



National Park Service Fisheries Science and Management in the Alaska Region

Review and Recommendations

Natural Resource Data Series NPS/AKRO/NRDS—2015/762



ON THE COVER

Kijik Lake, within Lake Clark National Park
NPS Photograph

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Executive Summary

This review of the National Park Service's Alaska Region fisheries science and management program was conducted from 20. May through 9. July, 2013, and is based on 45 personal interviews with current/former NPS employees (within and outside the Alaska Region), including Natural Resource and Subsistence staff assigned to particular Park units (Glacier Bay, Lake Clark, Wrangell-St. Elias, Bering Land Bridge/Western Alaska, Denali, Yukon-Charley, Gates of the Arctic, Klondike Gold Rush, and Sitka Historical); the Inventory and Monitoring Networks within Alaska (Central Alaska, Western Alaska, and Southeast); Regional Office staff from Natural Resources, Subsistence, and I&M Divisions; and the NPS Western Aquatic Systems Office (WASO, located in Fort Collins, CO). Sessions were conducted via telephone or in-person, and interviewees were asked to provide an overview of past and current projects, scientific studies, and/or management programs related to their Park's fisheries, along with their perspectives regarding NPS fisheries science/management needs, and their recommendations for addressing these.

Three scientists from other Alaska Federal agencies (the US Fish and Wildlife Service and the US Geological Survey), who have collaborated with the NPS on fisheries science projects were also included in these interviews. Additionally, an array of documents consisting of NPS/DOI policies, Federal regulations, and Park Service plans, reports, and presentations pertaining to fish (and other aquatic) resources for individual Parks and the Alaska Region were also examined for this review.

With regards to Alaska Region Park Service fisheries science and management needs, a number of common themes were identified among the NPS employees who were interviewed. All persons emphasized the high importance and ecological/economic value of the fish habitat within, and fish produced from, NPS waters in the region, and that such resources are key to productive/diverse aquatic and terrestrial ecosystems in all of the Alaska Parks. Millions of these anadromous and resident fish species are harvested each year, and they support valuable subsistence, recreational, and commercial fisheries (which occur inside and/or in proximity to the Parks), generating millions of dollars annually to local, State, and regional economies.

Most NPS staff interviewed were concerned about the significant decline in available NPS expertise (due to loss of fisheries biologists across the Region), resulting in a shortage of knowledge and experience to assist Parks and the Region with addressing key fisheries needs. These include obtaining important information and knowledge about fish diversity, abundance, distribution, and life histories in Park units; evaluating the impacts from resource development and infrastructure projects on fisheries resources (such as the proposed Pebble Mine and the Ambler Road projects); and abilities to meet the Service's Federal subsistence fisheries management mandates, as outlined in Title VIII of the Alaska National Interests Land Conservation Act (ANILCA).

While excellent work has been conducted (and continues) in those Parks with fisheries staff, a number of interviewees agreed that the existing number of specialists in the Region were below the minimum necessary to address the Service's many fisheries science and management needs -- and were particularly worried that hiring restrictions and declining budgets could result in further diminishment. Large areas in the Region (Western, Northwest, Arctic, and most of the Interior) do

not have a fisheries biologist; furthermore, there will soon be only a single NPS expert in Alaska available to manage Federal Subsistence fisheries. The overall lack of experienced professionals may leave the Service unable to address its legal mandates for protecting and managing NPS fish resources in the Alaska Region - especially given that the need to address aquatic ecosystem perturbations, both natural (e.g., climate variability) and anthropogenic (natural resource and infrastructure development projects), are likely to only increase in upcoming years.

