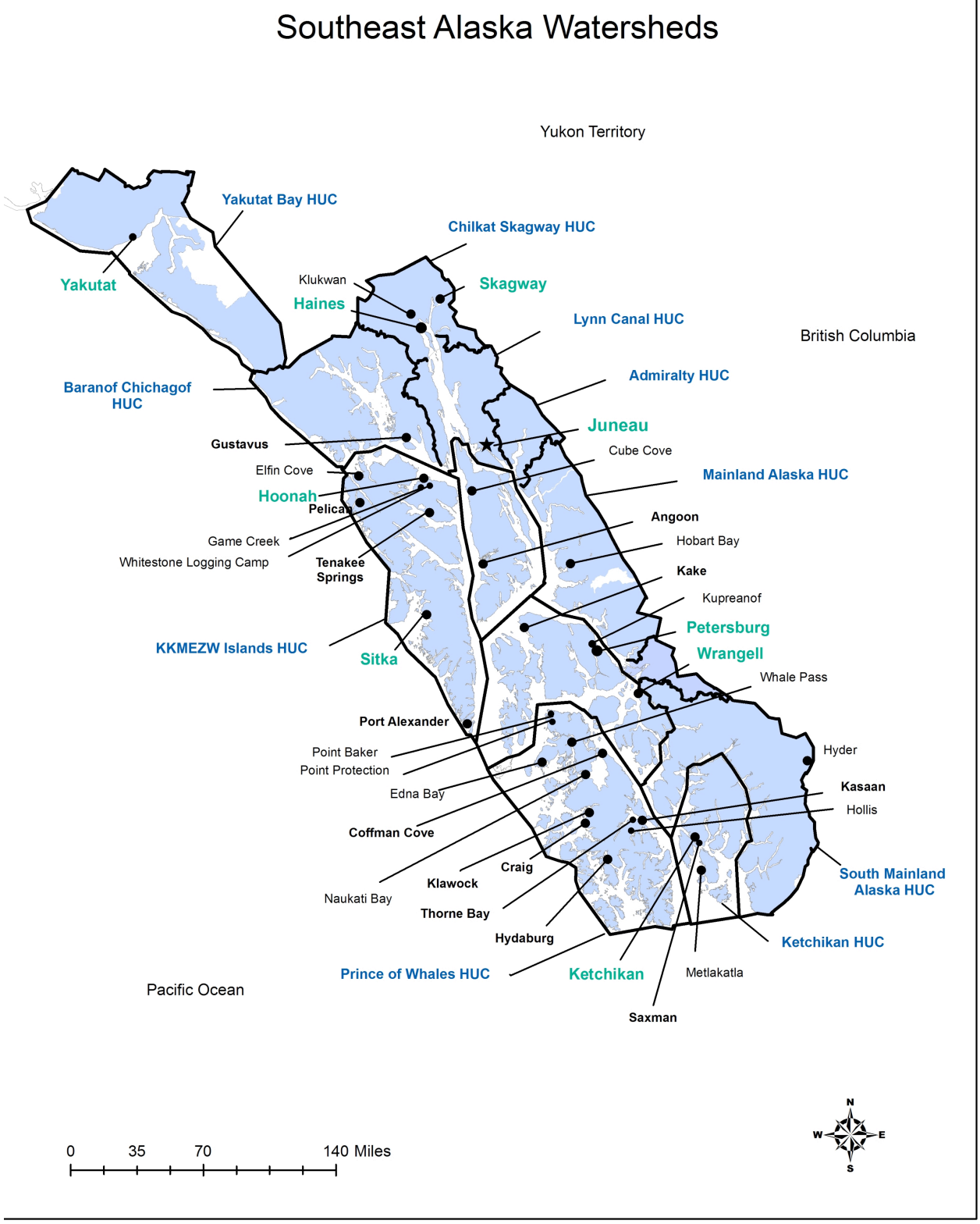
(2001) Compensating for Wetland Lossess Under the Clean Water Act. *The National Academies*

(2011) Maine In Lieu Fee Program.

(2011) ShoreZone SE Summary Report. *Prepared for the Nature Conservency*

(2011) REM Report. Hudson and Steifert. *Juneau Watershed Partnership and USFWS*

Appendix A: Service Area Map



Appendix B: Example Mitigation Site Project Report, Map and Photos

Project Report — Haines, Alaska

Site Name: DOT Culvert Site

Project Location: Located along the southern border of the DOT gravel yard running east to west along the fence. 59.235868, -135.4539

Wetland Type: Riverine

Watershed Name: Sawmill Creek

AWC Stream ID: 115-32-10250-2044

USGS-HUC: 19010303

Ownership Type: State

Size: 727 linear feet

Site Characteristics: The culvert runs along the south side of the DOT gravel yard along the Sawmill Creek tributary from east to west and extends approximately 700 feet. It is observed that the tributary contains chum smolt downstream of the culvert on the west end of the DOT yard. The vegetation along the tributary includes equisetum, fireweed, sedges, nettles, daisies and grasses.

Background: DOT moved creek into culvert to expand Maintenance Shop Yard, it is unclear the exact year this occurred. The Yard is graded to drain into a grate in the top of the culvert; this is a significant sediment source for Sawmill Creek. The existing culvert has 0% gradient and is not a block to fish passage and does provide cover from predators. There is little material in the bottom of the culvert so there is no spawning habitat, no vegetation to support food sources and little habitat complexity.

Overall Project Goal(s): Return creek to an open stream channel and increase fish habitat complexity. Reestablish a riparian zone around this creek. Remove a significant sediment source to Sawmill Creek.

Project Objectives:

1. Relocate stream out of a culvert
2. Create stream channel that includes habitat suitable for spawning and rearing salmonids.
3. Restore riparian zone along the creek
4. Re-grade the DOT Yard to minimize sedimentation into the creek.

Type of Mitigation: Restoration and Enhancement

Potential Functions to be restored: spawning habitat, riparian vegetation, rearing habitat.

Project Significance for Mitigation: This project is immediately downstream of a previous restoration project and limits the effectiveness of the previous work. Removing this sediment source would be a great improvement for Sawmill Creek during high rainfall events.

