*Exxon Valdez* Oil Spill
Restoration Project Annual Report

# Kametolook River Coho Salmon Subsistence Project

Restoration Project 00247
Annual Report

This annual report has been prepared for peer review as part of the *Exxon Valdez* Oil Spill Trustee Council restoration program for the purpose of assessing project process. Peer review comments have not been addressed in this annual report.

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**Study History:** The legislature of the State of Alaska awarded the Department of Community and Regional Affairs (DCRA) $5 million to fund restoration projects requested by villages in the area impacted by the *Exxon Valdez* oil spill. Perryville's top priority was restoration of the Kametolook River coho salmon run because of its importance to their subsistence way of life. The project began in 1996 with DCRA funding which was used to evaluate restoration alternatives. The *Exxon Valdez* Oil Spill Trustee Council funded the second through sixth years of the project (Federal Fiscal Years 1997 through 2001). National Environmental Policy Act (NEPA) compliance was obtained on May 30, 1997.

**Abstract:** Subsistence users from the remote Alaska Peninsula Native Village of Perryville had noted significant declines in the coho salmon run in the nearby Kametolook River since the 1989 *Exxon Valdez* oil spill (EVOS). The Trustee Council began funding a project in Federal Fiscal Year 1997 with the intent of restoring this coho salmon run. Annually, since November 1997, coho salmon eggs have been placed in two Kametolook River instream incubation boxes. The current escapement is partially attributed to self-imposed in-river harvest restrictions by the villagers and commercial fishing restrictions in marine waters. Community involvement and use of local traditional ecological knowledge by the villagers of Perryville is also an integral part of restoring Kametolook River coho salmon as a subsistence resource. In 1999, The Perryville Subsistence Workgroup formed to address the subsistence needs of Perryville residents. Pending sufficient funding in 2001, this group intends to supplement the project by collecting additional coho salmon eggs from other nearby systems and transferring them to the Kametolook River where they will be incubated in this projects egg boxes (if ADF&G permits allow). All facets of this project should provide sufficient escapement within two coho life cycles for subsistence and spawning requirements.

**Key Words:** Alaska Department of Fish and Game, Alaska Peninsula, Chignik Regional Aquaculture Association, coho salmon, community involvement, environmental assessment, *Exxon Valdez* oil spill, holding pens, instream incubation boxes, Kametolook River, Perryville, Perryville Subsistence Workgroup, school aquarium, subsistence, traditional ecological knowledge.

**Project Data:** Kametolook River coho age-class data as well as genetic and pathological samples have been obtained. Thermograph data have also been collected. For further information not provided in this report regarding data contact Jim McCullough, ADF&G, 211 Mission Road, Kodiak, Alaska. 99518. Phone: (907) 486-1813. E-mail: "jim_mccullough@fishgame.state.ak.us"; or Lisa Scarbrough, ADF&G, 333 Raspberry Road, Anchorage, Alaska. 99518. Phone (907) 243-4975. E-mail: "lisa_scarbrough@fishgame.state.ak.us".

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## EXECUTIVE SUMMARY

Subsistence users from the remote South Alaska Peninsula Native Village of Perryville have noted declines in the coho salmon (*Oncorhynchus kisutch*) run in the nearby Kametolook River since the *Exxon Valdez* oil spill (EVOS). The Trustee Council began funding this project in Federal Fiscal Year 1997 with the intent of restoring the coho salmon run to historic levels. This project is a continuation of an evaluative phase of the project funded through the EVOS criminal settlement (Grant Agreement Number 2168588). Although limnological, juvenile and adult fisheries data were not available or severely limited before the salmon decline, it was determined through the evaluation phase that instream incubation boxes in conjunction with self imposed harvest limits by subsistence users were the preferred alternatives for restoration of this salmon run. In 1997, the Alaska Department of Fish and Game, Habitat and Restoration Division, aided the project by providing an Environmental Assessment (EA). In May of 1997, a Finding of No Significant Impact (FONSI) was signed for National Environmental Policy Act (NEPA) compliance.

Community involvement and use of traditional and ecological knowledge from the villagers of Perryville is an integral part of restoring the Kametolook River coho as a subsistence resource. Presently, no regulations prohibit subsistence fishing in the Kametolook River; however, starting in 1997 the Perryville Village Council voluntarily closed the upper half of the Kametolook River to subsistence salmon fishing in order to not interfere with spawning. In addition, the Perryville Village Council has hired local assistants who helped ADF&G with identifying critical habitat areas for spawning and historic run timing and escapement information. They also received training to assist ADF&G with other fieldwork including: genetic and pathological sampling, incubation box installation, egg takes and incubation techniques, and year-round monitoring of the environment. Also, an aquarium has been set up in the village school where students actively participate in incubating coho salmon from egg to fry stage and releasing the fry into the Kametolook River. In May 1997, 1998, and 1999 about 125 - 400 fry annually were produced from the school aquarium project and released into the Kametolook River. Fertilized eggs were also put into the aquarium in the fall of 1999 and 2000; however, a fungus killed the eggs in 1999, and a crack to the aquarium and subsequent water loss killed them in 2000.

In the fall of 1997, two production type instream incubation boxes were installed in the upper reach of the Kametolook River. These boxes replaced a small test incubation box that had successfully incubated eggs in 1996. In 1997, the Kametolook River coho escapement was an estimated 724 salmon; nearly four times the estimated escapement during 1996. The increased escapement from 1996 is partially attributed to the self-imposed closure of the upper river by the villagers and a commercial fishing closure in marine waters during nearly the entire coho salmon run. In November 1997 only two fully ripe female coho salmon and five partially spent female coho salmon were caught. Eggs from these seven salmon were fertilized and placed into the egg incubation boxes.