The following recommendations were based on suggestions provided by Park and Regional Office staff, as well as those of this reviewer, to address the Service's Alaska current and future fisheries science/management needs:

- Develop an NPS Fisheries Strategy to address the Service's priority fisheries science/management needs for the Alaska Region
 - o Should describe the mission and goals/objectives, have an implementation process (including identification of staffing/budget requirements, key fisheries science/management issues, potential Park/RO activities, opportunities for internal/external collaboration & partnerships), and a monitoring component
 - There is an urgent need to continue supporting present, and to replace vacant, Park and RO fisheries positions, in order to address pressing NPS fisheries science and management issues
 - Some actions could be undertaken without much additional effort and/or funds (e.g. more collaboration & better communication between NPS Divisions/Offices to meet shared needs, allocating a portion of Alaska SAC/NRAC funds for fish projects, etc.)
 - o Strategy could be jointly developed via a committee with NPS representatives (Parks, RO, WASO, plus outside partners?); a Strategy could expedite the restoration of the AK Region fisheries program (if funds, hiring authorities, Superintendents' agreement, etc. are aligned to implement it)

Introduction

The Department of Interior's National Park Service (NPS) is responsible for managing over 54 million acres of ecosystems on its sixteen Park, Preserve, Monument, and Historical Park units within the Alaska Region. Aquatic resources found on NPS freshwater, estuarine, and coastal aquatic systems in Alaska are comprised of high quality habitat that produces a rich diversity of flora and vertebrate/invertebrate fauna; many of these species contribute to high-value, important subsistence, recreational, and commercial fisheries.

As an example, the Bristol Bay commercial sockeye salmon fishery is valued at \$20 to over \$40 million/year, and annual subsistence harvests of Pacific salmon in this region of southwest Alaska alone may exceed 140,000 fish – with the adult spawning and juvenile rearing habitat for a majority of these species found in Park Service waters. The famous salmon and trout fisheries at the Katmai and Lake Clark National Parks/Preserves attract sport anglers from all over the world, generating millions of dollars in revenue to the region's tourists industries. In the northwest Arctic area, salmon, sheefish and Arctic char in the Kobuk and Noatak rivers within the Western Alaska Parklands support major subsistence and recreational harvests. Waters in the Copper River basin within Wrangell-St. Elias NPPr produce millions of sockeye and Chinook salmon that are heavily utilized in coastal/in-river fisheries; this Park unit also supports considerable amounts of sport angling in its lentic and lotic systems. The marine and freshwater environments found within and adjacent to Glacier Bay National Park/Preserve (southeast Alaska) sustain fish and invertebrates which are heavily targeted by recreational and commercial (included guided charter boat) harvesters. Lakes in the northern Minchumina area of Denali NPPr have supported large catches of freshwater fish species, and many tourists who spend time at this heavily-visited Park angle for trout and grayling in its waters too. Rivers and streams in the upper Yukon River basin encompassed by Yukon-Charley NP are home to Chinook, chum, and coho salmon, plus northern pike, whitefish, and grayling, which are harvested by the rural residents in the hundreds of thousands annually. Even small Alaska units, such as Klondike Gold Rush and Sitka, have streams which produce eulachon smelt and pink salmon respectively that contribute to local fisheries as well.

Due to their unique life history characteristics, anadromous fish (comprised of Chinook, coho, chum, pink, and sockeye salmon; steelhead and cutthroat trout; and Dolly Varden and Arctic char) serve as a key connection between the marine environment and Park Service freshwater and terrestrial ecosystems – even for NPS units located far into Alaska's interior (Denali, Gates of the Arctic, and Yukon-Charley). For both coastal and inland Parks, large and small mammalian species, such as brown and black bears, wolves, river otters, and mink, as well raptors (e.g. bald eagles) and other birds rely on these fish as prey, whose carcasses also serve as key nutrient sources for aquatic and riparian biotic assemblages.