Potential Barriers to Project Success: DOT non-compliance

Contact Information: Ben Kirkpatrick

Ecological Suitability: (refer to 332.2(d) Site Selection of the 2008 Final Rule)

a. **Hydrological conditions:** This creek has accumulated too much sediment and is no longer a viable tributary. The tributary no long serves as a fish passage due to the culvert and extreme sedimentation process.
b. **Watershed scale features:** This is a tributary of Sawmill Creek, which runs into the Chilkat River.
c. **Size and location in relative to other hydrologic sources:** This is a tributary to Sawmill Creek.
d. **Compatibility with adjacent land uses and watershed management plans:** Project success and implementation is not compatible with DOT operations.
e. **Foreseeable affects this project will have on aquatic or terrestrial resources:** Restore fish passage, riparian vegetation and rearing habitat.
f. **Other habitat relevant factors including, habitat trends, stream impact, habitat corridor for wildlife, habitat for state or federally listed threatened and endangered species, etc.; Brown** and black bears have been seen on this site.
g. **Other human use relevant factors including, land use changes, development trends, local or regional goals for water quality and floodplain management, relative potential for chemical contamination of the aquatic resources:** The impact of the DOT yard on this tributary has had a severe effect on the fish habitat.

Project Efficacy: (as a potential Compensatory Mitigation Site)

GREEN: NO obstacles

✓ **YELLOW:** Potential obstacles based on private ownership, compliance order, etc.

RED: Major obstacles that may be insurmountable in the mitigation process

Figure 7. The DOT yard drains directly into the Sawmill Creek tributary.

Appendix C: Statement of Qualifications

Mitigation Fund Project Partners

The Takshanuk Watershed Council
Contact: Brad Ryan

The Takshanuk Watershed Council (TWC) has performed restoration and monitoring projects within the Haines borough since 2003. We have partnered with numerous agencies to work on State, Borough and private lands and waters. The TWC has staff capacity to complete on the ground projects alone and with contractors. Past restoration work includes wetland functional analysis, stream assessments, in-stream habitat work, fish passage, silviculture actions for wildlife and riparian enhancement, and marine intertidal restoration.

Projects that The Takshanuk Watershed Council has been involved in during the past decade:

Watershed Restoration Projects:

- Big Boulder Creek Restoration – stabilization of an incising stream that was causing a head-cut along with constructing a second channel to help divert flow away from the incised stream stretch.
- Sawmill Creek Brown Parcel Restoration – removed a section of Sawmill Creek from the ditches in the Haines town site to a natural flowing stream through two acres of wooded lots.
- Chilkat River Riparian Restoration – stream bank restoration on the Chilkat River to stop erosion from a popular raft haul out using coir logs, willow bundles, vegetated mat, and willow cuttings.
- Sawmill Creek Fish Passage Enhancement – removed a fish passage barrier and replaced it with a culvert to improve fish passage including stream simulation inside the culvert and reconstructed the incised stream channel downstream of the culvert.
- Cannery Creek Fish Passage- contracted the construction designs to replace two culverts on this high value cutthroat trout and Coho salmon rearing stream on the Chilkat Peninsula and will be installing the first of these culverts in the summer of 2013.
- Picture Point Tide Pool Construction-Constructed nine tide pools in the intertidal area along Lynn Canal as mitigation for a parking lot the Haines Borough constructed within the intertidal zone just east of this area.
- Invasive Weed Control – Organize community weed pulls to remove invasive species from the flood plain along the Chilkat River.

Research Projects

- Eulachon Population Estimates– Worked with the Chilkoot Indian Association to develop a Mark-Recapture study to estimate Eulachon populations in the Chilkoot River from 2010 through 2012.

- Wetland Program Planning-TWC is currently working with the Chilkoot Indian Association to develop a Wetland Program Plan for the Haines Borough and Upper Chilkoot Watershed.
- Chilkoot Watershed Assessment- In cooperation with the USFWS developed a watershed assessment for the upper Chilkoot Watershed.
- Mosquito Lake Water Quality Assessment- Developed a water quality study for Mosquito Lake north of Haines to monitor the lake for anthropogenic influences and aquatic invasive weeds. This included sampling for Fecal Coliform and Nitrogen levels.
- Porcupine Mining Area Water Quality Assessment- developed a water quality-sampling plan to establish baseline water quality parameters for the southeast Klehini Watershed. Completed water quality samples on a quarterly basis along with anadromous fish residence observation.
- Anadromous Waters Cataloging – Documented anadromous streams and rivers throughout the Haines Borough and submitted these observations to the anadromous catalog.
- Paralytic Shellfish Poisoning Monitoring – Currently working with the Chilkoot Tribe monitoring PSP levels at two popular subsistence shellfish harvesting beaches.
- Upstream Habitat Assessment – Survey streams and rivers upstream of fish passage barriers to prioritize replacement of these barriers based on the available upstream habitat.

In-House Capabilities

- QAPP-development
- Culvert Replacement
- Invasive Weed Identification and Control Plans
- Wetland identification and Functional Assessment
- Riparian Planting
- Scientific Research
- Water Quality Monitoring
- Restoration Monitoring

Contractors Utilized:

- White Rock LLC. Haines - channel excavation and reconstruction
- Southeast Road Builders, Haines – Culvert Replacement and Channel reconstruction.
- DOWL HKM, Anchorage – Culvert and stream reconstruction design.

The City and Borough of Yakutat
Department of Planning and Natural Resources
Contact: Bill Lucey

The Yakutat Department of Planning and Natural Resources Nature has performed restoration and monitoring projects within the borough since 1994. We currently are completing a HUC5 watershed-scale restoration effort on the Situk River. We have partnered with numerous agencies to work on National Forest as well as state, municipal and private lands and waters.

The City has staff capacity to complete on the ground projects alone and with contractors. There is both contract and borough heavy equipment available for use. Past restoration work includes wetland delineations, stream assessments, in-stream habitat work, fish passage, silviculture actions for wildlife and riparian enhancement, road decommissioning and wetland restoration.

Projects that The Yakutat Department of Planning and Natural Resources has been involved in during the past two decades:

Watershed Restoration Projects:

- Ophir Creek Restoration – Included mechanized and hand instream and riparian channel work, continuous flow monitoring, groundwater and bed profiling. In addition we replaced six culverts with four bridges and two properly sized culverts. Finally, 1800 acres of clear-cuts were thinned with city staff and contractors within the watershed to restore canopy cover and provide wildlife habitat.
- Greater Situk Watershed Restoration – decommissioned fifteen miles of trenched roads located in forested wetland soils. Reconnected historic channels diverted due to road building with downstream wetland channels restored by local tribe.
- Ten-mile bog wetland restoration – worked with USFS to reestablish braided ATV route back to functioning wetland using coir logs, jute matting and wetland plug planting.
- Ankau River Fish Passage Assessment – Replaced three relic military culverts along the Ankau River road with local crews and contractor
- Rare species management for endemic Botrychium fern spp. Private Lands Stewardship program with USFS funded log placement along main ATV corridors to restrict traffic from damaging tern nesting habitat and f rare fern areas.