More salmon were desired, but there were difficulties capturing ripe coho salmon, most were green or spent. As a result of not having sufficient parents represented in the egg take (genetic diversity), the permit only allowed surviving fry to be released in two landlocked lakes near Perryville, Sandy and Sicken Lakes. From April 29 through May 18, an estimated 1,600 fry were removed from the instream incubation boxes and released into the lakes.

In October and November of 1998, adult salmon holding pens were installed and used to make the recovery of ripe salmon more efficient. This improved the egg harvest and fry production. In the fall of 1998, 7 males were used to fertilize 11 females and the fertilized eggs were placed into the Kametolook River incubation boxes. Approximately 25,000 fry were produced and released into the Kametolook River in May 1999.

The net holding pens were also used in 1999 and 2000. In November 1999, the eggs from 6 ripe female coho salmon were fertilized with the milt from 6 male coho and placed in the egg incubation boxes, resulting in approximately 13,500 fry in the spring of 2000. In the spring of 2001, it is estimated that only 4,500 fry were produced from the egg boxes. This is a result of only 2 female and 7 male coho salmon being available for the November 2000 egg take.

Because of the success of using the holding pens to increase the egg harvest, they will continue to be used in subsequent years of the project to aid in ripening the adult salmon for the egg harvest. Fry produced in future years will continue to be released into the Kametolook River, if sufficient spawning parents can be harvested to comply with the Fish Transport Permit genetic requirements. Survivors should return as adults two and three years after they are released as fry into the Kametolook River.

Prior to the start of the project, there was little escapement data available for the Kametolook River, so the initial escapement projections for the Kametolook River during 1998-2000 were mostly based on household surveys, key respondent interviews with Perryville subsistence users and subsistence salmon permit reports in 1996 and 1997. Escapements large enough to fill the incubation boxes to their designated capacity did not materialize and the initial restoration time frame estimate was low. The current escapement in the Kametolook River is so small that some type of supplemental egg source will likely be needed to restore this run within the two life cycles initially visualized. In the fall of 2001, if additional supplemental funding can be obtained from this project and other sources, the Perryville Subsistence Workgroup (a sub-group of the Chignik Regional Planning Team and the Aquaculture Association) plans to have the ADF&G conduct disease sampling in neighboring coho systems in hopes of being able to supplement the egg box project with another acceptable brood stock.

## INTRODUCTION

This report summarizes the EVOS Kametolook River Coho Salmon Subsistence Restoration Project from October 1, 1999 through August 31, 2001 (project numbers 00247 and 01247). This project originated in May 1996 through funding from the Exxon Valdez Oil Spill (EVOS) criminal settlement. Beginning in October 1997, the EVOS Trustee Council took over funding of the project and thereafter has funded the project annually. Please refer to annual reports 97247, 98247 and 99247 for more specific information about the project during previous years.

The remote Native village of Perryville is located approximately 500 air miles southwest of Anchorage on the Pacific side of the Alaska Peninsula (Figure 1). The Kametolook River is located four miles northeast of Perryville, and is easily accessible from the community via ATV, foot, or boat (Figure 2).

Coho salmon from the Kametolook River have long been a major subsistence food source for the people of Perryville (Fall et al 1995, Hutchinson-Scarbrough and Fall 1996; Morris 1987; Owen et al 1997, 1998 and Pappas et al. 1998-2001). This stock of coho salmon has been in decline for a number of years. Although baseline data are not available to document fish and wildlife population changes in the Perryville area, many of local villagers have attributed declining Kametolook coho salmon runs and other declining subsistence resource populations to the EVOS. This subsistence project is designed to restore coho salmon subsistence opportunities in the Alaska Peninsula village of Perryville.

It was determined through the evaluation phase that instream incubation boxes in conjunction with self imposed harvest limits by subsistence users were the preferred alternative for restoration of this salmon run (ADF&G 1997). Annually in the fall, ADF&G staff and Perryville assistants capture adult coho salmon, and harvest and add fertilized eggs to the egg incubation boxes on the Kametolook River. (Figure 3).

In addition, in 1997- 2001 commercial salmon fisheries in the Western and Perryville Districts of Chignik have been closed annually on about 20 August in an attempt to rebuild this coho salmon stock (Owen et al 1998; Pappas et al 1999-2001).

Necessary permits (fish transport permits and general habitat/ waterway permit) have been acquired for this project that are valid through 2003. As in previous years of the project, samples of adult coho salmon were collected at the time of the egg harvest in 1999 by ADF&G and Perryville personal, for disease and genetic screening. The ADF&G pathology lab evaluated the kidney and ovarian samples and USF&WS lab is currently storing the genetic samples for future analysis.

As in the past years of the project, community involvement and use of traditional and ecological knowledge from the villagers of Perryville continued in 1999 and 2000 to be an integral part of restoring the Kametolook River coho salmon stock as a subsistence resource. Local assistants hired by the Perryville Village Council continued to provide much of the data on habitat monitoring and site labor for the project. The earlier years of the project focused more on

training local individuals to assist ADF&G staff with the project. In 1999 and 2000, these individuals, now trained, did much of the project work themselves and therefore reduced the time needed in the field by the ADF&G personnel to work on the project.

The Perryville Village Council continued in 1999 and 2000 the practice of closing the upper reaches of the Kametolook River to coho salmon fishing in hopes of helping to speed the recovery of the river's coho runs. Subsistence harvest reports in 1999 and 2000 report virtually no salmon fishing at all on the Kametolook River, which demonstrates the Perryville community's effort to do their part to help restore the runs of the Kametolook River (Pappas et al 1999-2001).