Although the Service's Alaska ecosystems are considered to be relatively pristine and little impacted by anthropogenic activities, current and future resource development projects have the potential to affect both aquatic habitat and biota. Mineral extraction in the Bristol Bay region (e.g. Pebble Mine) and large-scale infrastructure projects in northern Alaska (such as the road connecting Fairbanks and

Nome) are examples of proposed activities for which Service staff must have the expertise to address the short and long-term, as well as direct, indirect, and cumulative, impacts to NPS aquatic resources. Numerous “legacy” issues from past anthropogenic disturbances which still affect Park and Preserve waters (e.g. contaminants, sedimentation from erosion of historical trails, stream crossings which prevent upstream passage by migrating fish, etc.) also must be dealt with by current managers as well.

Changes in Alaska’s ecosystems resulting from large-scale abiotic and biotic perturbations (e.g., climate variability and its effects on ecosystem processes) will require Park staff to assess how these events may affect NPS fisheries (and other aquatic) resources. Coupled with direct and indirect effects of other human activities (e.g. subsistence, sport, and commercial harvests; expanded visitor use; land and water development activities; etc.), it will be important for the Service to be able to address, and respond to, such issues both now and during future years.

Review Process

Review Sources

Interviews were conducted with NPS fisheries, natural resource, cultural resource, and subsistence staff, Park administrators, and I&M Network program managers/staff from Park/Preserves, I&M, and Regional offices in Alaska (including former NPS employees) -- 45 total among 38 persons (conducted from 29. May through 8. July 2013).

- o 13 (thirteen) were conducted via telephone
- o 23 (twenty-three) were held in-person at Alaska National Park & Preserve/I&M field offices in Homer, Copper Center, Denali, Fairbanks, and Juneau
- o 9 (nine) were conducted at Regional Office in Anchorage, AK
- o Current and former staff from the following Park units were contacted:
 - Gates of the Arctic, Yukon-Charley, Wrangell-St. Elias, Glacier Bay, Denali, Katmai, Aniakchak, Lake Clark, Klondike Gold Rush, Sitka Historical, and Western Alaska (Nome) NPS offices
 - NPS Alaska Region Inventory & Monitoring (I&M) Networks in Southwest Alaska, Central Alaska, and Southeast Alaska
 - Regional Natural Resource, Subsistence, I&M, and Directorate offices
 - Western Aquatic Support Office (WASO), Ft. Collins, CO

Interviews were also conducted with other Federal agency staff who have/are currently collaborating with the Service on fisheries science projects and consisted of 4 interviews of 3 scientists from the USFWS Field Office in Fairbanks and the USGS Alaska Fisheries Science Center in Anchorage.

Summaries of reports and other documents pertaining to NPS fisheries and/or aquatic resources, which were generated by individual Parks, Park networks, the Alaska Regional Office, and/or the National Office were also reviewed by the author.

Interview Questions

Each person interviewed was requested to:

1. provide a summary of prior fisheries work that he/she conducted during their tenure in the NPS Alaska Region
2. discuss his/her current fisheries work (if still employed in the NPS Alaska Region)
3. describe his/her perspectives regarding current and/or future NPS fisheries issues and needs; and
4. provide recommendations on how these issues/needs could be addressed

Project Timetable

A brief description of the objectives, goals, and process for this review was presented to the NPS Alaska Regional Leadership on 6/6/13, the NPS AK Region Subsistence Advisory Council (SAC, on 6/6/13), and the NPS AK Region Natural Resources Advisory Council (NRAC, 6/20/13).

A summary of the key findings, and recommendations for addressing Park Service fisheries needs in the Alaska Region, was presented to Regional Office and field office staff on Wednesday 10. July, 2013. Participants provided excellent feedback on the review, and their comments and suggestions regarding future efforts to address Alaska NPS fisheries science/management needs were provided to the Associate Regional Director for Resources, and the Regional Team Manager for Natural Resources.

A list of persons interviewed (along with dates that these sessions took place, and the format used) is provided in Appendix A, Table 1.

