

Minutes

FRPA Effectiveness Monitoring Working Group Teleconference (WebEx)

Thursday, January 21, 2021, 10am – noon

Present: Joel Nudelman, DOF; Debbie Maas, ADFG; Jon Wendel, DEC; Greg Albrecht, ADFG; Katherine Prussian, USFS; Jeremy Douse, DOF; Mark Minnillo, ADFG; Chris Stark, Board of Forestry; Todd Nichols, ADFG; Jim Tuttle, Sealaska; Trent Liebich, USFWS

Introductions

Funding Opportunities for 2020

Challenge Cost-Share Grants, Joel Nudelman, DOF

CCS are agreements that DNR DOF has with USFS. Used in the past for young growth surveys and inventory, road maintenance, and other projects that are mutually beneficial. We don't know what will be available in the coming year. Federal budget has just been signed, so it's up in the air. DOF had a proposal ready for Icy Bay surveys, but that money was redirected for something else after COVID hit. I suggest that if someone has a project that is shovel-ready, if money were to become available, and it's related to FRPA effectiveness and would be beneficial to both parties, it's possible that it could get funded.

Questions:

Alison: Could we get Icy Bay money back?

Joel: Will talk about that with Road Conditions Surveys.

Sustainable Salmon Funding, Debbie Maas, ADFG (See handout at end of Minutes)

AKSSF is a federally-funded program, has been around for 20+ years. Focus has changed over recent years, so this program may or may not be relevant to FRPA effectiveness monitoring. We have 11 objectives for Alaska, based on NOAA guidance and Congress. (See handout at end of Minutes) If we have another call for proposals, it'll be later in the spring.

Could be different than last year, but likely to be similar. Subsistence is really where the monitoring is. The rest of our work is focused on habitat: land conservation easements. Restoration category, habitat assessments, etc. Also catch-all instream restoration work; for example, restoring natural sinuosity of a stream, bank stabilization, and invasive species control. Also new category: climate change—finding species that are more resistant to climate change: cold water refugia.

Working on grant application now. If we receive funding, will put out a call for proposals in mid-April.

Questions:

Greg: Could we use the climate change category for fish kills with warm water? What would a proposal be?

Debbie: Haven't had many proposals in the climate change category. One is started in SE, putting out gages for stream temperatures to find coldwater upwellings, or looking at historical data to find that. Also infrared studies to find cold sections. We don't put researchers on specific topics—just want to look for stream sections that could be more resilient.

Chris Stark: What are awards in the last decade? Scope? And following up on Greg's question for habitat assessment. Assessing those instead of monitoring... would that work?

Debbie: Possibly. Give me a call to talk more about that—it's looking at tree cover relative to stream temperature. In the last 6 years, we've averaged about \$4 million annually, have distributed that for projects that can take up to 3 years. We fund state agencies, non-profits, individuals. Minimum limit of \$30,000. No upward limit. Projects average about \$200,000. When we receive those funds—3 pots of money: Subsistence, habitat that benefits subsistence, and habitat.

ACWA Grants, Jon Wendel, DEC

Grant program administered by DEC, ADFG, DNR. Brings our 3 departments together for a holistic look—overlapping jurisdiction. Grant program brings our 3 departments together, and opens it up to projects to be proposed. Citizens groups, tribes, government groups. People can propose a project that comes under 7 categories.

Proposals are ranked, and that ranking is publicly available. 2021-2023 grant application is now closed, and they are in the selection process.

In the past, we've had about \$700,000 for projects for many different reasons for proposal. Ambient water quality monitoring, stream restoration, BMP effectiveness. Grants can go to cities, universities, etc. Usually average \$30,000 to \$100,000. Highest was \$100,000. Each department has their own contact: Leah Ellis (ADFG), Tom Barrett (DNR), Terry Lomax (DEC) [*or Chandra McGee? She is contact on DEC website*].

Current projects proposed need to be finished up by 2023. Can't go out beyond the grant period. Next grant period will be in 2023, and would reopen grant period in late 2022. Projects would start next in 2023. Info online at DEC. <https://dec.alaska.gov/water/water-actions/>

Other sources?

Chris Stark: What about NRCS? Could they be a source of funding?

BOF, DOF, and Sealaska submitted comments to the NRCS about the new definition of non-industrial private forest lands, objecting to the definition that would exclude Alaska Native corporations. Alison will ask Chris Teimpidis, new NRCS State Forester, to join the next Effectiveness Monitoring call, and will get information from him at the next BOF meeting to share with this group. He is presenting at that meeting.

