

Wild/Hatchery Salmon Management Tools

FY2017 Request: \$5,950,000

Reference No: 54419

AP/AL: Appropriation
Category: Natural Resources

Project Type: Research / Studies / Planning

Location: Statewide

House District: Statewide (HD 1-40)

Impact House District: Statewide (HD 1-40)

Contact: Carol Petraborg

Estimated Project Dates: 06/30/2017 - 06/30/2024

Contact Phone: (907)465-6077

Brief Summary and Statement of Need:

Pacific Seafood Processors and Northern Southeast Regional Aquaculture Association Inc., committed funding to support the Wild/Hatchery Salmon Management Tools capital project continuing from FY2013. Additional statutory designated program receipt (SDPR) authority is needed in order to receive these funds. This capital project supports a long-term research project designed to support management decisions related to hatchery production. In order to continue economic benefits provided by large-scale hatchery production, the state must ensure wild salmon stocks are managed for sustained yield as required by statute.

| Funding: | <u>FY2017</u> | <u>FY2018</u> | <u>FY2019</u> | <u>FY2020</u> | <u>FY2021</u> | <u>FY2022</u> | <u>Total</u> |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| 1108 Stat | \$5,950,000 | | | | | | \$5,950,000 |
| Desig | | | | | | | |
| Total: | \$5,950,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$5,950,000 |

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|---|---|---------------------------------------|---|--|
| <input type="checkbox"/> State Match Required | <input type="checkbox"/> One-Time Project | <input type="checkbox"/> Phased - new | <input type="checkbox"/> Phased - underway | <input checked="" type="checkbox"/> On-Going |
| 0% = Minimum State Match % Required | | <input type="checkbox"/> Amendment | <input type="checkbox"/> Mental Health Bill | |

Operating & Maintenance Costs:

| | <u>Amount</u> | <u>Staff</u> |
|----------------------|---------------|--------------|
| Project Development: | 0 | 0 |
| Ongoing Operating: | 0 | 0 |
| One-Time Startup: | 0 | 0 |
| Totals: | 0 | 0 |

Prior Funding History / Additional Information:

Sec4 Ch18 SLA2014 P87 L23 SB 119 \$2,000,000
 Sec1 Ch16 SLA2013 P119 L12 SB 18 \$2,000,000
 Sec1 Ch17 SLA2012 P117 L14 HB160 \$3,500,000
 Sec1 Ch17 SLA2012 P117 L14 RPL 11-3-30338 \$500,000

Project Description/Justification:

This project provides the Department of Fish and Game, Division of Commercial Fisheries (CFD) with \$5,950,000 in statutory designated program receipts (SDPR) authority in order to receive funds from Pacific Seafood Processors Association (PSPA) and Northern Southeast Regional Aquaculture Association (NSRAA), Inc., over a seven year period for continued support of the Wild/Hatchery Salmon Management Tools program. The annual amount is \$850,000 for seven years. This capital project supports the continuation of a long-term research project designed to support management decisions related to hatchery production. The CFD and hatchery operators collectively have designed this program and have both worked to support funding. Private sector fish processors recognize the importance of hatchery and wild production to their business and while staying well-removed from design of the studies, have pledged to financially support this important research.

When the initial capital project was discussed with the Legislature during the 2012 session, the topic of seeking additional financial support from processors was also discussed. Since there was no firm commitment of funding at the time, no SDPR receipt authority was added to the \$3.5 million capital project appropriated in SLA 2012. In 2013 PSPA agreed to pay \$500,000 annually over a five year period. This authority was provided via RPL#11-3-0338 and a subsequent supplemental appropriation. In 2014, Douglas Island Pink and Chum (DIPAC) committed \$2,000,000 of funding to support the Wild/Hatchery Salmon Management Tools project.

This SDPR authority is directed at improving scientific understanding of the factors affecting productivity of both wild and hatchery salmon stocks, as well as improving knowledge about the interactions of wild and enhanced salmon populations. This work is important to the Division's core services to ensure the conservation of natural stocks of fish, shellfish and aquatic plants based on scientifically sound assessments. The majority of the authority will be used to support a couple large contracts. There is no impact on the general fund, and this project does not fund new positions. This authorization is necessary to complete the study in FY2024.

In May of 2011, Alaska hatchery operators and department representatives identified three top priority research questions: 1) what is the genetic stock composition of pink and chum salmon in PWS and SE; 2) how much straying is there of both wild and hatchery pink and chum stock and how much annual variation is there and; 3) what is the impact on fitness (productivity) due to straying?