The Perryville school coho salmon aquarium project continued to be in operation in 1999/2000 and 2000/2001. Starting in 1997 and every spring since then, approximately 400 fry were incubated from coho salmon eggs in the school aquarium and released into the Kametolook River. Eggs were again added to the school aquarium in the fall of 1999 and 2000. During the winter of 1999/ 2000, the eggs died due to a fungus in the tank. Eggs added in 2000 also died during the winter due to the tank cracking and subsequent water leakage.

The Perryville Subsistence Salmon Workgroup (PSW) that was formed March 19 as requested by the Alaska Board of Fisheries in January 1999, after a resident of Perryville reported on shortages of subsistence salmon, and especially coho salmon in his community. The workgroup consists of representatives of the village of Perryville (subsistence users), Chignik commercial fisherman (including the Chignik Regional Aquaculture Association (CRAA) and Alaska Department of Fish and Game (ADF&G) (staff as advisors) to identify the issues related to Perryville subsistence salmon and develop and implement solutions. In March 2001, PSW met again as part of the CRAA bi-annual meeting in Anchorage. A progress report was given; objectives were reevaluated and additional goals were defined (PSW 2001).

## OBJECTIVES

The primary objectives of the project continue as in past project years: to increase the coho salmon runs to the Kametolook River and provide local subsistence salmon opportunities; and to include the people of Perryville through involvement in the project and education.

More specifically and as also primarily done in previous project years, the objectives for 1999 and 2000 were to:

1) Conduct stream and habitat surveys in the fall of the Kametolook River to determine escapement levels.
2) Collect adult coho salmon and keep them in holding pens (separating females and males) in the Kametolook River until they are ripe.
3) Remove ripe coho from holding pens and remove eggs and fertilized them with milt from ripe male coho.
4) Place most of fertilized eggs into the Kametolook River incubation boxes.

5) Transport the remaining fertilized eggs (250-500) to the Perryville school aquarium (Fish Resource Permits are obtained by the school annually) (Appendix A).
6) Collect genetic and pathological samples from adult coho used for the egg harvest and have them evaluated at the ADF&G and the USF&WS laboratories for pathological and genetics testing.
7) Surviving fry from egg boxes will, on their own, be released into the Kametolook River in the spring of each year.
8) School aquarium fry will be released into the Kametolook River by high school students and their science teacher in the spring of each year.
9) Continue with the Perryville community and student involvement and education component of the project through local participation and increasing their responsibility with assisting the ADF&G with accomplishing objectives of the project.
10) Continue with voluntary closure of the Kametolook River to coho salmon fishing.
11) Continue with the closure of commercial fishing for coho salmon on about August 20 in the Chignik commercial salmon fishing districts near Perryville.
12) Continue to have the Chignik Regional Aquaculture Association provide commercially caught coho salmon for the community of Perryville to supplement lost use of the Kametolook River coho salmon.
13) Facilitate the Perryville Subsistence Workgroup to help ensure the group's objectives to assist Perryville with their subsistence salmon needs are met.

## METHODS

Cooperative agreements were drawn up annually each fall for the Native Village of Perryville who are partners with ADF&G on the project (Appendices H, I). As in previous project years, in the fall of 1999 and 2000, weekly stream surveys were conducted by local assistant Jerry Yagie (Jerry) and other Perryville residents, and provide written and verbal reports to the ADF&G personal Jim McCullough and Lisa Scarbrough (Appendices O, P). When coho salmon started to appear in the upper reaches of the Kametolook River (late October or early November), Jim traveled to Perryville and conducted additional stream surveys with Jerry. They along with the help of several other local residents, they used small mesh gill nets to capture adult coho salmon in the portion of the Kametolook River where spawning/ ripening occurs. These salmon were quickly separated by gender and placed into holding pens in the Kametolook River until ripe for harvesting (genetic integrity of the Kametolook River coho salmon is assured under the guidance of ADF&G's Principal Geneticist and identified on the appropriate obtained permits). During this time, Jim and Jerry cleaned the two large production egg boxes and prepared them for the egg installation approximately 2 weeks later. In 1997, the egg incubation boxes were installed near a spring approximately 8 miles upstream from the mouth of the Kametolook River.

Jim returned to Perryville approximately 2 weeks later (mid November) when Jerry thought salmon were ripe and ready for harvest. Together, and assisted by other local residents, they harvested the coho eggs and fertilized them with milt and placed then into the egg boxes. A small quantity of fertilized eggs was also transported to the Perryville school aquarium. Kidney, ovarian (for pathological testing), and fin (for genetic testing) samples continued to be collected

from coho used for the harvest and given to the ADF&G and the US Fish and Wildlife Service for pathological and genetic analysis. (Appendices B-F).

Jerry monitored the egg boxes throughout the winter and spring and provided reports to Jim. Fry from these boxes were produced in 1999/2000 and 2000/2001 from the fall egg harvests and they were naturally released into the Kametolook River in the spring/ early summer of the following years.

The Trustee Council's goal of achieving community involvement and traditional and ecological knowledge in the restoration process continued to be addressed in 2000 and 2001. Through project funds, the Perryville Village Council continued to be responsible for hiring and paying local project assistants, and provided necessary logistical support for the project's operation. In addition to providing labor to the project, the community continued to contribute much to the project. Some of their contributions include: their providing subsistence salmon harvest numbers and locations over time; input from personal observations and identification of physical changes over time to the Kametolook River and the surrounding environment; historic to contemporary salmon run timing and historic escapement estimates; helping the ADF&G identify spawning and rearing areas, and identifying potential characteristics of the river, such as where winter freeze over or spring and fall flooding might occur.