Jim Tuttle: Sealaska uses NRCS grants for forest thinning and reforestation. The definition also included additional restrictions from having a mill, and about negotiating with about each state chapter. Sealaska provided comments and are waiting to hear. That definition change could have a big impact.

10:25 FRPA Compliance Monitoring

BMP score sheets, Joel Nudelman, DOF.

On a yearly basis, we visit every private, municipal and trust land timber sale as well as state forestry operation, specifically to protect water quality and fish passage. We used to get EPA and ACWA funding 15 years ago, but haven't gotten federal funding since then. Until 2015, could use state funding, but now it is entirely funded by timber sale receipts.

All our resource foresters have been trained on BMPs. Our staffing levels are about half what we had in 2015. In 2020, we did 35 inspections on state lands, and 18 inspections on private, muni and trust lands. All 18 inspections on private and muni lands were in SE. Usually we have some in Interior and Kenai/Kodiak. Each site visit is followed up with an inspection report and a score sheet. ADFG is in attendance on a lot of those, especially those with fish habitat. DEC used to be active, but aren't now. They still review the notifications preceding the inspections.

When we're on site, every BMP is given a rating of 1-5, 5 being full implementation. We've been doing this system since 2003, and it has worked very well for numerically describing how well the BMPs are being implemented, and for keeping operators in compliance. 90% of ratings met or exceeded the BMP ratings of 4 or 5, and we had even higher compliance in the interior: 97% compliance. In Region II, only one inspection in 2020, so no analysis needed. Ratings statewide were very good, but that doesn't mean we didn't have problems—culvert installations on drainages where they were needed, log bridges needed work.

RIII: Interior had a very wet summer. State has their own road crew for maintenance; left in very good shape after lots of public road use in the summer and fall. Region I: culverts and bridge construction; when we have issues, we start with a letter of instruction, and a date that they need to fix it by. Then we re-inspect it. In all cases, we had full compliance, and happy to say it's been a few years since we've issued any forest practices violations. We think that's from our field presence and working with operators.

We provide training, as well. This year we just did agency training with ADFG and DEC. None with operators because of social distancing, but we do that every other year—did it in 2019. Next week, in preparation for the Board of Forestry meeting, I will have a more detailed report on each of the individual BMPs.

Questions:

Jon Wendel: have you started your 2021 inspection planning?

Joel: Yes--we'll be inspecting the operations under notification, and renewals. Yakutat, MHT on POW at Naukati, Sealaska operations winding down, Prince of Wales. We'll also be inspecting our own sale at Thorne Bay that was just sold. Gravina Island for state sales. Hopefully the Kenai office will be able to get to Kodiak and Afognak this year. Also some interior projects.

USFS BMP Monitoring, KK Prussian (See also the Tongass monitoring report attached to this email)

Presenting a summary provided by Neil Stichert, who was planning to be on but a federal call is going long.

- Tongass uses National and State BMPs to address CWA and minimize non-point source pollution.
- Tongass monitors implementation and effectiveness of BMPs annually
 - Monitor across project type and randomly sample projects
 - Enter data into a national database
 - Partners are invited and welcome to participate
 - Provide reports with monitoring summaries including corrective actions

Timber Harvest and Roads. The Tongass monitored 78 sites across all of the Tongass districts between 2013 and 2019. Of these, 51 sites reviewed included timber or roads (20 road activities and 23 veg management). There were 32 not fully implemented (19 of which had no action

needed) and 19 sites were fully implemented (12 were fully successful, 2 not effective). The adaptive management recommendations included erosion control improvement, ensuring riparian buffers implemented as planned, disconnecting road ditches from streams, and improving road surfaces. 2019 Monitoring report is attached and 2020 monitoring is being summarized for reporting.

Stream restoration efforts are monitored as part of above annual monitoring and also at a project level (1, 2, and 5 year cycle). A forest-wide stream restoration monitoring effort was completed this year aimed at determining the effectiveness of large wood additions at improving stream channel conditions and function. A total 73 sites were surveyed twice each over the last 8 years. Data is currently being synthesized and final reporting is expected in January 2022.