The first 4 years have been completed for field studies focused on straying and work on genetic stock structure of pink salmon populations is preliminarily complete. Field work for Questions 1 and 2 has been completed and analyses are nearing completion. Therefore, the scope of work for the research project has narrowed to address the fitness question. Intensive sampling directed toward studies of relative reproductive success is ongoing and should be completed in 2023.

A finance committee has been formed with hatchery operators, a processor representative, the commissioner's office and aquaculture section in the department, and has focused attention on essentials with a pared down program primarily directed at the questions about fitness. This project is expected to end in 2023 (FY2024) with the conclusion of the fitness analysis of chum salmon in Southeast Alaska.

Wildlife Management, Research and Hunting Access**FY2017 Request: \$12,000,000****Reference No: 60594****AP/AL:** Appropriation**Project Type:** Research / Studies / Planning**Category:** Natural Resources**Location:** Statewide**House District:** Statewide (HD 1-40)**Impact House District:** Statewide (HD 1-40)**Contact:** Bruce Dale**Estimated Project Dates:** 06/30/2017 - 06/30/2021**Contact Phone:** (907)861-1201**Brief Summary and Statement of Need:**

This multi-year project designates significant short-term investments in the wildlife management infrastructure to use a dramatic increase in available federal Pittman Robertson Wildlife Restoration funding. The project enables the department to plan for targeted wildlife management, mapping, and hunter access improvements.

| Funding: | <u>FY2017</u> | <u>FY2018</u> | <u>FY2019</u> | <u>FY2020</u> | <u>FY2021</u> | <u>FY2022</u> | <u>Total</u> |
|-----------------|---------------------|---------------|---------------|---------------|---------------|---------------|---------------------|
| 1002 Fed Rcpts | \$9,000,000 | | | | | | \$9,000,000 |
| 1024 Fish/Game | \$3,000,000 | | | | | | \$3,000,000 |
| Total: | \$12,000,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$12,000,000 |

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|---|---|---------------------------------------|---|--|
| <input type="checkbox"/> State Match Required | <input type="checkbox"/> One-Time Project | <input type="checkbox"/> Phased - new | <input type="checkbox"/> Phased - underway | <input checked="" type="checkbox"/> On-Going |
| 0% = Minimum State Match % Required | | <input type="checkbox"/> Amendment | <input type="checkbox"/> Mental Health Bill | |

Operating & Maintenance Costs:

| | <u>Amount</u> | <u>Staff</u> |
|----------------------|---------------|--------------|
| Project Development: | 0 | 0 |
| Ongoing Operating: | 0 | 0 |
| One-Time Startup: | 0 | 0 |
| Totals: | 0 | 0 |

Prior Funding History / Additional Information:

Sec1 Ch38 SLA2015 P4 L30 SB 26 \$12,250,000
 Sec1 Ch18 SLA2014 P52 L25 SB 119 \$4,000,000
 Sec1 Ch5 SLA2011 P83 L7 SB 46 \$2,225,000
 Sec1 Ch5 SLA2011 P83 L20 SB 46 \$720,000
 Sec4 Ch30 SLA2007 P93 L8 SB 53 \$2,000,000
 Sec1 Ch82 SLA2006 P70 L29 SB 231 \$1,600,000

Project Description/Justification:

Due to increased gun and ammunition sales, the Federal Aid (Pittman Robertson-Wildlife Restoration) balance continues to remain high. The funding increases we are seeing continue to be unprecedented. The apportionment to Alaska for 2016 was \$28M and for 2015 it was \$33M. We have learned that for 2018, it is forecast to go up another 20% (approximately \$31M). As recently as 2013, the amount to Alaska was \$14M. Without this project, we will likely revert money back to the federal government as soon as FY2018. In addition, without the project, it will be more difficult to fulfill some of the commitments made to constituent groups during the HB137 process. It will also be difficult to explain to license buyers why they have to spend more for the same level of service. To spend the increased apportionment, \$12M (\$9M Federal, \$3M Fish & Game Fund) is required.

We continue to slowly increase our base program by incorporating Pittman Robertson and Fish & Game funds while attempting to understand the impact of this “bump.” Based on past experience we do anticipate these funds leveling off at a higher number. However, we are unsure where that higher level will be. In the meantime we have developed a plan based on use of the capital budget to expend these funds to prevent their reversion and fulfill commitments made to the constituent groups who successfully lobbied for additional hunting license fees.