Research Projects

- Tawah Creek Coded Wire Tagging – Assisted ADF&G salmon management goals by performing two years CWT with USFWS and USFS
- Salmon genetic sampling for various projects
- Rainbow and longfin smelt monitoring under NPS contract for Wrangell St. Elias National Park
- Passive acoustic logging of beluga whales and photo ID
- Anadromous Waters Cataloging – minnow trapping, electroshocking, seining

In-House Capabilities

- Road Decommissioning
- Culvert Replacement
- Log Bridge construction
- Wetland delineation and restoration
- Riparian Planting
- Trail Construction
- Monitoring

Contractors Utilized:

- Pate Construction Inc., Yakutat - culvert replacement, road decommissioning, bridge construction, channel excavation
- Yak-Tat Kwaan Native Corporation – Tree thinning, road decommissioning
- US Forest Service– Soil mapping
- KipCo, Yakutat– Road decommissioning
- S&S Contractors – gravel production

Sitka Conservation Society
Contacts: Andrew Thoms, Scott Harris

The Sitka Conservation Society has been involved in watershed restoration activities since 2007 and has been active in the conservation of wildlife and fish habitat in Southeast Alaska for over 40 years. All our restoration activities include a significant level of collaboration with the responsible land management agency, the community of Sitka, and other relevant stakeholders.

Watershed Restoration Projects:

- Developed the **Sitkoh River Restoration Partnership**, which combined USFS appropriate funds, match dollars from private foundations, and public grants (Alaska Sustainable Salmon Fund). This project restored 1800 feet of salmonid spawning and rearing habitat in Summer 2012 – including construction of in-stream habitat and bank-stabilization structures, floodplain roughness structures, and channel reconstruction. SCS coordinated work between the USFS and other partners, developed the grant, conducted implementation and effectiveness monitoring, outreach, and public engagement. USFS designed the project, administered the construction contract, and conducts monitoring.
- Conducted **community-based restoration prioritization**, including a survey of public attitudes and priorities for restoration locations, and integration of community priorities with ecological prioritization studies.
- Developed the **Starrigavan Watershed Project**, which completed the restoration of 5 acres of upland forest habitat in 2011. SCS coordinated work with the USFS and Alaska DNR, administered the contract (including RFP, selecting contractor, and in-field oversight) and conducted implementation and effectiveness monitoring.

Monitoring and Research

- Developed the **Southeast Alaska Long-term Monitoring Network** (SALMoN), which conducts ecological monitoring of multiple restoration projects, with a special emphasis of involving community volunteers and students in monitoring activities. Includes monitoring of both upland forest and aquatic habitat restoration projects.

Other

- Participates in SEAKFHP, SAWC, and other regional restoration networks

Juneau Watershed Partnership 2013
Contact: Nina Horne, Executive Director

The Juneau Watershed Partnership is a 501(c)(3) non-profit organization established in 1998. **Our Mission** is to promote watershed integrity in the City and Borough of Juneau through education, research and communication while encouraging sustainable use and development.

Originally, the Mendenhall Watershed Partnership (MWP) was founded in 1998 by locals with concern for the environmental and economic health of the Mendenhall Watershed area. In 2006, MWP became the Juneau Watershed Partnership (JWP), expanding our geographic scope to include all watersheds located within the City and Borough of Juneau.

We work together with our community to identify opportunities for maintaining or improving watershed and habitat health and develop projects aimed at focusing community interest, understanding, and energy to benefit our watersheds. These projects include stream cleanup events, community field trips, and local environmental education activities. We collaborate with other organizations and agencies to monitor water quality and general stream health, to prevent the decline of healthy streams and to restore the health of impaired waterbodies. We also bring local agencies and stakeholders together to build understanding and make informed decisions to maintain habitat integrity and water quality in Juneau's watersheds.

Projects that the Juneau Watershed Partnership has been involved in since 1998 include:

Watershed Restoration and Research Projects:

- **Restoration and Mitigation Opportunities for Juneau Watersheds (2012-present)** - The JWP is compiling a series of watershed restoration and mitigation opportunities for the enhancement of fish habitat and water quality in Juneau's watersheds. Part of this project is the development of a GIS database of potential restoration and mitigation opportunities, a priority list for projects and preliminary conceptual designs for chosen high priority projects. Funding provided by the Federal Coastal Impact Assistance Program.

- **Pederson Hill Water Quality Monitoring (2012-present)** - Pederson Hill Creek is on the state's 303(d) list of impaired waterbodies. The final report of this project will help to evaluate the current hydrologic, selected chemical and biological conditions of the creek. Funding provided by DEC (ACWA program).
- **Juneau Beach Monitoring Program (2012-present)** - The JWP conducts water quality monitoring on recreational beaches to provide the community with data on bacteria levels. As part of this project, the JWP is increasing public awareness of health risks and potential sources. Funding provided by DEC (ACWA program).

- **Auke Lake Water Quality Monitoring (2012-present)**- The JWP is collecting water samples to monitor the seasonal concentrations of total aromatic hydrocarbons in Auke Lake. This data is relevant to determine the effect of motorized watercraft on water quality. In conjunction with that

work, the JWP partners with the CBJ to create a recreational user survey. Funding provided by DEC (ACWA program) and CBJ.

- **West Glacier and Moose Lake - Re-Vegetation after Culvert Replacements (2012-present)** - The JWP is partnering with SAGA and the USFWS to re-vegetate two areas where new culverts were installed. Funding provided by USFS.

- **Montana Creek Watershed Stewardship Plan (2012-present)** - As part of this project a "Montana Creek Task Force" is convened. The JWP is facilitating meetings with the task force and stakeholders, is conducting research and is documenting and assessing the current threats to the watersheds health. The task force will review the developed stewardship plan and will help to prioritize a list of actions. A final report will be published by the JWP. As part of Funding provided by USFS.

- **Restoration, Enhancement, and Mitigation Priorities for Juneau Watersheds (2012-present)** - The JWP is bringing together local biologists and natural resource agency staff to analyze and catalog potential restoration and mitigation opportunities. The compiled information will be used to provide a reference and watershed planning tool to support and guide watershed-based compensatory mitigation activities, local wetlands permitting and on-the-ground restoration projects in Juneau. Funding provided by NFF.