Fish passage monitoring has been ongoing since 1998. Between 1998 and 2019, the Tongass has re-installed, retrofitted or removed approximately 642 crossings that were previously not meeting passage standards in fish streams. 258 of these culverts have been monitored (2018-2019 Tongass National Forest Monitoring and Evaluation). The data suggest 80% of the crossings are meeting State of Alaska juvenile fish passage standards. Seven percent of the pipes are considered grey and need more information to determine passage status. Thirteen percent of the culverts are red and not meeting fish passage standards. These monitoring efforts are ongoing and lessons learned from these monitoring efforts are being integrated into culvert design and management practices.

The effectiveness of riparian buffer management, and its influence on windthrow adjacent to streams has been monitored at 261 riparian buffers across the Tongass over the last 20 years. Results show 45% of the riparian buffers have no windthrow. The remaining 55% of the sites had an average of 5.3% windthrow. In 99% of the sites there was less than 35% windthrow and 77% of the sites had less than 5% windthrow. Site conditions, including aspect and location, show varying results. These data have not been compared to the natural rate of windthrow, nor has the data been related to local or regional storm activity. These minimal increases in windthrow rates along riparian areas suggest riparian protection measures (buffers) are largely effective in maintaining natural rates of large wood and sediment inputs to streams.

See also the *Tongass National Forest Water Quality Best Management Practices – Annual Monitoring Report Fiscal Year 2019*. (Attached to the email)

Questions:

Greg: is the USFS still pursuing funding to monitor the windthrow?

KK: Yes, thinks 1-2 more years to do this.

Mark Minnillo: Thanks for all the projects for fish passage that has been done—lots of fish habitat made available.

FRPA Effectiveness Monitoring Updates

Windthrow in SE Alaska, Greg Albrecht, ADFG

Followup to work from looking through USFS dataset to see if there are correlations with blowdowns. Can blowdown be predicted using a Wind Exposure Index? Looked at wind vectors, GIS analysis, adjacent to clearcuts. Buffer tool created by GIS analyst. Measured fetch from non-forested area—looked for windthrow on each side. Flagged sites when both sides had windthrow from trees falling down from the other side and knocking them over. Also removed areas with helicopter logging because very little windthrow.

Results: Not terribly significant or meaningful results—an upward trend, but not significant. How important is fetch? Looking at Wind Exposure class numbers: 4s and 5s—less than 50m of fetch—a lot of trees left—much less windthrow. Mean percent windthrow for low fetch was quite low, vs. those with greater fetch. Fetch definitely plays a role. If it's a 5 or 4 with no fetch, there is a much lower chance of forest blowdown.

Windthrow events: Lower windthrow in areas with less fetch.

Couldn't consider:

- site specific buffer prescriptions. Which was a problem, but didn't have them. Couldn't tell if the forester on the ground had implemented feathering, RMA border shape and topography.
- V-notches
- Individual tree characteristics,
- Site-specific wind patterns.
- Soils

Conclusions:

- 4s and 5s Wind Exposure class slightly higher blowdown
- Fetch plays an important role
- RMAs near selective harvest have minimal windthrow
- Relationship between WEC and blowdown isn't significant to warrant use of the tool by itself.
- Habitat will consider these conclusions when commenting on DPOs and consider asking for voluntary action to reduce windthrow where site-specific evidence supports high risk.

Questions still to address:

- How much windthrow is too much?
- How well do site-specific provisions work? Can be a frustrating game trying to predict and prevent.
- 2020 storms

Road Condition Surveys & Fish Mapper, Joel Nudelman, DOF

Road condition surveys in the past have been cyclical due to staffing and funding. We have had periods of dedicated funding, when we had money from AKSSF, and we were able to cover a lot of SE during that time, focusing on fish habitat areas. From 2012-2014, surveyed all the KPB roads. Sporadic surveys in Haines, Wrangell and the Mat-Su. In many of those surveys, we've

been able to uncover work needed and further work to replace log stringer bridges or culverts. In most of those surveys, we've had followup work done afterwards.

We've noticed over the years, applying for different funding sources, it's been easier to find funding to fix problems than to assess the problems. Rare than a landowner will pay the full amount. We have worked with landowners to get \$\$ through NRCS, USFWS, AKSSF, DOF's stewardship program to replace log stringer bridges. Will be good to talk with Trevor about stewardship potential.

We also have identified problems on state land; for example, legacy programs were fixed in Tyonek, opening fish habitat. We did the same in Wrangell with the SE Watershed Coalition, fixing problem culverts.