Hunter Access – \$3 million: Limited access to hunting grounds results in crowding in accessible areas and has been identified as a constraint to new participation in hunting. Focused use of trails, including legal easements through native corporation lands, can also result in degraded fish and wildlife habitat. This project will construct new or improve existing hunter access across Alaska including land purchases and/or public access easements as necessary. We will partner with the Departments of Natural Resources (DNR) and Transportation and Public Facilities (DOTPF) and possibly other agencies and organizations to improve existing and establish new access on state and, where possible, federal and private lands. Projects will be identified using existing state priorities. A vetted list of future projects has not been developed. The projects being analyzed for suitability include parking and trail access improvements on the Denali and Dalton Highway corridors, Rex Trail improvements, Palmer Hay Flats State Game Refuge, Knik River Valley, Minto Flats State Game Refuge, upper Chena Dome Trailhead project, public use cabin repairs and improvements for hunting access and improvements on the N. Fork Fortymile – Big Delta Trail. Because Pittman-Robertson funds can be dedicated to trail and access improvements for hunting, these projects and others around the state have and will continue to provide an opportunity to use the currently available federal dollars to enhance public hunting access for Alaskans.

Examples of projects funded in the past that enhance hunter access include the following:

- Maclaren Summit Trail Extension - \$75,000
- Denali Highway Trailhead Kiosk - \$37,500
- Rex Trail Improvements - \$720,000
- Chena River Access Area Trailheads - \$1,436,300
- Lower Chatanika River Facility Improvements - \$600,000
- Moon Lake Recreation Site Facility Improvements - \$375,000
- Byers Creek Bridge Replacement - \$686,400
- Penguin Creek Bridge Replacement - \$283,100

Research and Management – \$3.5 million: Increasingly, federal agencies are completely dropping or reducing their contribution to baseline wildlife surveys across our state; instead redirecting their funds into landscape planning efforts. This is leaving significant gaps in our research efforts. This project would replace lost federal funding by allowing the State to fully fund these surveys. Target species include moose, caribou, wolves, bears, sheep, small game and waterfowl. A portion of this project will also fund startup of a wildlife genetics program as new developments in the genetics field show promise in the area of population delineation and assessment.

In the past, federal agencies have contributed to research and management projects applied to wildlife populations on federal lands, including work done Alaska Peninsula, Western Arctic, and Fortymile caribou herds, as well as moose populations in the Togiak, Yukon Delta, and Copper River drainages. Decreased funding from federal agencies has limited the department’s ability to assess

populations across the state and resulted in more conservative management and harvest opportunity. Currently, the state needs to develop new survey techniques for moose, sheep and bears. Traditional moose surveys techniques have been hampered by incomplete snow cover during key survey time periods (November and December). Without new techniques moose hunting opportunity will need to be managed more conservatively, and the state will have increasing difficulty preventing the loss of state management authority on federal lands, such as Unit 23, where a federal land closure is currently being considered. Similarly, bear populations have been difficult to assess despite increasing demand for bear hunting opportunity and pressure from outside entities suggesting that the State is too aggressive with its management of bears and wolves.

One technique that shows promise to better assess wildlife populations is Close-Kin mark recapture, which uses DNA techniques to identify individuals and familial relationships. This technique can be applied to any wildlife species and has been developed and recognized by the scientific community. However, funding is needed to collect samples and supply a laboratory capable of analyzing samples to evaluate its applicability to Alaska's wildlife populations.

Below is a list of a few of the highest priority areas that could be used for this project:

- \$300,000 for research to reverse declining moose harvests in Unit 23
- \$300,000 to develop harvest strategies for muskox in GMUs 18, 22, 23, 26
- \$500,000 to investigate Close-Kin Mark recapture - applicable to species statewide
- \$400,000 to study the effects of selective harvest on sheep
- \$40,000 to investigate disease risk on each sheep population
- \$500,000 to develop new moose survey techniques that perform with poor snow conditions
- \$300,000 to continue development of digital technology for caribou monitoring
- \$300,000 to develop techniques to mitigate predation from large carnivores while maintaining sustainability and other hunt objectives for carnivores
- \$200,000 to develop improved census techniques for deer to enable increased harvest through improved management strategies
- \$150,000 to optimize forest management practices to benefit deer harvest
- \$300,000 to evaluate optimum population size for expanding moose populations in GMU18

Data Management Improvements – \$1 million: This project will allow for improvements in Division data managements such as the WinfoNet. WinfoNet is a collection of applications, databases and tools Division staff utilize for data storage and management. The division began using WinfoNet in 2000 and while new development and maintenance occurs regularly many components need evaluation and upgrading. The project will allow for the focus on data management components that need to be brought up to date such as harvest tracking applications, harvest databases, and revamping the authorization and security model in WinfoNet. We will also start development of a data warehouse to allow for easier data reporting and tracking.