Several residents of Perryville have continued to work with the ADF&G with the project. In addition, since the start of the project, Jerry Yagie has monitored the project throughout each the year and provided reports to Jim (ADF&G). Over the years of the project through hands-on involvement, Jerry and others in 1999/2000 and 2000/ 2001 took on much of the responsibility of the project fieldwork with little guidance from the ADF&G.

Perryville residents continued to be informed about the project during village meetings or individual discussions with the ADF&G personnel while in Perryville conducting the project work. The Perryville Village Council has continued to exercise their own initiative to speed up the recovery of the Kametolook coho runs by starting in 1997 and continuing through 2001 by voluntarily prohibiting the upper half of the Kametolook River to subsistence salmon fishing. (Appendix G).

The project has also continued to provide the children of Perryville with opportunities to learn, understand, and appreciate the complexities of the growth cycle of salmon through the use of a classroom aquarium that is rearing coho salmon from egg to the swim-up fry stage. In addition, when allowed by the teachers and parents, older school children have accompanied the ADF&G personnel to the Kametolook River and nearby lakes to assist with minnow trapping and biological and habitat sampling. This portion of the project has been in operation since the start of the project in 1997.

In March 2001, the Perryville Subsistence Workgroup met in Anchorage and after ADF&G staff reports on the project, they concluded that the egg boxes alone were not sufficiently restoring the coho salmon runs on the Kametolook River. They identified the objective to secure additional funding in order to: 1) Identify disease free coho stocks from three neighboring coho salmon

systems (year 2001/2002). 2) Relocate disease free and genetically similar coho eggs or fry from these alternate brood sources to the Kametolook River run (years 2002/2003). 3) Continue with the egg boxes and using Kametolook stock. 4) Continue with the approximately August 20th closure of commercial fishing of the Perryville and Western Districts. 5) Continue with Perryville Village Council's prohibition of instream coho fishing and better enforcement to insure escapement protection.

## RESULTS

### Project 00247 (October 1, 1999 – September 30, 2000

*September-October 1999:*
Local Assistant, Jerry Yagie, conducted numerous stream surveys, and counted coho in upper reaches of Kametolook River. Jerry reported escapement information to the ADF&G's Jim McCullough.

Lisa Scarbrough prepared cooperative agreement between ADF&G and Native Village of Perryville for their assistance with the project (Appendix H).

*October 25, 1999*
Jim McCullough, Lisa Scarbrough and Jim Fall (ADF&G Subsistence Division) participated in a teleconference with ADF&G and the Perryville Subsistence Workgroup. The Kametolook Coho Restoration project was included in the discussion.

*October 28, 1999:*
Jim Fall attended the Alaska State Board of Fisheries meeting in Fairbanks and gave a status report of the Perryville Subsistence workgroup including the Kametolook project.

*November 1-5, 1999:*
Jim McCullough traveled to Perryville and was assisted by Jerry Yagie and Michael Shangin. Together they surveyed Kametolook River's salmon escapement and set up the holding pens for ripening adult coho salmon in the Kametolook River on November 2. On November 3 they along with Bruce Phillips returned to the river and captured 6 females and 13 male coho salmon, separated them by gender and placed them into the holding pens. The salmon would be kept there approximately 2 weeks until they are ripe and ready for the egg harvest. Jim and Jerry cleaned and prepared the egg boxes for the upcoming egg harvest and housing. Jim also cleaned and prepared the coho salmon school aquarium to receive its fertilized eggs when available. Jim then met individually with several people about the on-going coho salmon subsistence fishery. Jim learned that other area coho streams provided good coho salmon subsistence harvests: Anchor Bay and Ivan Rivers, while Sleepy Hollow (Ivanof Bay) and Humpback Bay were fairly slow. (Appendix J).

*November 6- 14, 1999:*
Jerry Yagie and Daniel Shangin monitored captured coho for ripening and on November 9, they captured 3 additional female and 7 male coho salmon and these were added to the holding pens.

*November 10, 1999:*
Jim McCullough presented a paper on the Kametolook project at the annual Alaska meeting of the American Fisheries Society in Kodiak.

*November 15-18, 1999:*
Jim McCullough returned to Perryville for the egg harvest. Jim was assisted by local residents; Jerry Yagie, Austin Shangin, and five junior and senior high school students: Boris Kosbruk Jr., Alec Phillips, Harry Kosbruk Jr., Ryan O'Domin and Jonathan Kosbruk. Together they collected eggs and milt from the coho salmon that had been placed in the holding pens. They also collected kidney, ovarian, and genetic samples. Standard delayed fertilization techniques were used and the fertilized eggs were placed in the incubation boxes. About 400 eggs from a single female and milt from two males were held back and placed into the school aquarium. They also winterized the holding pens and other equipment not needed for the winter. (Appendix J).

*November 19, 1999*
Jim dropped off kidney and ovarian samples at the ADF&G lab and genetic samples at the US Fish and Wildlife lab in Anchorage.

*November 1999 through May 2000:*
Jerry Yagie, Bruce Phillips, checked on the eggs December 21 and noted eggs appeared healthy with about 20 dead. From January through May, Jerry, Harry W. Kosbruk and David E. Phillips took monthly trips to the incubation boxes, checking on progress (whenever snow conditions allowed). Slime had accumulated on box number 1, and they cleaned it as much as possible on April 7 and again on May 19. On May 19, they noted that the eggs hatched fry below the saddles.