Findings

Past and Current NPS Fisheries Science Projects

Fisheries science projects have been conducted by NPS Regional Office and field staff in each of the Alaska National Park/Preserve units, and a number of these continue in Wrangell-St. Elias, Glacier Bay, Lake Clark, and Katmai units (see Appendix B for a summary). Much excellent work has been conducted in Parks where fisheries staff persons have been assigned. However, the loss of biologists and technicians with expertise in fisheries has occurred at a number of field offices (e.g. Yukon-Charley and Gates of the Arctic, Western Alaska Parklands, Katmai, Denali), leading to a reduction or complete cessation of fish science work for these units. Some of the fisheries issues in Parks which have not had specialists (Aniakchak, Kenai Fjords, Sitka, Klondike Gold Rush) have been – and continue to be -- addressed by scientists from other NPS offices within (e.g. ARO, GLBA/Juneau, LACL) or outside the Alaska Region (WASO).

Current and Future NPS Fisheries Issues and Needs

With regards to Alaska Region Park Service fisheries science and management needs, a number of common themes were identified among the NPS employees who were interviewed. All persons emphasized the high importance and value of the fish habitat within, and fish produced from, NPS waters in the region, and that such resources are key to productive/diverse aquatic and terrestrial ecosystems in all of the Alaska Parks. Park Service staff highlighted the major contribution of anadromous and resident fish species which are produced in NPS waters, to valuable subsistence, recreational, and commercial fisheries (which occur inside and/or in proximity to the Parks, or in more distant marine and fresh waters). Rural Alaska residents rely most heavily on the harvests of fish for their subsistence needs, and many of the species they utilize both seasonally (e.g., salmon) and year-round (whitefish, northern pike, char, sheefish, etc.) are derived from the freshwater, estuarine, and coastal habitats managed by the Service.

Most NPS staff interviewed were concerned about the significant decline in available NPS expertise (due to loss of fisheries biologists across the Region), resulting in a shortage of knowledge and experience to assist Parks and the Region with addressing key fisheries needs. These include obtaining important information and knowledge about fish diversity, abundance, distribution, and life histories in Park units; evaluating the impacts from resource development and infrastructure projects on fisheries resources (such as the proposed Pebble Mine and the Ambler Road projects); conservation of fish stocks whose abundances are declining (e.g. Yukon River Chinook salmon, Pacific halibut in southeast Alaska, etc.); and abilities to meet the Service's Federal subsistence fisheries management mandates, as outlined in Title VIII of the Alaska National Interests Land Conservation Act (ANILCA).

While excellent work has been conducted in those Parks with fisheries staff, and such efforts continue in units that still have expertise (i.e., Katmai, Lake Clark, Wrangell-St. Elias, and Glacier Bay), a number of those interviewed concurred that the current number of specialists in the Region were below the minimum necessary to address the Service's many fisheries science and management needs -- and were particularly worried that hiring restrictions and declining budgets could result in further diminishment.

As an example, there have been, and continue to be, no fisheries biologists assigned to the entire Western, Northwest, and Arctic, and most of the Interior areas, of Alaska (i.e., 7 out of 16 NPS units). Furthermore, at the end of July 2013, there will only be one (1) fisheries biologist in the Alaska Region with expertise in managing Federal Subsistence fisheries. Although the recent addition of several scientists with fisheries background for two of the I&M networks (Southwest and Southeast) will help to partially offset this trend, the overall lack of experienced professionals may leave the Service unable to address its responsibilities for conserving and managing NPS fisheries resources in the Alaska Region – especially given that the need to address aquatic ecosystem perturbations both natural (e.g., climate variability) and anthropogenic (natural resource and infrastructure development projects) are likely to only increase in future years.

Recommendations

The former and current NPS staff assigned to Park & Preserve offices, and those stationed at the Regional Office and WASO, who were interviewed during this review provided a number of suggestions for addressing Park Service fisheries science and management needs in the Alaska Region. These were used to derive the following recommendations (summarized as follows):

Develop a Regional Fisheries Strategy for National Park Service in Alaska

This would serve as an “umbrella” document which would describe the Region’s fisheries science and management program. It could be tiered to a variety of levels – Regional, sub-regions, and individual field units – and could serve as guidance for integrating efforts among them. It might include an “overall” strategy for the Alaska Region, and “sub-strategies” which are specific to Parks/Park networks; there could be separate documents prepared for the different levels.