The majority of this funding would go towards designing and building an improved harvest tracking system. Currently we have a number of decades-old applications and databases that we continue to patch and update. While these systems accomplish a great deal, they also have fundamental challenges in their design. With this funding we would begin a review of our current harvest tracking systems and begin designing a modern and more adaptive system to meet our current management needs.

In addition, funds would be used to review and overhaul the security and authorization for WinfoNet. When WinfoNet was created the security model used was very precise and very detailed oriented. This level of precision and detail has made some administration tasks and necessary auditing near impossible. This funding would allow for a review and assessment on how to handle our security needs for WinfoNet.

Finally, funds will be used to begin building a data warehouse infrastructure. While WinfoNet currently has many applications and databases, the majority focus on getting harvest data entered and we still are challenged to get information out. A data warehouse would take databases or data sets from various sources and allow for analysis and queries across one or many sets of data. A data warehouse would allow for data correlation across harvest tracking data and some of our other data sets like collar telemetry data. It would enable biologist to do summaries, analysis, and queries that we are currently unable to do.

Erosion of State's Right to Manage – \$1.0 million: The relentless erosion of Alaska's right to manage its wildlife, lands, waters, and public access has reached new levels with recent additional federal rulemaking and adverse policies or executive orders. This project would help provide support for the Department of Law, ANILCA and Access Defense Program and other efforts to stem the tide of federal overreach into traditional state management authorities for wildlife, lands, and public use and access. The department may use this project, for example, to execute a contract with the Department of Law to support efforts to avoid litigation through negotiations or to enter into litigation when negotiations are not successful. It would support contractual agreements with nationally recognized experts in the complexities and the National Environmental Policy Act, American Administrative Act, Presidential Executive Orders and other relevant federal law and policy. Permanent seasonal staff with the Department of Fish and Game could have their work season extended to provide in-house research into understanding and documenting the effects of federal overreach to support efforts of both the Department of Law and Fish and Game. It would also support efforts to join *amicus* briefs with other states that are experiencing similar federal overreach in regards to the management of their lands, waters, wildlife and public access when the issues and subsequent decisions are applicable to Alaska.

Hunter and Trapper Recruitment, Retention, and Reactivation (R3) and Shooting Ranges – \$1.0 million: Participation in hunting has been steadily declining nationally since the 1980s. As revenue from hunters and shooters is the primary funding for wildlife conservation both nationally and in Alaska, the decline in participation poses an increasing threat to wildlife conservation. This project would help Alaska develop and implement a state-level R3 plan and also provide increased support for shooting sports facilities throughout Alaska. It will also enable us to conduct research with hunters and potential hunters to determine how to better deliver regulations in both written and digital formats and to determine whether regulatory complexity or delivery formats are barriers to participation in hunting.

Currently, there are a few projects and programs across the department that address some of the public's desire for classes and clinics on topics such as basic outdoor skills, hunting topics, and trapping techniques. For example, these include outdoor youth events, Becoming and Outdoors Woman (BOW) classes, sheep and moose judging clinics, and trapping clinics. A statewide R3 Program would increase opportunities for the department to enhance and re-engage current and former hunters and trappers, as well as provide information to others considering participation. A

complete R3 program with a plan includes evaluating what programs and practices move the needle on recruiting and retaining hunters. The Division of Wildlife Conservation is in the process of reviewing and rewriting the position description of an existing vacant PCN with the intention to expand and enhance the public's desire to get more information and training on hunting and trapping.

There is also increasing desire from the public for enhanced and additional shooting range opportunities across Alaska on both public and private ranges. Existing ranges have experienced significant increases in use and participation over the last several years. This project would allow the department to enhance existing facilities to provide more shooting access and opportunities and provide additional funding to support increasing requests from private ranges and organizations to enhance private range development and improvement. Funding for projects supporting private ranges that have been proposed in recent years have been from a few thousand dollars to tens of thousands. Furthermore, enhanced R3 activities and shooting range development and improvement would collectively provide the public with enhanced opportunities to develop and/or improve their skills to locate and secure natural wild food for their families providing for themselves and the communities where they live.