Future projects: East Icy Bay for Chugach Corporation land. That was closed 20 years ago, log stringer bridges were left. ADFG and DOF allowed them to leave the abutments and stringers in place—see how those have worn over the year. It looks pretty good from the air, but nothing like being on the ground. In addition, there are a few fish pipes that looked good when they closed the operation in 2001, but need to be checked again. Answering question from Alison: If money came through this year, could we do that? I hope so, but it looks unlikely for next summer, though the project is ready to go. We also want to look at Sealaska operations. Would like to do surveys on roads that are left open—and will remain in inactive status. That term under FRPA means that there isn't hauling or log operations for the road, but the road is in place and still under FRPA. Road maintenance is required on those systems. Would be good to do inspections there while Sealaska still has a road crew and could fix problems if we find them. Will concentrate on that for RCS.

A year ago, we talked about being able to display our culverts and forest roads on ADFG fish mapper. Met with GIS specialist and programmer to get our roads pulled from DOF webviewer to display on ADFG mapper. Next step will be to show our culverts that we've recovered during road condition surveys:

<https://adfg.maps.arcgis.com/apps/MapSeries/index.html?appid=a05883caa7ef4f7ba17c99274f2c198f>

Showed ADFG fish mapper, section of Haines State Forest. Layers are new items from DOF webmapper: DOF Forestry roads. Active roads where current log hauling is occurring. Active, Inactive, and Closed roads (structures pulled). All under FRPA. Red dots show culverts, and when you click on a culvert, you can see the information gathered. Although the culverts weren't showing up when Joel shared his screen, it worked fine yesterday earlier this morning. [*Later, Joel talked with Gillian O'Dougherty and she confirmed that the system was having problems that day.*] Can talk with Joel later if you have trouble pulling up the maps. Pull up the Forestry Roads layer, Culverts layer.

Chris Stark: Future culverts on this map will be those that are surveyed. Does that mean that there will be other culverts nearby that aren't surveyed?

Joel: Cross-stream culverts will not be on the mapper. If it's supposed to pass fish, it will be on the mapper, as long as we've surveyed it. I'd like to find where the culverts are that we haven't surveyed—we could put a notation on the map that it hasn't been surveyed, but it exists. A fish pipe means that other culverts in the area have been surveyed.

Chris: Many culverts aren't listed for fish passage actually do pass fish. Could the public help?

Joel: Yes, that would be really helpful. For example, we've never been able to get information from the Kake area. Would love to have that information. We could show that it's never been surveyed, but that we're aware of it, but any information someone can send to us, we can include.

Chris: Works great.

Greg: ADFG just got a AKSSF grant for Kake, Westport near Hoonah to survey fish streams and Hoonah. We will probably be looking at and adding to that.

USFS Projects, Katherine Prussian, USFS

- Closed (stored/inactive) roads
- Invasive plant species control, detection, and mitigation
- Stream buffer windfirmness
- Management of young growth riparian/floodplain stands
- Fish passage

Neil said that the GIS fish program is actively working—this spring we will have that off the ground, updating from last year.

On an annual basis, we do BMP monitoring, forest plan monitoring, effectiveness of large woody debris, invasives. We use fish habitat objectives—fish habitat metrics from 2007.

We are excited that we are in the process of working with an OSU biologist, hiring a post-doc now, and we have 3x the data that we had before. Reanalyzing that now—hope to have a synthesis out next year. We use this for habitat conditions and for setting objectives. Will share that broadly.

Road decommissioning underway now.

Alison: I could set up a website on the Effectiveness Monitoring page to share this information.

KK: Online SE Alaska GIS layers—always helpful to share AOP information across land ownership. KK will send their Tongass plan.

11:40 2020 Effectiveness Monitoring Priorities

ADFG, Mark Minnillo

Mark: a lot of monitoring with Sealaska—road closures. Already starting to work on some of that: Road condition surveys. Hopefully that gets funded and inventoried.

DOF, Jeremy Douse

We have a roads crew, and keep our roads maintained, and we have a FRPA staff to monitor them. Since last time we met, reforestation implementation standards have been Northern Region's priorities.

1) Following up on John Alden's provenance trials,

- Have hired Miho Welton to replace Doug Hanson. ArcGIS—hub site where we make all this info available to the public. Big change.
- Right now we can't remonitor Alden's provenance trials, but we are going to monument them so someone can find and revisit them in future.