- **Lower Jordan Creek Watershed Stormwater Assessment (2011-2012)** - Mapping stormwater treatment and conveyance in the urban corridor of lower Jordan Creek Watershed to benefit future stormwater treatment BMP location, design, and implementation for targeted stormwater quality improvement in an impaired anadromous stream.

- **Auke Lake Watershed Assessment and Action Plan (2008-2009).** The Auke Lake Watershed Assessment, completed by the Juneau Watershed Partnership (JWP) in 2009, provides background information and an inventory of Auke Lake Watershed land use, community development, hydrology, and habitat characteristics to the community at large. The Auke Lake Action Plan is a companion volume identifying and prioritizing the implementation of management guidelines to guide sustainable use and support of natural resources and values in Auke Lake watershed. Funding provided by the USFWS, Coastal Conservation Program.

- **Review of Restoration, Enhancement, and Mitigation Projects in Juneau, Alaska (2009-2011)**. In 1994, the Alaska Department of Fish and Game (ADFG) published the "Restoration and Enhancement of Aquatic Habitats in Alaska" report (Parry and Seaman, 1994). With this report as a guide, JWP is conducting a more specific inventory and assessment of habitat restoration, enhancement, and mitigation projects implemented in Juneau watersheds to improve future habitat rehabilitation and enhancement efforts. This project is a partnership with the U.S. Fish and Wildlife Service in Juneau. Results of this work will be published in December 2010.

- **Auke Lake Watershed Assessment (2007-2008)** - The JWP conducted a watershed assessment of Auke Lake in 2007 and 2008. We provided the CBJ with an overview of the health and current

conditions of Auke Lake, and offered conservation and restoration recommendations to help ensure the sustainability of the fisheries habitat, recreational opportunities and aesthetic values of this beautiful little lake. Funding provided by the USFWS Coastal Conservation Program.

Outreach and Educational Projects:

- **"Salmon-Friendly" Snow Management (2007-2008)** - In order to reduce pollution in our local salmon streams due to snow storage, the JWP advocates 'salmon-friendly' snow management practices. We talked to local property owners, businesses, the CBJ and the Alaska Department of Transportation to ask them to use best management practices (BMP's) for plowing and snow storage. Funding provided by DEC (ACWA program).

- **Stormwater Management (2007-2008)** - The JWP partnered with the CBJ to help advocate for best management practices (BMP's) for local stormwater conveyances. We held trainings, created user-friendly outreach materials about 'salmon-friendly' stormwater conveyances and started a mapping project of Juneau's stormwater system. Funding provided by DEC (ACWA program).

- **Weeds in the Watershed (2009-present)** - The JWP worked with the Juneau Cooperative Weed Management Area (JNU-CWMA) to support the development and implementation of an integrated invasive weed management plan for Juneau.
- **Get to Know Your Watershed: Vanderbilt Creek (2007-2008)** - The JWP hosted an informal "Get to know Vanderbilt Creek" meeting to share habitat functions, values, and degradation within the Vanderbilt Creek watershed with local community residents and business owners. Funding provided by DEC (ACWA program).

- **Promoting Citizen-Based Salmon Habitat Protection (2009-present)** - In order to achieve our goal of advocating for responsible and adaptive watershed management, JWP works with riparian landowners and the CBJ to promote salmon habitat and riparian buffer protection.

Communication and Social Media:

- **Electronic Watershed Resource Library** - The JWP created an electronic library to provide information on Juneau watersheds. We are gathering reference and research documents relating to local watersheds and local watershed management in Juneau. Funding provided by the USFWS Coastal Conservation Program.

- **Stream Scene** - This quarterly newsletter shares with our members and our community what we are working on, watershed related topics, news within the organization, upcoming events, etc. The newsletter is available on our website and sent to members.

- **Water Ways** - Our annual report shares with our members and our community what we have been doing during the past year and what we are looking forward to in the coming year. The report is available on our website and sent to members.

- **Website** - www.juneauwatersheds.org

In-House Capabilities

- Pre-project coordination and planning
- Facilitation of stakeholder meetings
- Contract development
- Project coordination and supervision
- Information and outreach services
- Funding acquisition and grant writing

Trout Unlimited Alaska Program
Contact: Mark Kaelke

Trout Unlimited, Inc. (501c3) is the nation's largest and oldest cold-water fish conservation organization with roughly 150,000 members nation-wide and 1,000 members in Alaska. The current Trout Unlimited Alaska Program started in 2005. Since then we have partnered with federal and state agencies, municipalities and other non-governmental organizations to complete a variety of watershed restoration work in southeast Alaska.

Our primary contributions to these projects have been in the areas of grant acquisition, project coordination and management and the development of project media. We have two full-time staff members dedicated to restoration and media communications.

Projects that the Trout Unlimited Alaska Program (TUAK) has been involved with include:

Watershed Restoration Projects:

- Sal Creek In-stream Restoration- TUAK partnered with the United States Forest Service to conduct large wood placement, culvert replacement and riparian thinning in this watershed on east Prince of Wales Island.
- Starrigavan Creek In-stream and Riparian Restoration- TUAK partnered with the USFS, State of Alaska, Sitka Conservation Society and City of Sitka to install large wood, thin some 80 acres of riparian forest and replace three large culverts. TUAK obtained a significant amount of funding for this work and developed the RFP and awarded the thinning contract.
- Montana Creek Habitat Remediation- TUAK contributed significant funds towards the purchase of private lands and a structure, which straddled this creek. The structure was demolished, removed and the adjacent banks were remediated. The work was completed in partnership with the US Fish and Wildlife Service and the City and Borough of Juneau,
- Sitkoh River Bank and Stream Restoration- In partnership with the Sitka Conservation Society, TUAK submitted and was awarded funding from the Alaska Sustainable Salmon Fund to rebuild a section of stream bank and direct a river channel from an adjacent logging road back to the streambed. Large wood structures were placed in some 1800' feet of the river. This project was completed in partnership with the USFS and Alaska Department of Fish and Game.

Research Projects

- Montana Creek Assessment- In partnership with the USFWS, TUAK funded and completed a stream corridor assessment for a section of Montana Creek. The assessment formed the basis of a stream corridor conservation proposal that was integrated in the City and Borough of Juneau Comprehensive Plan.