Advisory Committee (AC), Board-based Regulatory Processes and Regulatory Delivery Enhancement – \$0.5 million: Alaska enjoys an open, public driven process to regulate the state's fish and game resources. The foundation of this process includes more than 80 citizen local Advisory Committees, many of which are located in rural Alaska. As wildlife management becomes increasingly complex, ACs need additional resources to respond to that complexity. This project will help ensure that ACs can meet frequently to effectively participate in the board regulatory process and could allow some ACs to meet together to tackle issues of regional importance. In addition, the project will be used to analyze and update the delivery of hunting regulations to the public, including expanding to additional formats including mobile applications.

There are currently 84 local ACs around the state established in regulation by the Joint Board of Fisheries and Game (Joint Board), with approximately 800 members. The ACs play an important role by providing local information and recommendations to the boards of Fisheries and Game. The ACs are supported by the Alaska Department of Fish and Game (ADF&G) Boards Support Section for meeting coordination and funding, and other ADF&G divisions whose staff regularly attend meetings and provide information on fish and game management issues.

The AC members are dedicated and contribute many hours of voluntary service to the fish and game regulatory process. The ACs deal with managing heavy workloads to address both Alaska Board of Game (BOG) and Alaska Board of Fisheries (BOF) issues, as well as federal fisheries issues and the federal subsistence program.

For those ACs that are active (nearly 75), there is a wide range of meeting frequency and participation during board meeting cycles. ACs along the road system and urban ACs are able to meet more frequently. The urban committees meet as often as eight or nine times per board meeting cycle, while road-system committees tend to meet as needed. Rural committees generally have one to two meetings because of the high costs associated with their meetings. Budget constraints limit many rural AC meetings to a single face to face meeting per year, and one or two teleconferenced meetings. The expenses projected for AC meetings in FY2017 is estimated at approximately \$110,000. In prior fiscal years when more funding was available, the total spending AC meetings was as high as \$200,000 and allowed for up to two face to face meetings for each AC with travel costs.

Rural ACs have as many as 13 designated community seats, for which the travel costs associated with the meetings are significant and coordination is challenging. The travel cost associated with some rural AC meetings can be as high as \$15,000 for a single meeting. Because these committees are limited to one or two meetings, they often have long agendas; one meeting can last as long as one or two days in order for committees to address a large number of issues. Oftentimes meetings are cancelled or postponed due to poor weather conditions, failure to make a quorum, or other unexpected events. Rural ACs tend to meet via teleconference when needed, but for many, it is not an efficient way of conducting committee business. Of the 84 ACs in the state, 35 are rural ACs having travel costs associated with their meetings; this does not include single community ACs. Wildlife regulatory issues in rural Alaska are getting more complex, not less, and those ACs would benefit from an opportunity more in line with the ability of urban ACs to be involved in solving complex management challenges.

Habitat Enhancement projects – \$2.0 million: This project would fund additional acres of projects to improve habitat quality for moose populations by increasing quality and quantity of forage, especially during winter. In many areas across the state, habitat can be improved through mechanical means and fire management to stimulate new growth of hardwood species preferred by moose. In some places such as the Kenai Peninsula, moose populations have declined because available forage has grown out of reach. By treating the southern portion of the peninsula, where grass has outcompeted hardwoods and shrubs, birch regeneration can be encouraged. A recent project in Sterling cost \$1,500 per acre to create a 120-acre fuel break that doubles as habitat when the hardwoods begin growing again. In places like the Matanuska Valley Moose Range, the land has not had recent fire or silvicultural activity to stimulate hardwood regeneration. With a planned prescribed fire regime, aspen regeneration can be managed over this landscape to maintain variable aged stands that benefit moose over decades, along with grouse. A 314-acre fire in the Moose Range is planned for 2017 that is estimated to cost \$270 per acre. Where prescribed fire is planned in uninhabited areas, much greater acreages can be treated in a cost effective manner. The 52,000-acre Alphabet Hills fire will demonstrate this concept in 2018 where an aerial platform will be used to ignite the burn with an anticipated price tag of less than \$200,000. By expanding the use of fire and coordinating further with DNR in Delta, Tok and near the Alphabet Hills, late successional vegetation types can be burned to stimulate hardwoods. In these cases, a potential decline in the moose population can be staved off by forest and fire management. Through coordination with our state and federal partners, new and existing projects can expand to improve the quality and quantity of moose forage in all seasons. Communities benefit from this type of management where forest ‘fuels’ are reduced to limit the impact of wildland fire. Hardwood management near homes and neighborhoods limits fire’s intensity to allow fire fighters time for suppression.