*January 19, 2000:*
Jim McCullough presented a paper at the Annual EVOS Restoration Workshop in Anchorage and summarized the Kametolook project.

*April 2000:*
Jim McCullough and Lisa Scarbrough (PI's) met and discussed the progress of the project and identified measurable tasks for FFY-2001. Lisa prepared a project proposal for continued funding of the project in FFY 2001.

*May- June 2000:*
Eggs and fry in school aquarium died due to a fungus. June 2, Jerry and Raymond Shangin checked fry in boxes and noted they were still there. They mended project gillnet. On June 26, they checked boxes and noted all surviving fry had left the boxes. Jim McCullough provided a project status report to the Chignik RPT and CRAA in Chignik. Also the Perryville Subsistence Workgroup issues were also briefly discussed during this meeting with a meeting planned for the following winter.

*September 2000:*
Jerry, Austin Shangin, and Tom O'Domin made 6 separate trips up Kametolook River to conduct stream surveys for coho, cleaned egg boxes and saddles, moved intake box and egg box #1 to new location that would receive better water circulation (the previous year it continued to fill with algae).

**Project 01247 (October 1, 2000 – September 30, 2001**

*October 2000:*
Local assistant, Jerry Yagie Thomas O'Domin and Austin Shangin conducted stream surveys, counting coho in upper reaches of Kametolook River, and reported information to the ADF&G's Jim McCullough. They made minor repairs to the intake boxes.

Lisa Scarbrough prepared cooperative agreement between Perryville and ADF&G for their work on the project (Appendix I).

*November 1-5, 2000:*
Jim McCullough traveled to Perryville (Appendix K) and assisted by local residents Jerry Yagie, Bruce Phillips and Andrew Shangin surveyed Kametolook River's salmon escapement, set up net holding pens, captured and placed 4 female and 8 male adult coho salmon into holding pens. Jim also cleaned and set up the coho salmon school aquarium, and met with a few households concerning their subsistence harvest efforts. Jim learned that in 1999, most of the Long Beach River water cut a new channel and flowed into the Kametolook River. The additional water was glacial and likely caused poor juvenile fish rearing conditions in the Kametolook River. In the spring of 2000 another flood caused most of this water to return to the Long Beach River. Several sloughs in the Kametolook River drainage that had been excellent rearing for juvenile coho salmon changed, some areas filled in with sand and new channels were cut. The recent changes probably improved the overall spawning and rearing conditions in the Kametolook River but the drastic changes from year to year are causing difficult spawning and rearing conditions. Nearby systems (Ivan, Anchor, Smokey Hollow, Ivanof and Humpback Bay) were reported by residents in 2000 to be generally good for pink and coho salmon; however, getting to these streams was at times difficult due to high surf (and inclement weather).

*November 6-12, 2000:*
Jerry Yagie and Andy Shangin attempted but was unsuccessful in finding any additional brood stock (in addition to the 12 previously captured) in the Kametolook River for the incubation boxes.

*November 13-18, 2000:*
Jim returned to Perryville (Appendix L) and on the 16$^{th}$, Jim, Jerry, and Austin Shangin collected eggs from two ripe coho and milt from 7 male coho. One female and one male were still green and released to spawn naturally in the river and one female had died in the holding pen. Standard delayed fertilization techniques were used and the fertilized eggs were placed in the incubation boxes. About 200 eggs from each female and part of the milt from three males were held back and used to fertilize the eggs for the school aquarium. Additional ripe salmon were not

found and no biological samples were collected due to few salmon available for sampling and kidney sample requirements were satisfied in 1999. The temperature loggers used to monitor the incubation boxes water temperature and the other loggers used to monitor other habitats were reported on (McCullough 2000, McCullough 2001). Jim instructed the head schoolteacher, Mike Looney, about caring for the school aquarium and the fertilized eggs.

*December 2000 - April 2001:*
Jerry Yagie and Andy Shangin make monthly trips to incubation boxes to inspect condition of boxes and eggs. They had to scrub the intake boxes each trip due to algae deposits. On The ADF&G staff analyzed commercial and subsistence harvest data from Perryville.

*March 12-14, 2001:*
Jim McCullough met with Chignik Regional Aquaculture Association (CRAA) and Perryville Subsistence Workgroup (PSW) in Anchorage to discuss project and other potential restoration techniques. On March 13, 2001 the PSW, the CRAA and the ADF&G staff met concerning the Perryville's Kametolook River coho run. The following consensus points between CRAA and PSW were reached at this meeting (Appendix M): (Note: ADF&G acted as staff and although consensus might have been reached between CRAA and PSW on topics such as the need for a South Peninsula closure on about 20 August, this was not something ADF&G could agree to at the meeting, in part because of allocative issues.)

- The Kametolook River coho run is highly important to Perryville village, culturally and subsistence wise;
- The EVOS project has provided excellent educational benefits to the village, and the field egg-incubation operation/technology is well suited to the Kametolook River habitat.
- The ~August 20$^{th}$ closure of the Perryville and Western Districts is reasonable but an absence of a similar closure in the Southeastern District of Area M fishery; timing is inconsistent;
- Chignik commercial fishers should continue with late season coho deliveries to the village;
- The village council's prohibition of instream coho fishing must be better enforced to insure escapement protection and;
- Current restoration efforts (EVOS project) must be augmented as annual coho escapements are at less than threshold level, and the run may well be genetically bottlenecked.