Important elements to include in this (these) documents:

- Mission(s)
- Goals, objectives
- Methods/processes that will be used to achieve these goals/objectives
- Implementation and effectiveness monitoring (conducted at specified intervals)

Potential NPS Alaska Region fisheries resource science/management needs and issues to include are:

- Baseline data necessary to manage fisheries on Park/Preserves waters:
 - Lentic and lotic aquatic habitat quantity/quality
 - Abundance/distribution/diversity of resident and migratory species
 - Life histories & ecological characteristics of key species
 - Trophic relationships
 - Abiotic/biotic factors which may influence species & assemblages
 - Ecological role(s) of fish in aquatic ecosystems
 - Socio-economic importance of NPS fish resources
- Evaluating impacts from natural disturbance (catastrophic floods, etc.) and anthropogenic activities (e.g. harvest, resource development), at a variety of temporal and spatial scales

- Habitat/population protection measures (which would include defining “unacceptable impacts”)
- Restoration of degraded aquatic habitats/impacted species

Potential actions for implementing the NPS Alaska Fisheries Strategic Plan include:

- Identification of staffing and budgets needed to implement the plan
 - Various options for implementation levels (minimum to full), and their pros and cons, could be developed for consideration by NPS managers
- Maintain fisheries science and management expertise at NPS Alaska Region field offices
 - Continue current funding and support for existing fisheries scientist/biologist/technician positions at Lake Clark, Wrangell-St. Elias, and Glacier Bay Park/Preserve offices
 - Re-fill currently vacant position at Katmai NPPr
- Re-fill the vacant Regional Office senior-level fisheries biologist position (vice-Nelson); this position could –
 - Share duties and responsibilities between the RO Subsistence and Natural Resource divisions
 - Serve as the fisheries technical expert for the NPS Federal Subsistence Board member(s) and the Interagency Staff Committee representative(s)
 - Provide Regional leadership in NPS fisheries science for the Natural Resource Division
 - Develop and implement a Regional Fisheries Program which addresses NPS science and management needs
 - Serve as a mentor, and provide professional development opportunities, for entry/mid-level fisheries staff in Alaska Parks/Preserves
 - Foster intra-agency (e.g., with the NPS Coastal and I&M Programs) and inter-agency/organization/Tribal partnerships, to address shared fisheries science/management concerns
 - Represent NPS in multi-agency/organization Alaska fisheries committees, forums, etc.
 - Oversee a budget for the Regional Fisheries Program, and ensure distribution of funds to support field staff and projects within Alaska Parks/Preserves

- Seek cost-sharing and collaborative funding opportunities to expand opportunities for NPS fisheries science work in Alaska
- Re-fill at least one of the currently vacant NPS fisheries biologist positions (vice-Anderson and/or vice-Lean)
 - Provide much-needed fisheries expertise in the northern Interior/Arctic/Western Alaska areas, which is currently lacking
 - This position would complement the fisheries science and technical assistance services provided by Molly McCormick & Dave Serafin (presently assigned to the Copper River basin), Dan Young (assigned to the southwest Alaska area), and Scott Gende (assigned to the southeast Alaska area)
 - To foster broader assistance among multiple Park units in this area, the position could be part of an “NPS Alaska Fisheries Network” (see below)
 - Position could be stationed in Fairbanks, Nome, or Kotzebue
- Use detail/term/contract employee(s) to address short-term fisheries expertise deficits
 - Assume RO Subsistence Division Federal Subsistence Program ISC duties (vice-Swanton)
 - * NOTE: Former NPS employees (Fred Anderson, retired from YUGA) has expressed an interest in providing fisheries subsistence management assistance as an NPS contracted/term employee
 - Address current/next FY Park unit requests for technical assistance on priority issues which affect NPS fisheries resources (such as the proposed Ambler Road and Pebble Mine projects)
- Increase collaboration with other Federal/State agencies, Alaska Tribes/Tribal organizations, and academic institutions to –
 - Expand current knowledge about fish resources in Park aquatic ecosystems
 - This could include information about –
 - Anadromous/resident fish ecology (population abundance, distributions, life history, genetic diversity, etc.)
 - Aquatic habitat (habitat relationships, habitat quality, etc.)
 - Funding to support these research studies could be obtained via proposals to Federal, State of Alaska, and/or other Regional/National sources via academic institutions