2) reforestation on sites near Fairbanks, Tok, Delta Junction;

- We don't have funding and UAF no longer has a forestry program. If that was a compliance priority, we would get into it, but it's not a problem, so not a priority.
- 3) site preparation techniques,
- When she was at UAF, Miho had put a proposal together on optimum site prep techniques, in addition to regeneration surveys using drones and hyperspectral imagery. At this point, I don't think there is movement on that proposal.
- 4) landscape level harvesting planning, mimicking the effects of wildfire with Tom Paragi,
- Landscape level harvesting isn't a priority—only biomass would create the market for large blocks of harvesting, but outside of Galena, that's not happening.
- 5) growth and yield model in Interior.
- Growth and Yield still needs to happen for Interior.

Chris: What's happening about Miho's drone project?

Jeremy: There was a proposal, but no one in Fairbanks UA has picked this up. UAF gets some funding from McIntire Stennis funds, so if you talked with someone there, maybe?

USFWS: Trent Liebich

We are looking at funding from the EVOS Trustee Council. There is maybe going to be only one application for the next 5 years for work in Valdez and Cordova and Kodiak. We have new staff and a new fish biologist who came on three days ago. We are continuing work on fish passage, SE Alaska watershed coalition, Forest HWY 10, FLAP program, Yakutat, WQ monitoring, Haines watershed. We have a lot of ongoing work.

In the future, projects we're looking at include Klawock Watershed, restoration work; culverts on Peterson Creek in Sitka. Another issue for SE fish habitat partnership is legislation moving through nationally that may change how funding works. That funding has always come through USFWS, but they are looking at moving that funding directly to partnerships, maybe this calendar year. SE Fish habitat Partnership will be funded.

Working Group Recommendations for 2021/FY 2022

The group agreed that there is no reason to prioritize any one project over another, but it's good to identify what different agencies are doing.

Trent: would love to see a list of what everyone's working on. Would help to bring Andy (new biologist) up to speed.

DOF, ADFG, DEC, USFWS and USFS continue to monitor implementation of BMPs to ensure clean water and fish passage. Corrective actions/management recommendations included:

- Culvert installations on drainages
- Work on log bridges,
- Erosion control improvement
- Riparian buffers implemented
- Disconnecting road ditches from streams
- Improving road surfaces

USFS: Monitoring fish passage. Since 1998 has re-installed, retrofitted or removed approximately 642 crossings that were previously not meeting passage standards in fish streams.

Monitoring efforts are ongoing and lessons learned from these monitoring efforts are being integrated into culvert design and management practices.

USFS & USFWS: Monitoring stream restoration. USFS: Tongass NF to determine effectiveness of large wood additions at improving stream channel conditions and function. USFWS: culverts on Peterson Creek in Sitka.

USFS & ADFG: Prediction of and effectiveness of riparian buffer management, and influence on windthrow adjacent to streams.

USFS: Invasive plant species control, detection, and mitigation.

USFS: Management of young growth riparian stands

ADFG, DOF, DEC & USFS: Road condition surveys for all timber harvests, focusing next year on Sealaska lands as timber program is closed out. Also East Icy Bay. Sharing road and culvert information on ADFG fish mapper.

DOF: Reforestation implementation standards and site preparation.

Next meeting will be in October. Alison will send out information in the meantime. Alison will set up website to share information.

12:05 Adjourned

Alaska Sustainable Salmon Fund 2020 Objectives

Habitat Conservation

Projects proposed under objectives 1 - 3 must directly attain long-term conservation of salmon habitat; secondary activities and objectives (e.g., planning, prioritizing, and ancillary surveys or data collection) are not allowed as standalone projects, but they are allowed as project components if they are necessary to successfully complete the project. Extra scrutiny will be given to projects wherein secondary activities comprise a large portion of the budget.

Preference will be given to projects in areas with a high potential for habitat degradation, that benefit salmon populations utilized for subsistence, or that conserve salmon habitat prioritized in climate impact studies (see Objective 11).

- Objective 1: Submit reservation of water applications on salmon streams or lakes
Note: Although data may be collected by any entity, reservation of water applications must be submitted solely by ADF&G. Therefore, applicants are required to provide assurance from the department that ADF&G is willing to collaborate on the project. Please call 907-465-8493 to speak with an ADF&G hydrologist.
- Objective 2: Submit nominations to the *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes*
- Objective 3: Conserve salmon habitat by land acquisition, easement, or other mechanism

Habitat Restoration

With the exception of habitat assessments to prioritize fish passage restoration projects, projects proposed under objectives 4 - 6 must result in on-the-ground restoration of salmon habitat (i.e., they must directly restore fish passage; eradicate, suppress, or contain invasive species; or restore instream habitat). Secondary activities (e.g., planning, prioritization, engineering/design work, developing or testing methods, ancillary data collection, outreach, and monitoring) are not allowed as standalone projects, but they are allowed as project components. Extra scrutiny will be given to projects wherein secondary activities other than effectiveness monitoring comprise a large portion of the budget.