*March 30, 2001*:
CRAA filed two permit applications with ADF&G for an alternate egg supply (brood) source for the Kametolook River coho egg-incubation project and for relocating fry to the system (Appendix N). Shortly thereafter, ADF&G Juneau headquarters informed them that these permits would be processed only after a disease-free brood stock is identified. A Fish Resource Permit Application was submitted March 23, 2001, proposing disease testing three neighboring coho systems as alternative brood sources for the Kametolook River run (Appendix N). Jim

McCullough prepared an estimated budget for disease testing of neighboring coho systems, amounting to approximately $37,000.

*April 2001:*
On April 4, a teleconference occurred between the CRAA consultant and the ADF&G pathology, genetics, and fish transport permit staff on restoration techniques and requirements for obtaining coho eggs or fry from other river systems and transporting them to Kametolook River, and possible resources to fund the field sampling costs.

Lisa Scarbrough prepared the project proposal and budget request to the Exxon Valdez Trustee Council for additional project funding for FFY 2002. An extension was granted to August 15, for the completion of annual report 00237.

*May 2001:*
Jerry Yagie traveled to the egg boxes and cleaned the water intake boxes, and drilled new holes in them to improve water flow. Surviving fry were still present in the boxes, but a count was not done. The school aquarium cracked and the water leaked out killing the fry it produced.

*June 2001:*
Jerry and Alec Phillips Sr. traveled to egg boxes and noted that all surviving the fry had left the boxes for the Kametolook River. They cleaned the boxes, saddles and egg separators.

*Project Goals Remaining for FY-2001 and FY-2002:*

The Chignik Aquaculture Association intends to make a few deliveries of coho salmon to Perryville (August/ September) to supplement lost of subsistence coho salmon generally obtained from Kametolook River (village continues to impose a voluntary closure of salmon fishing on Kametolook River). Perryville subsistence salmon harvest data will be obtained and evaluated by ADF&G staff.

Project 02247 (October 1, 2001- September 30, 2002) will be the final year of the project funded by the EVOS Trustee Council. During this year, the egg box project will continue as it has in the past. A replacement for the cracked school aquarium will be purchased and shipped to the Perryville school prior to the season's fall egg take. In addition, if sufficient funding can be obtained from other sources to cover the field costs of the disease sampling efforts in the fall of 2001, it is our intent to combine the egg box project with the search for another acceptable brood stock where it is possible.

## DISCUSSION AND SUMMARY

*Egg Incubation Box:*

On about April 5, 1997, local Perryville assistant, Gerald Kosbruk closed the test incubation project for brood year 1996 progeny. All live alevins (348 fish) were preserved and sent into Kodiak. From this incubation test no eggs or fish were released. All were sacrificed. From yolk

Kodiak. From this incubation test no eggs or fish were released. All were sacrificed. From yolk sac observations, it is believed that had they lived, they would have developed into swimup fry in another two to three weeks and voluntarily released about 21-30 April. The team felt that the test project was successful in that it would have produced viable alevins. Mortality of eggs in this test was high, and the team would expect lower mortality in a production phase where the eggs were not confined to prevent a fry release. By confining the eggs the water flow was restricted and materials used in confining the eggs, galvanized iron, likely contributed to the high mortality.

In November 1997, two large instream incubation boxes were installed in the upper Kametolook River. When Jim McCullough was on site, he and village assistants attempted several egg takes. Only two ripe female coho salmon were caught. Ten subsequent trips made by local Perryville assistants at different stream locations and involving several sets per day were also generally unsuccessful; only 5 additional partially spent females were captured. Their eggs were fertilized and added to the incubation boxes (Appendix DD). The problem was not in catching fish, but in catching ripe ones. Samples were taken for pathology and genetic testing from all coho salmon harvested for the project (Appendix M). They reinstalled and deployed thermographs at designated sites (McCullough 1999; Figures 4-6). In the spring of 1998, the boxes were checked and approximately 1,600 fry were recovered and released in the two land locked lakes (Appendix EE). Due to the low number of spawning pairs acquired in the fall egg take; the Fish Transport Permit required the fry be released in landlocked lakes rather than the Kametolook River.

In order to make the project successful, two adult salmon holding pens were installed and utilized in November of 1998 and annually since then. This way, adult salmon can be caught using a small mesh gill net (in order not to kill them), the catch can be sorted, with females placed in one pen and males in the second, and the fish can be held till they ripen. If additional fish are needed for the project, subsequent fishing trips can be made. Then ADF&G biologists and village assistants can conduct the egg take at one time using the ripe salmon. This technique has provided a more efficient egg take and has increased the number of eggs that were collected and placed in the incubation boxes and has also improved the fry production. Fry (an estimated 25,000) were first voluntarily released from the egg boxes into the Kametolook River in the spring of 1999. In 2000 the incubation box project produced about 13,500 fry and in 2001 another 4,500 fry. The low fry release in 2001 was a result of only two female coho salmon available in the fall 2000 egg takes. (Table 1).

*Perryville School Aquarium:*

As part of the project, the ADF&G and the Perryville schoolteachers have operated a school aquarium annually since the winter of 1996/1997. With the aid of the Perryville students, coho salmon eggs and milt are collected at the same time as the Kametolook incubation box egg take occurs. Annually, the fertilized eggs (250-500) were placed into the school aquarium. The schoolteachers obtain the school project permits annually. The students and teachers also send annual reports on the project to the ADF&G.

In the spring of 1997, Don Preston, a Perryville teacher noted that the school aquarium had swimup fry on about 15 April. They had increased the water temperature above normal Kametolook River temperatures to insure the swimup fry stage would occur prior to other end-of-the-year school activities. The teacher thought the aquarium fry had about 600 temperature units (TU's). From the 200 eyed eggs that were placed in the school aquarium, about 125 survived to swimup fry stage. The fry were held and fed until May 22 when they were released into the Kametolook. The teacher felt that the project provided a good education aid.