In-House Capabilities

- Grant writing/funding acquisition
- Pre-project coordination and planning
- RFP/Contract development and awards
- Project media and communication services

Contractors Utilized:

- Southeast Road Builders- Haines, Alaska
- Triple T Contractors- Sitka, Alaska
- Aqua Terra Restoration, LLC- Driggs, Idaho

The Nature Conservancy, Alaska
Juneau Field Office
Contact: Norman Cohan

The Nature Conservancy is playing a major role in restoration activities in Southeast Alaska. We currently are partnering with the US Forest Service on several large stream restoration projects, primarily on Prince of Wales Island and now moving off the island to other priority watersheds within the Tongass National Forest. We also partner with the US Fish and Wildlife Service on restoration projects on state and private lands as well as with Alaska Native corporations on their land holdings.

The Conservancy has staff capacity in Southeast Alaska to complete stream assessments and to design silvicultural prescriptions for wildlife. In addition, we have legal and contracting capacity necessary to carry out large-scale projects.

Projects that The Nature Conservancy (TNC) has been involved during the past decade:

Aquatic Projects:

- Sal Creek – Prince of Wales Island (POW) – Funding partner
- Fubar Creek – POW – Funding partner
- Harris River – POW – Funding partner and construction contract administrator
- Harris River Tributaries – POW – Funding partner and design and construction contract administrator
- Klawock River – POW – Funding partner and construction contract administrator
- Twelvemile Creek – POW - Funding partner and construction contract administrator

- North Kuiu – Kuiu Island – Funding partner and future construction contract administrator
- Eagle-Luck – POW - Funding partner and future construction contract administrator
- Dog Salmon Creek – POW – Conducted pre-design habitat needs assessment, future funding partner

Terrestrial Projects:

- Sunnahae – POW – Wildlife prescriptions design consultant

Contractors Hired:

- B3 Contractors, culvert replacement – Klawock, Alaska
- Columbia Helicopters, Portland, Oregon
- Interfluve – design and engineering – Hood River, Oregon
- Ketchikan Redi-Mix – culvert replacement – Ketchikan, Alaska
- S&S Contractors – instream construction – POW and Sitka, Alaska
- Southeast Road Builders – log collection and instream construction – POW and Sitka, Alaska

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Tongass National Forest
Fisheries, Water, and Soils Staff
Contact: Sheila Jacobsen

The Tongass National Forest has a robust watershed restoration program with a large portfolio of accomplishments from small hand-tool projects to large, complex projects using heavy equipment and helicopter support. Our forest-wide staff includes three full time professional fisheries biologists, three soil scientists, and two hydrologists. Additional full time professional fisheries biologists and hydrologists are located at ranger districts throughout the forest. Individual qualifications are available on request.

We work closely with Tongass National Forest engineers, wildlife biologists, silviculturists, foresters, ecologists, botanists and other resource specialists to plan and accomplish interdisciplinary restoration projects. We participate in the recently formed Southeast Alaska Fish Habitat Partnership. We have active partnerships and cordial working relationships with a wide range of entities including the National Fish and Wildlife Foundation, The Nature Conservancy, the State of Alaska, Trout Unlimited, University of Alaska Southeast, tribal organizations, and communities throughout Southeast Alaska.

We have capacity to plan, design, and complete field projects in-house, with partners, or with contracts as needed throughout the Tongass National Forest. Inventories, assessments, and monitoring follow standard published procedures, available on request. We have developed local guidelines and procedures for stream channel classification, wood collection for in-stream restoration, culvert fish passage assessment, fish habitat assessment, riparian second-growth treatments, erosion control, and other restoration related activities. Projects are usually focused on restoring watersheds impacted by historical timber harvest and roads. Protection measures are now in place to prevent these impacts.

A Small Sample of Recent and Ongoing Projects in the Tongass National Forest:

- Kadake Creek Tributary (Kuiu Island): reconnected streamflow and anadromous fish access to habitat through road relocation and stream channel restoration
- Harris River and Gandlaay Haanaa (Prince of Wales Island): restored streams, reconnected floodplains, stabilized roads, restored fish access, thinned second-growth riparian forest
- Sitkoh River (Chichagof Island): reconnected streamflow and restored anadromous fish habitat through log structure installation and road stabilization; thinned second-growth riparian forest
- Twelvemile Watershed (Prince of Wales Island): restore mainstem fish habitat through placement of log structures; thin riparian and upland second-growth forest; decommission 6.5 miles of old logging road, including removal of fish stream structures
- Ten-mile Bog (Yakutat): worked with Yakutat partners to rehabilitate ATV trail and re-establish functioning wetland using coir logs, jute matting and wetland plug planting
- Stikine-LeConte Wilderness: eradicated invasive weeds along Stikine River using hand treatments
- Wrangell Island shot rock road obliteration: removed rock for use on other road, restored wetland function and vegetation
- Staney Watershed (Prince of Wales Island): decommissioned un-needed roads using heavy equipment to restore natural drainage patterns and fish passage
- Couverden Peninsula: removed culverts from a closed logging road using explosives

In-House Capabilities – Inventories, Assessments and Project Design Expertise

- Watershed condition assessments and watershed restoration planning (over 20 watershed restoration plans have been written for 6th code (12 digit) watersheds)
- Watershed restoration prioritization (by watershed and individual projects within watersheds)
- Stream surveys to assess habitat and channel condition
- Stream surveys to verify fish presence using habitat- and species-appropriate tools (minnow trapping, electroshocking, etc.)
- Stream, floodplain, soils, and wetland mapping
- Slope and soil stability assessment
- Geographical Information System data stewardship and analysis
- Culvert fish passage and hydraulic assessments and remediation
- Road and trail condition surveys to address erosion and drainage needs
- Botanical surveys (rare plants, invasive plants)

In-House Capabilities – Project Implementation Expertise (including Contract Oversight)

- In-stream fish habitat and floodplain restoration using natural materials, including large wood procurement and placement, using either heavy equipment or helicopters
- Contracting, grants, agreements, partnerships
- Riparian and upland silvicultural treatments for watershed and wildlife objectives
- Erosion control
- Use of explosives for removing stream crossing structures for watershed and fisheries objectives
- Road re-location, decommissioning, storage
- Foot trail and ATV trail construction
- Culvert and bridge design, installation, replacement, removal

In-House Capabilities - Restoration Monitoring Expertise

- Routine monitoring of in-stream restoration: channel metrics and photo points
- Watershed Restoration Effectiveness Monitoring: collaboration with Forest Service research to test innovative metrics in addition to routine physical habitat and biological metrics
- Aquatic species monitoring: snorkel surveys, minnow trapping, mark and recapture, weirs, and smolt traps
- Best Management Practices Evaluation: ensure water quality protection measures during ground disturbing projects (including restoration) are implemented and effective
- Vegetation response monitoring: standard vegetation plots, photo points and increment cores.
- Collection and analysis of low altitude digital still photography for monitoring stream restoration and vegetation changes