- o E.g., FRMP/Federal Subsistence Program, ADF&G Chinook salmon research funds, USFWS Tribal Wildlife Grants, USGS/NPS fisheries science research grants, University of Washington, Oregon State University, etc.
 - o NPS could provide in-kind contributions (staff time/salaries, vehicles, boats, field equipment, local transportation, housing – e.g., Katmai NPPr) and/or dollars towards these cooperative projects
- o Address shared fish/fisheries management issues/needs, such as impacts to fish resources from current and/or proposed development activities, restoration of fish habitat, etc.
 - May require both in-kind and financial contributions from the Service
 - Proposals submitted to external funding sources (such as the Federal Subsistence/Fisheries Resource Monitoring Program, NPS-derived funding for USGS in Alaska, etc.) could also support these efforts

Strategy Development Process

A process for developing NPS Alaska Region Fisheries Strategy could include the following:

- A committee could be convened to draft the plan and its implementation/monitoring process
 - o This group could include NPS fisheries experts and Superintendent(s) within the Alaska Region
 - Additional NPS members could include someone from WASO (?)
 - o Representatives from other agencies/organizations (DOI, State of Alaska, and AK Tribe[s]) could also be included (?)

Additional Recommendations: Strategy Actions Which Can be Implemented in the Near Future and Within Existing Budgets

Consideration of the issues and needs discussed by NPS personnel yielded some additional recommendations that could be considered for inclusion in the Fisheries Strategy.

The following actions could be implemented in the near future, with little or no additional financial burdens:

- Dedicate a portion of NPS funding under the purview of the NRAC, SAC, and/or I&M to support fisheries science projects, which address high priority Park management/I&M network needs for the Alaska Region
 - o Specified funding allocation for such projects would help to ensure that important fisheries concerns, data gaps, etc. could be addressed in a more timely manner

- If no fisheries project proposals are submitted (or if submitted proposals do not meet the criteria for funding consideration), then these dollars will be re-allocated to other Natural Resource program areas
- This approach has been successfully applied in the Fisheries Resource Monitoring Program (FRMP) of the Federal Subsistence Program; by allocating a percentage of research funds between two focus areas – Stock Assessments and Harvest Monitoring/TEK – this ensures that both types of studies are conducted
- Re-organize the NPS AK Region’s fisheries staff into a “network” that is based on geographic areas and the Park units contained within each of these:
 - NPS Alaska Region Fisheries Networks –
 - Southeast Alaska Fisheries Network (Soiseth, Murdoch, and Gende?)
 - Glacier Bay, Sitka National Historical, Klondike Gold Rush
 - Southwest Alaska Fisheries Network (Young, vacant position @ Katmai?)
 - Lake Clark, Katmai, Aniakchak, Kenai Fjords
 - Interior/Copper River Basin Alaska Fisheries Network (McCammon, Serafin?)
 - Wrangell-St. Elias (& Yukon-Charley?)
 - Interior/Northern Alaska Fisheries Network (vacant)
 - Western Arctic Parklands, Yukon-Charley (?), Gates of the Arctic
 - Each Network would have at least –
 - One (1) professional-series (0482) fisheries biologist, and possibly
 - Additional fisheries staff (assistant biologist[s], fisheries technician[s])
 - Might be permanent/full time, term, and/or seasonal employee(s)
 - These staff could be located in different field offices within each Network, to broaden their geographic coverage of key watersheds/river basins
- Expand intra-agency collaboration between NPS Teams and/or Divisions (e.g, Natural Resource, Subsistence, Education/Interpretation, Law Enforcement, I&M, etc.) within the Alaska Region, to share fisheries work, data, and/or information that will benefit mutual objectives