In 1997/1998 and 1998/1999, the school aquarium project produced (approximately 150 in 1998 and 400 in 1999) swim-up fry that were released in the Kametolook River each May. Teacher Mike Browning, started the project in 1997 and Patricia Shoemaker took over supervising the student school aquarium project through the following spring of 1998. During the 1998/1999 Patricia Shoemaker and Patsy Chapple shared responsibility with the aquarium.

The school aquarium was also operated in 1999/2000 and 2000/2001. Teacher Mike Looney supervised the project during these two years. Unfortunately, during both of these winters the eggs/fry died due to a fungus in 1999/2000 and a crack in the glass aquarium in 2000/2001 that allowed all the water to escape. A new aquarium will be purchased in 2001 to replace the broken one so the project can continue indefinitely, as long as there is interest from the Perryville School and a sponsoring teacher obtains the appropriate annual fish resource permits.

*Community Involvement:*

Community involvement and the use of traditional and ecological knowledge from the local community of Perryville has proven to be an important component of the projects attempt to restore the Kametolook River coho salmon stock. The community has provided expertise in regards to historic and contemporary use of salmon in the region, escapement estimates prior to the start of the project, and historical and contemporary environmental and habitat changes. In addition, the community has imposed their own closure to the subsistence taking of coho salmon in the spawning reaches of the river as well as encouraging people to not fish the entire Kametolook River for any coho salmon until the river is rehabilitated. Instead, several residents are providing transportation to other nearby river systems for those that do not have the necessary equipment (skiff, boat, or 4-wheeler) to get there themselves to harvest salmon. The project also continues to provide on the job training of village assistants in genetic and pathological sampling, incubation box installation, egg takes and incubation techniques, and year-round monitoring of the environment.

*Other Groups Associated with the Project:*

Since 1997, commercial salmon fisheries in the Western and Perryville Districts of Chignik have been closed on about 20 August in an attempt to buildup this coho salmon stock. The Chignik Aquaculture Association, Chignik Seiners Association and the Chignik Regional Planning Team continue to endorse the project and have agreed to this commercial fishery closure. In July 1999, two deliveries totaling approximately 1,000 coho salmon were made to Perryville residents by two Chignik commercial fishing permit holders that caught and collected the fish from other

commercial fishers near Mitrofania Island. These deliveries were a voluntary effort organized by Chuck McCallum, Chairman of the Chignik Regional Aquaculture Association and the Perryville Subsistence Salmon Workgroup (PSW). This group was formed in 1999 to identify the subsistence concerns of the people of the village of Perryville and to try to find solutions to the low number of returning coho salmon to the Kametolook River (solutions in addition to the EVOS incubation box project). Members that make up PSW consist of representatives of Perryville subsistence users, the Chignik commercial fishers and the ADF&G (workgroup staff).

The ADF&G Divisions of Subsistence and Commercial Fisheries conducted a research project in the winter of 1999 in Perryville. Household interviews were conducted to learn more about the historic and contemporary use of all species of salmon by Perryville residents. A report was presented to the Alaska Board of Fisheries in October 1999 (Hutchinson-Scarbrough and Fall: 1999). In 2000 no personnel use salmon were delivered to Perryville from the commercial fleet because fishing closed in early August in the Western and Perryville Districts due to weak local salmon returns; the commercial fishers had intended to deliver fish later in August. In 2001, the Chignik Seiners Association again plans to deliver coho salmon to Perryville residents (Chuck McCallum personal communication).

## CONCLUSIONS

Prior to the start of the project, there was little escapement data available for the Kametolook River, so the initial escapement projections for the Kametolook River during 1998-2000 were mostly based on household surveys, key respondent interviews with Perryville subsistence users and subsistence salmon permit reports in 1996 and 1997. Escapements large enough to fill the incubation boxes to their designated capacity did not materialize and the initial restoration time frame estimate was low. The current escapement in the Kametolook River is so small that some type of supplemental egg source will likely be needed to restore this run within the two life cycles initially visualized. In the fall of 2001, if additional supplemental funding can be obtained from this project and other sources, the Perryville Subsistence Workgroup (a sub-group of the Chignik Regional Planning Team and the Aquaculture Association) plans to have the ADF&G conduct disease sampling in neighboring coho systems in hopes of being able to supplement the egg box project with another acceptable brood stock.

Project leaders will continue to work closely with the Perryville Subsistence Workgroup. The incubator box project has been defined by the workgroup as the primary tool to assist with the salmon shortages. However, other solutions will continue to be discussed and implemented in future years until Perryville's subsistence salmon needs are satisfied.

Perryville community involvement is essential to help rehabilitate the coho salmon run in the Perryville area through education of the villagers so that they gain a better understanding of the life cycles and conservation of salmon. The ADF&G team will continue to assist with an educational process that focuses on teaching the community through the both the school children and adults. Results from all samples will continue to be shared with the school and community. In addition, the use of local traditional ecological knowledge has been and will continue to be an

important source of information, especially considering the lack of baseline data available regarding salmon escapements in the Kametolook River.