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Juneau Fish and Wildlife Field Office
Habitat Restoration Program
Contacts: Neil Stichert and John Hudson

The Juneau Fish and Wildlife Field Office (JFO) Habitat Restoration Program delivers a variety of habitat protection, assessment, restoration, and enhancement projects and services through its core restoration and conservation programs: Partners for Fish and Wildlife, Coastal Conservation, and Fish Passage. These programs support collaborative efforts with our partners to restore and enhance fish and wildlife habitat, conserve coastal ecosystems, and remove barriers to fish passage throughout Southeast Alaska, largely on non-federal lands. The program is staffed by two full time fisheries biologists with expertise in habitat assessment, partnership development, engineering design review, permitting, construction oversight, and monitoring. In addition to these activities, program staff provides organizational development support watershed councils, land trusts, and the Southeast Alaska Fish Habitat Partnership. This Partnership supports cooperative fish habitat conservation, restoration, and management in Southeast Alaska.

Recent Projects

- Fish Passage Improvement:
  - Harris River tributaries, Hollis (two locations, one pending)
  - Pullen Creek, Skagway (3 locations)
  - Good River and Rink Creek Watersheds, Gustavus
  - Cannery Creek, Haines (design complete, 2 locations)
  - Klawock causeway, Klawock
- An Inventory and Assessment of Habitat Improvement Projects in the City and Borough of Juneau
- Haines Area Fish Passage Inventory, Assessment, and Prioritization
- Hill 560 Watershed Assessment, Juneau
- Lower Jordan Creek Stormwater Hydrography Mapping, Juneau
- Pullen Creek StreamWalk planning and design coordination
- Juneau Area Invasive Plant Management
- Riparian Enhancement, Skagway and Juneau (7 sites)

- Anadromous Waters Cataloging, Juneau and Yakutat

Outreach and Technical Assistance

- Expert review - ADFG Streambank Stabilization and Protection Guide revision
- Fish Passage and Riparian Restoration workshop instruction
- Fish Passage design review
- Section 404 permit review
- Restoration/mitigation site identification and characterization

Selected Partners

- City of Yakutat
- City of Gustavus
- City and Borough of Juneau
- Municipality of Skagway
- Alaska Association of Conservation Districts
- Southeast Alaska Watershed Coalition
- SAGA, Juneau
- Takshanuk Watershed Council, Haines
- Juneau Watershed Partnership, Juneau
- University of Alaska Southeast
- Alaska Department of Fish and Game
- Alaska Department of Transportation

Ecological Land Services, Inc.
Wetlands, Habitat and Natural Resource Planning Firm
Contact: Francis Naglich (francis@eco-land.com)

Ecological Land Services Inc. (ELS) is currently developing a wetland mitigation plan for a mining project in the Juneau area. The project will impact wetlands principally through mine tailings placement. ELS worked over the past year to investigate and prioritize potential off-site mitigation opportunities. Over 10 sites in the greater Juneau area have been analyzed by ELS for potential mitigation. Sites were rated for various parameters including:

- Potential for wetland creation, re-establishment, rehabilitation, enhancement, and preservation.
- Site size and access, construction constraints, and cost.
- Opportunities for combining or consolidating impacts from other projects.
- Functional "lift" potential for habitat, water quality, and hydrologic function.
- Availability, encumbrances, long-term ownership, maintenance and monitoring requirements.
- Opportunities for other non-wetland improvements such as for stream or upland habitat.
- High quality habitat at risk of development.

From this pool of sites, we narrowed the selection to two sites that potentially had the best available mitigation potential. Further review and analysis was performed and the best site was determined. We

prepared a conceptual wetland mitigation plan and have undergone an initial round of agency review and comments. We are currently addressing those comments in order to prepare a final proposed wetland mitigation plan.

Our work thus far at the preferred mitigation site has included wetland reconnaissance and mapping, wetland determination, mitigation scoping, functional analysis using the WESPAK-SE, mitigation planning, and site remediation involving historic land uses and impacts on the site. Our partnering firm includes Waterman Mitigation Partners, responsible for mitigation site negotiation and acquisition.

Potential Wetland Mitigation Sites Currently Under Review:

Due to the proprietary nature of several potential sites or projects, at this time we can only provide general locations of the SE Alaska sites we are currently analyzing for mitigation. Once permit applications have been filed and become a part of the public record, ELS can provide updates and case histories of specific projects or sites we have worked on. Current or recent sites include:

- Juneau area, seven sites
- Douglas Island, three sites
- Prince of Wales Island, one site
- Petersburg, one site

In-House Capabilities

- Wetland determination and delineation
- Functional assessment utilizing WESPAK-SE
- Wetland mitigation planning and permitting
- Mitigation banking, consolidated mitigation, advanced mitigation
- Wetland creation re-establishment, enhancement and preservation
- Land and easement acquisition and negotiation
- Mitigation implementation, maintenance and monitoring

Waterman Mitigation Partners
Contact: Steve Sego, Managing Partner

Qualifications: For more than ten years we have identified, permitted, constructed and managed mitigation projects, including Mitigation Banks, Consolidated Mitigation Projects and Permittee Responsible Mitigation. Our expertise includes site selection, acquisitions/negotiations, capital and management services, permit support (NW27, 404), agency/IRT coordination, design coordination, construction/site management, conservation easement/instrument creation, monitoring, maintenance, in-perpetuity coordination and all aspects of wetland and habitat mitigation required to accommodate 404 permit approval. In essence, Waterman Mitigation Partners (WMP) is a full service wetland mitigation company capable of providing every aspect of wetland mitigation necessary for public and private users.

Experience: We have developed and permitted mitigation projects in Washington, and are currently in the final permitting phase of a 500 acre mitigation (restoration and preservation) project in SE Alaska in support of a 404 permit for a mining company applying to expand their current operations. More details

will be available in May 2013 upon the issuance of the project EIS and Record of Decision to support the proposed unavoidable impacts for the project. The draft mitigation plan is in the final phase of review and approval by Federal and State permitting agencies, including USACE, USFWS, USFS, EPA and ADFG. We were tasked with identifying restoration sites for the project, and identified multiple options before agreeing, with agency involvement, that the current site would provide the ecological lift and mitigation quantity necessary to support the project impacts, if the final permit was approved.