- Integrate TEK/social science-based information with fisheries data, to provide a multi-dimensional understanding of fish resources, aquatic ecosystem function, and traditional plus modern uses of fish, in/from Alaska NPS waters
- Incorporate NPS Alaska fisheries science findings into education and interpretation programs, to increase public knowledge about, and awareness of, the importance of these resources
- Increase communication between Team/Divisions for co-planning site visits, field sampling, etc. so as to share limited personnel, time, and financial resources
 - Examples: Staff collecting I&M water quality data on a stream for which there is little information on fish could use minnow traps (light weight, portable, & simple to operate) to sample for resident/anadromous fish species, while visiting sites; tissue specimens could be collected from while sampling their abundance, for subsistence genetic analysis; etc.
- Utilize existing sources of fisheries expertise for technical assistance needs
 - Within NPS -- examples (*NOTE -- this list is not comprehensive):
 - Estimating adult salmon escapement, spawning distributions – WRST (Serafin)
 - Aquatic productivity, lentic fish population assessments, biology of coregonids – LACL (Young)
 - Sport fishing impacts on salmonids, sockeye life histories, non-salmon fish species – KATM (Hamon)
 - Fisheries research study design & statistical analysis – GLBA (Gende)
 - Harvest reporting & management – WRST (Veatch, McCormick)
 - Coastal marine fishes & fisheries, salmonids – GLBA (Soiseth, Murdoch, Everington)
 - External sources – examples (not comprehensive):
 - Other DOI agencies
 - USFWS – freshwater fish species research (salmonids & non-salmonids), salmonids abundance, fish genetics, fish passage, biology of coregonids and esocids, fish contaminants, etc.
 - USGS – freshwater fish species research (salmonids & non-salmonids, plus methods and study designs), hydrology, fluvial geomorphology
 - Other Federal agencies

- USFS – freshwater fish habitat assessments, fish passage, watershed restoration
- NMFS – coastal and marine fish research/management, marine habitat & productivity, stream restoration
- EPA – contaminants, water chemistry/quality
- o Other agencies & organizations
 - ADF&G
 - Academic institutions
 - Conservation organizations
 - Alaska Tribes & Native organizations

Other Potential Fisheries Strategy Actions (some additional funding required)

The following action item would involve additional funds and short-term commitment of additional personnel:

- Manage NPS Alaska Region fisheries information and data
 - o Collect and house existing data/information at a central location to improve access
 - Utilize existing NPS hard copy and electronic archives -- or create one(s) dedicated to fisheries
 - Use student intern(s) or temporary hire(s) to accomplish this work (?)
- NPS Policies and Regulations affecting the Alaska Region
 - o Synthesize NPS National, Regional, and field unit-specific policies/regulations which pertain to fisheries
 - Use student intern(s) or temporary hire(s) to accomplish this work (?)

Appendix A:

PERSONS CONTACTED FOR THE 2013 NPS ALASKA REGION FISHERIES SCIENCE AND MANAGEMENT REVIEW

Table 1. List of interviewees contacted for the NPS Alaska Region Fisheries Science/Management review (May – July, 2013).