Methods should focus on restoration of self-sustaining natural ecosystem functions and processes (e.g., re-establishing floodplain connection and function, restoring natural river-channel migration, re-establishing ecologically functional riparian buffers), natural features, and native vegetation. These objectives are not intended to address habitat impacts caused by changes in natural environmental conditions (e.g., changes in stream routes or hydrology caused by beaver activity or shifting glacier streams), or to increase the productivity of systems through nutrient enrichment/fertilization. Preference will be given to projects that benefit salmon populations utilized for subsistence, that restore salmon habitat prioritized in climate impact studies (see objective 11), or that restore habitat characteristics identified in climate impact studies as important for resiliency (e.g., restoring vegetative shading to moderate water temperatures).

- Objective 4: Restore fish passage on water bodies utilized by salmon (or conduct habitat assessments to prioritize fish passage restoration projects)
 - Note:** Applicants are encouraged to utilize existing inventories (if applicable) that characterize fish passage conditions (e.g., ADF&G’s Fish Passage Inventory Database: <http://extra.sf.adfg.state.ak.us/FishResourceMonitor/?mode=culv>).
- Objective 5: Eradicate, suppress, or contain invasive species that are known to be detrimental to salmon
 - Note:** Preference will be given to eradication projects.
 - Central Region note:** Species of primary concern are northern pike (*Esox lucius*), reed canary grass (*Phalaris arundinacea*), and waterweed (*Elodea* spp.).
 - Southeast Region note:** Species of primary concern are reed canary grass (*Phalaris arundinacea*), Japanese knotweed (*Polygonum cuspidatum*), and waterweed (*Elodea* spp.).
- Objective 6: Restore instream habitat through bank stabilization, revegetation, or restoration of natural channel structure, morphology, or connectivity

Monitoring and Assessment

Projects funded under objectives 7 - 10 must be necessary for the exercise of subsistence fishing or contribute to sustaining salmon populations utilized for subsistence. Applicants must articulate how the project meets this criterion and one or more of the following conditions:

- *Amounts Reasonably Necessary for Subsistence (see 5 AAC 01.100-01.760) are not being met (or are at risk of not being met)*
- *The fishery has considerable participation by subsistence users*
- *Harvests in the subsistence fishery have been reduced (or are likely to be reduced) due to an apparent decline in salmon abundance*

Secondary activities (e.g., developing new methods including genetic tools/markers/baselines, conducting retrospective analyses, collecting ancillary data, or conducting outreach activities) are not allowed as standalone projects, but they are allowed as project components if they are necessary to successfully complete the project. Extra scrutiny will be given to projects wherein secondary activities comprise a large portion of the budget. Preference will be given to projects occurring in systems prioritized in climate impact studies (see Objective 11).

- Objective 7: Estimate escapement of salmon populations utilized for subsistence
- Objective 8: Estimate abundance of juvenile salmon in populations utilized for subsistence
- Objective 9: Estimate harvest or other sources of mortality of salmon populations utilized for subsistence
- Objective 10: Investigate causes of declines of Chinook salmon populations utilized for subsistence

Habitat Resiliency

The intent of this objective is to enable AKSSF to be more strategic about project selection relative to recent and projected changes in climate and environmental conditions with a focus on identifying areas or systems that are expected to be more resilient to these changes. For example, a project could focus on identification of high-value habitats such as cold-water tributaries for conservation or restoration work. Although the objective language is not prescriptive in terms of methods or approaches, projects must provide a substantial and direct benefit for AKSSF project selection within two years of project completion.

Projects proposed under this category must ensure that all data products such as geospatial models are open access and publicly available. For projects that develop a regional or statewide framework, preference will be given to interdisciplinary approaches that incorporate individuals with expertise in salmon ecology, subsistence salmon fisheries, hydrology, population genetics, and climate science. Preference will be given to projects that are inclusive of salmon populations utilized for subsistence.

- Objective 11: Conduct climate impact assessments to guide the selection of future AKSSF projects.