Partnerships/Support: Waterman Mitigation Partners has worked extensively with Ecological Land Services (ELS), Longview, Washington, in a multitude of aspects supporting mitigation design, permitting and construction, including constructed Mitigation Banks and Consolidated Mitigation Projects. ELS is currently a project partner on the SE Alaska Mitigation Project referenced above. In addition, WMP has developed a staff and team capable of providing necessary support services, including site assessment/acquisition, project logistics, administration, construction and legal/instrument development. Our land use and mitigation specialists are capable of supporting and drafting all documents and instruments required by federal and state agencies in support of In-Lieu Fee, Mitigation Banking, and Consolidated Mitigation Projects.

DOWL HKM
Contact: Brad Melocik, P.E., P.H.

DOWL HKM is dedicated to maintaining high standards of quality for our work, seeking innovative solutions for unique design challenges, and working collaboratively with clients to make sure of the best possible approach for meeting schedule, budget, and community needs. DOWL HKM has assembled a team of engineers and hydrologists with a solid reputation for developing plans, hydrologic and hydraulic (H&H) analyses, and recommendations for water resource projects throughout Alaska. Our staff is a talented, energetic group that will bring a hard-working attitude and an open-minded approach to Southeast Alaska Watershed Coalition projects. Our team members have substantial experience with highway and bridge projects, fish passage projects, geomorphic analyses, culvert replacement projects, stormwater management, flood mapping, sedimentation studies, drainage studies and review, stormwater pollution prevention plans (SWPPPs), and erosion and sediment control (ESC). In addition, our team is familiar with design requirements specific to tidal areas, low impact development (LID), oil-grit separator (OGS) and outfall design, storm drainage relocation, snow disposal, and construction phase services. Our qualifications have been gained through working on a variety of successful projects and applying our energies to make them excel. The key staff of the DOWL HKM Team is summarized below.

Key Staff

Bradley M. Melocik, P.E., P.H. (CE-11098-AK)

Brad will serve as Project Manager. He will be the primary point-of-contact and will be responsible for development of the work plan and overall document control, as well as leading the water quality and hydraulic modeling tasks. Brad holds a B.S. in Environmental Engineering from the University of Florida and has 13 years of expertise primarily focused in hydrology, hydraulics, drainage studies, fluvial geomorphology and stormwater design. Brad brings to the team in-depth knowledge of fish passage design, and H&H analyses, including drainage analyses, HEC-RAS modeling, scour analyses, and fluvial geomorphology; experience working with the public; and an understanding of the area conditions in and around Alaska. He is familiar with the processes and procedures throughout Alaska and he is experienced working and coordinating project information with various resource agencies.

Richard D. Pribyl, P.E., AVS, CISEC (CE-13149-AK)

Rich will lead drainage studies, storm drain design, water quality treatment, fish passage, geomorphology, ESC/SWPPP support, and construction support. With a strong background in hydrology, H&H analyses, roadway drainage, geomorphology, sediment transport, fish passage culvert design, and SWPPP/construction inspection, Rich is well suited for this position. Rich holds a B.S. in Civil Engineering from the University of Wyoming with an emphasis on water resources. He is very familiar with fish passage criteria and associated environmental permitting, having worked on the design of 47 fish passage culverts across Alaska. Rich believes in taking a "hands on" approach to projects, and enjoys all phases of projects from preliminary studies and surveys through construction. Rich understands the challenges associated with remote locations and believes in working with clients to utilize locally available materials and equipment to reduce construction costs while still resulting in successful projects. He was the lead engineer for fish passage projects in Gustavus, Haines, and Cordova. Rich has worked on several other H&H projects in Ketchikan, Juneau, and on Prince of Wales Island.

Kirsten R. Valentine, E.I.

Kirsten Valentine ("Valentine") earned her B.S. in Civil Engineering, Bio Resources Option from Montana State University in 2009. After graduation, Valentine worked for the USGS Water Resources Division, identifying scour susceptible bridges for DOT&PF. She surveyed streambeds and floodplains with varied equipment, from rod and auto level to boat mounted Acoustic Doppler Current Profiler with differential GPS. She performed discharge and sediment transport measurements, and processed data using HEC-RAS, ArcGIS, and MS Excel. She assisted in the installation and maintenance of acoustic stage sensors, sonar transducers, and supporting electronics. After the term expired, Valentine worked doing environmental remediation, designing and executing soil and groundwater sampling plans. Her detailed focus, problem solving skills, and methodical approach has earned her a reputation for high quality work. Both positions involved extensive fieldwork around heavy equipment and boats, necessitating a deep appreciation for workplace safety.

Recent projects that demonstrate our H&H capabilities:

- Sunrise Road Fish Passage Restoration, Wasilla
- Hatcher Pass Recreational Area Access, Trails and Transit Facilities, Matanuska-Susitna Borough (MSB)
- Fish Passage Restoration at Eccles Creek, Cordova
- Nirvana Park Oil-Grit Separator Feasibility Study, Cordova
- Gustavus Fish Passage Improvements, Gustavus
- Forest Highway 43 Road Improvements, Milepost 68.8 to 81.0, Prince of Wales Island
- Sandy Beach Road and Multipurpose Trail, Thorne Bay to Sandy Beach Day Use Area, Prince of Wales Island
- Hoadley Creek Hydraulic Analysis, Ketchikan
- Municipality of Anchorage Stormwater Criteria Manual Update, Anchorage
- Snow Storage Site Planning, Permitting Assistance and Design, Juneau
- Carlanna Project Area Drainage Design, Ketchikan
- Duck Creek Relocation, Juneau

- Alyeska Master Drainage Plan, Girdwood
- Gustavus Fish Passage Improvements, Gustavus
- Buddy Creek, Cottonwood Creek and Goose Creek Fish Passage Improvements, MSB
- Cannery Creek Fish Passage, Haines
- Haines Highway MP 3.5 to 25.3 (H&H and Fish Passage), Haines

In-House Capabilities

- Hydrologic analyses to determine peak design flows that are subsequently used in hydraulic models to evaluate existing storm drain systems, size drainage structures, and develop drainage plans for clients.
- Fish passage designs utilizing stream simulation/embedded culvert principles to improve fish access to upstream habitat while increasing flood conveyance.
- Flood hazard analysis and mitigation efforts, including research of Federal Emergency Management Agency floodplains and evaluating potential impacts resulting from proposed development.
- Improving water quality through installation of oil-grit separators, bioswales, infiltration ponds, LID design, and other treatment measures.
- Stream diversion and relocations in support of mining operations, transportation projects, culvert replacements, and site development.