	Name & Date(s) of Interview	Agency	Assigned Unit & Division	In-Person meeting	Telephone meeting
1	Nancy Swanton 5/29/13	NPS	AK RO (Subsistence)	X	
2	Dave Mills 5/29/13	NPS	AK RO (Subsistence)	X	
3	Clarence Summers 5/29/13	NPS	AK RO (Subsistence)	X	
4	Deb Cooper 5/29/13	NPS	AK RO (Directorate)	X	
5,6	Tahzay Jones 5/29 & 7/9/13	NPS	AK RO (Coastal Oceans) & Sitka Historical (Natural Resources)	X	
7	Mary McBurney 5/30/13	NPS	Lake Clark / Katmai / Aniakchak (Subsistence)	X	
8	Chuck Lindsay 6/3/13	NPS	Southwest AK Network (I&M)	X	
9,10	Trey Simmons 6/3, 6/26/13	NPS	Central AK Network (I&M)	X	X
11	Amy Larsen 6/3/13	NPS	Central AK Network (I&M)		X
12	Hollis Twichell 6/5/13	*NPS	*Denali (former – Natural Resources) USFWS-ANWR (current)		X
13	Jeff Shearer 6/11/13	NPS	Lake Clark (Natural Resources)	X	
14	Randy Brown 6/11/13	USFWS	Fairbanks Fisheries Field Office		X
15	Chris Zimmerman 6/13/13	USGS	Alaska Fisheries Science Center	X	
16	Michael Shepard 6/13/13	NPS	Southwest AK Network (I&M)	X	
17	Dan Young 6/13/13	NPS	Lake Clark (Natural Resources)		X
18	Sara Wesser 6/17/13	NPS	AK RO (I&M)	X	
19,20	Barbara Cellarius 6/18-20/13	NPS	Wrangell-St. Elias (Subsistence)	X	
21,22	Molly McCormick 6/18-20/13	NPS	Wrangell-St. Elias (Natural Resources)	X	
23,24,25	Dave Serafin 6/18-20/13	NPS	Wrangell-St. Elias (Natural Resources)	X	

	Name & Date(s) of Interview	Agency	Assigned Unit & Division	In-Person meeting	Telephone meeting
26, 27	Eric Veach 6/18-20/13	NPS	Wrangell-St. Elias (Natural Resources)	X	
28	Ray Hander 6/20, 6/26/13	USFWS	Fairbanks Fisheries Field Office	X	X
29	Patricia Owen 6/25/13	NPS	Denali (Natural Resources)	X	
30	Dave Shirokauer 6/25/13	NPS	Denali (Natural Resources) & Klondike Gold Rush	X	
31	Phillip Hooge 6/25/13	NPS	Denali (Deputy Superintendent) & Glacier Bay (Natural Resources)	X	
32	Fred Anderson 6/26/13	NPS (retired)	Yukon-Charley/Gates of the Arctic (Subsistence)	X	
33	Chris Sargent 6/28/13	NPS	Southeast AK Network (I&M)	X	
34	Scott Gende 6/28/13	NPS	Glacier Bay (Natural Resources & Coastal)	X	
35	Mike Bower 6/28/13	NPS	Southeast AK Network (I&M)	X	
36	Chad Soiseth 6/28/13	NPS	Glacier Bay (Natural Resources)		X
37	Craig Murdoch 6/28/13	NPS	Glacier Bay (Natural Resources)		X
38	Lisa Etherington 6/28/13	NPS	Glacier Bay (Natural Resources)		X
39	Ken Adkinsson 7/1/13	NPS	Bering Land Bridge (Natural Resources)		X
40	Jeanette Pomrenke 7/1/13	NPS	Bering Land Bridge (Superintendent)		X
41	Marcy Okada 7/1/13	NPS	Yukon-Charley/Gates of the Arctic (Subsistence)		X
42	Nancy Deschu 7/2/13	*NPS	*AK RO (former - Natural Resources) BOEM (present)		X
43	Dave Nelson 7/8/13	NPS (retired)	AK RO (Subsistence)	X	
44	Troy Hamon 7/8/13	NPS	Katmai (Natural Resources)		X
45	Charlie Lean 7/8/13	NPS (former)	Western/Arctic Parklands (former - Subsistence) NSEDG (current)		X

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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**National Park Service
U.S. Department of the Interior**



Natural Resource Stewardship and Science

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