All support services including Survey, Geotechnical, and Environmental (Wetlands/Permitting).

Inter-Fluve, Inc.
Contact: Jonathan Graca (marketing)/Dan Miller (Hydraulic Engineer)
(541) 386-9003

Background

Since 1983, we have been pioneering fisheries and river restoration design and engineering. As national leaders in aquatic and riparian resource analysis and restoration, our multidisciplinary team integrates biology, hydrology, and engineering to design environmentally sound solutions for systems ranging from alpine to coastal, rural to urban. With 29 years of experience building our designs, we have an unparalleled ability to portray complex and innovative solutions into plans and specifications, and to provide efficient construction services.

Our project portfolio includes over 1,500 successful projects worldwide. Each projects draws upon our expertise in hydrology, geomorphology, hydraulic engineering, fisheries biology, and related fields to provide planning, design, permitting, and construction services to clients in the private and public sectors.

On each project, we maintain a focus on integrating science and engineering for complex water resources and aquatic habitat problems. Our engineers understand the complexities of working within dynamic natural environments, and our scientists understand the importance of sound engineering design to ensure safety and longevity in implemented projects.

Inter-Fluve is an SBA-certified Small Business with offices in Hood River, OR; Bozeman, MT; Madison, WI, and Cambridge, MA.

SERVICE AREAS

Design

River & Stream Channels
Wetlands, Lakes & Ponds
Estuaries
Dam Removal
Urban Waterfront
Sustainable Developments
Bank Stabilization & Bioengineering
Aquatic & Riparian Habitat Improvements
Fish Passage & Hydraulic Structures

Construction, Permitting, & Monitoring

Design-Build
Construction Oversight
Permitting
Monitoring Plans

Technical & Advisory Services

Emergency Response
First Nations Collaborative Stewardship
Mitigation Planning
Watershed Planning
Feasibility Studies & Alternatives Development
Design Guidelines
Expert Testimony

Investigations

Fluvial Geomorphology
Hydrologic & Hydraulic Analyses
Sediment Transport Analyses
Fisheries & Aquatic Resources

PROJECTS

Inter-Fluve has been performing fish and habitat restoration in Alaska since 2000. Below are brief sketches of projects we've completed across the state.

Chester Creek Fish Passage & Design
Anchorage, AK

- 9
  00 feet of constructed roughened channel
- F
  ish passage conceptual design
- F
  ish habitat assessment
- H
  ydraulic and geomorphic analysis
- S
  ediment transport analysis
- C
  ost estimate

Cooper Creek Sediment & Geomorphology Investigation
Kenai Peninsula, AK

- G
  eomorphic assessment of project reach
- C
  hannel stability assessment
- H
  ydraulic/sediment mobility analysis and modeling
- R
  ecommendations for best management practices
- H
  ydrologic and hydraulic analyses
- R
  iparian and in-stream habitat assessment

Gustavus Stream Relocation at Gustavus Airport
Juneau, Alaska

- F
  ield investigation and topographic survey
- H
  ydrology
- H
  ydraulics
- S
  tream relocation and fish habitat design
- V
  egetation

Gustavus Stream Culvert Design & Replacement
Juneau, Alaska

- Field Investigation and Topographic Survey
- Hydrology
- Hydraulics
- Culvert Fish Passage Analysis and Design

Haines Highway Fish Passage Evaluation
Haines, AK

- Geomorphic, fish passage and fish habitat assessment of project reach (MP 3.5 – 25, including 106 culverts)
- Channel stability assessment
- Hydraulic/sediment mobility analysis and modeling
- Recommendations for best management practices
- Channel restoration recommendations
- Hydrologic and hydraulic analyses
- Riparian and in-stream habitat assessment

Salmonid Habitat Mitigation & Monitoring Plan
Klehini River, AK

- Wetland mitigation design for salmonids
- New channel design for spawning & rearing (7,000 feet)
- Fish habitat assessment
- Hydraulic and geomorphic analysis
- Sediment analysis
- Construction oversight
- Monitoring Plan

Lemon Creek Watershed Assessment and Sediment Transport Analysis Phases I & II
Juneau, Alaska

- G eomorphic assessment of project reach
- C hannel stability assessment
- H ydraulic/sediment mobility analysis and modeling
- R ecommendations for best management practices
- C hannel restoration recommendations
- H ydrologic and hydraulic analyses
- R iparian and in-stream habitat assessment

Fluvial Geomorphic Assessment & Preliminary Flood Mitigation Plan
McCarthy, AK

- G eomorphic assessment of project reach
- C hannel stability assessment
- H ydraulic/sediment mobility analysis and modeling
- R ecommendations for best management practices
- H ydrologic and hydraulic analyses

Bioengineered Bank Stabilization Alternatives Development
PERSONNEL
Mendenhall River, Alaska

- D eveloped bioengineering design guidelines
- H ydraulic and geomorphologic analysis
- N ative plant revegetation
- P ublic information workshops

Fish Passage & Dam Removal Feasibility Analysis
Ship Creek, Anchorage, AK

- F ish passage conceptual design (12-foot Elmendorf dam & 5-ft Fort Richardson dam)
- F ish habitat assessment
- H ydraulic and geomorphic analysis
- S ediment transport analysis
- C ost estimate

Fish Passage Alternatives Analysis
Ship Creek, Anchorage, AK

- D esign alternatives for fish passage around dam
- C hannel stability assessment
- H ydraulic/sediment mobility analysis
- R ecommendations for best management practices
- C hannel restoration recommendations
- H ydrologic and hydraulic analyses

Our staff maintains a depth of expertise and experience that remains unchallenged nationally and internationally. We maintain a focus on integrating science and engineering for complex water resources and aquatic habitat problems. Our engineers understand the complexities of working within dynamic natural environments, and our scientists understand the importance of sound engineering design to ensure safety and longevity in implemented projects. All the members of our team have a working understanding of, and enthusiasm for, natural rivers and water resource management.

Our Staff includes licensed engineers and professional scientist specializing in the following disciplines:

- Water Resource Engineering
- Fish Biology
- Water Resources Recreation
- Civil Engineering
- Sediment Transport
- Aquatic Ecology
- Fluvial Geomorphology
- CADD & Graphics
- Hydraulic Engineering
- Hydrology
- Plant Ecology
- Construction Management
- Geotechnical Investigation