## ACKNOWLEDGMENTS

The authors would like to gratefully acknowledge, the Perryville Village Council and the numerous community residents that have participated in the project. Jerry Yagie, the "Project Community Leader" deserves a special thanks for he has been in charge of the field work for the project since it's origin and without his interest, persistence and hard work, the project would not have been possible. Cecilia Yagie has been responsible for administering the cooperative agreement with Perryville, providing project expense accounts and field reports to ADF&G staff. Also early on in the project, Jerald Kosbruk and Dennis Shangin were essential at getting the project off the ground. Other Perryville residents must be credited for assisting the ADF&G with the project including: providing information regarding local knowledge of the Kametolook River and habitat, guiding and transportation, installing egg incubation boxes, capturing salmon and harvesting eggs, monitoring thermograph stations, and other year around maintenance of the project. In addition, thank you to all the many Perryville residents that also assisted with many of the duties just mentioned as well as providing the ADF&G staff while working in Perryville on the project with delicious meals of local subsistence foods. Just some of those that come to mind are: Boris Kosbruk, Frieda Kosbruk, Gerald Kosbruk, Harry W. Kosbruk, Frieda Kosbruk, Ignatius Kosbruk, Ivan Kosbruk, Moses Kosbruk Sr., Moses Kosbruk Jr., Tim Kosbruk, Bruce Phillips, David Phillips, Ralph Phillips, Andy Shangin, Austin Shangin, Daniel Shangin, Dennis Shangin, Effie Shangin, Michael Shangin, Tom O'Domin, and Polly Yagie. Thanks to the Perryville School, particularly teachers, Mike Browning, Patsy Chapple, Mike Looney, Don Preston, and Patricia Garris-Shoemaker along with the high school students for their participation in the project and providing housing for the ADF&G staff.

Pete Velsko, retired ADF&G, for his expertise from work in Norton Sound with instream incubation boxes provided the staff with lots of extremely helpful suggestions giving the project a good kick-start. Joe Sullivan and Bill Hauser with ADF&G, Division of Habitat and Restoration deserve a special thanks for providing their expertise to the project including: project planning, preparation, field work and helping keep the project on track. Joe gets an extra pat on the back for preparing the Environmental Assessment for NEPA compliance. Had this not been done the continuation of the project would have not been possible. Jim Seeb and other ADF&G Genetics and Pathology staff deserves recognition for their guidance and lab work for the project. Thanks to Dave Owen and George Pappas, Chignik commercial fisheries area management biologists for providing the ADF&G harvest and escapement data.

We also would like to acknowledge Jim Fall, Division of Subsistence Regional Program Manager, for his editorial comments for the DPD/budget and this report, as well as his time spent on establishing the cooperative agreement between the ADF&G and Perryville. Also thanks to administrative personnel, Ana Lewis in Subsistence, Melanie Bosch in Habitat and Restoration and Deborah Boyd (retired) and Tom Taylor in Administration for their assistance with the

cooperative agreement and project budget. Thanks to Rita Miraglia for her guidance early in the project.

We are grateful to the crew on the ADF&G M/V Resolution for transporting the egg incubation boxes to Chignik with no charge to the project, and to Andy Shangin for using his boat to then move them to Perryville. Also thanks to the Kodiak Regional Aquaculture (Pillar Creek Hatchery staff) for training Perryville assistants, Jerry and Dennis in spawning and incubator maintenance techniques. Also thanks to Chuck McCallum and the Chignik Regional Aquaculture Association for their continued interest and support in the project and their assistance with helping to find solutions to Perryville's coho subsistence salmon needs.

In addition, thanks to Jeff Adams, Ron Hood, Jim Larson, and Orville Lind of the Alaska Peninsula/Becharof National Wildlife Refuge in King Salmon for their comments and cooperation in preparation of the EA; and to the Chignik Regional Planning Team for their endorsement and continual support of the project. John Gliva with DCRA, needs to be recognized for all of his help administering the project when it was originally funded under EVOS Criminal Settlement money; and last but not least thanks to the EVOS Trustee Council for their support by providing funding to continue with the project.

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Table 1. Kametolook River coho salmon egg takes, 1997-2001.

| | | School Aquarium | | Incubation Boxes | | | Estimated |
|---|---|---|---|---|---|---|---|
| | Year | Eggs | Fry | | | Fry | Adult |
| Brood Year[a] | Released | Taken | Released | Adults[b] | Eggs | Released[c] | Escapement |
| 1996 | 1997 | 250 | 125 | 2 | 3,000 | 1,600 [d] | 200 |
| 1997 | 1998 | 300 | 150 | 14[e] | 10,000 | 1,600 | 724 |
| 1998 | 1999 | 500 | 400 | 22 | 33,000 | 24,750 | 148 |
| 1999 | 2000 | 250 | 0 | 12[f] | 18,000 | 13,500 | No estimate |
| 2000 | 2001 | 250 | 0 | 9 | 6,000 | 4,500 | 85 |

[a] Eggs from brood year 1996 would be released as fry in 1997 and so forth.

[b] Using brood year, 1996: 1 female and 1 male; 1997: 2 full and 5 partial females and 7 males; 1998: 11 females and 11 males; 1999: 6 females and 6 males; 2000: 2 females and 7 males.

[c] Number of eggs was estimated from the actual number of females used and assuming that each contained 3,000 eggs. The fry were release was estimated by assuming that the survival from the egg swim up fry was 75%.

[d] Fry were released into two landlocked lakes near Perryville.

[e] Two full females and five partially spent females were used for the egg take.

[f] Nine females and 20 males were caught Nov. 5-9 and put into the holding pens. On Nov. 18 when the egg take occurred, it was noted that the females holding pen zipper was open and all females had escaped. 6 more females were then caught and eggs removed and fertilized by 6 of the 20 males held in the male holding pen. The remaining males were released alive to find mates and spawn naturally in the Kametolook River.

Figure 1

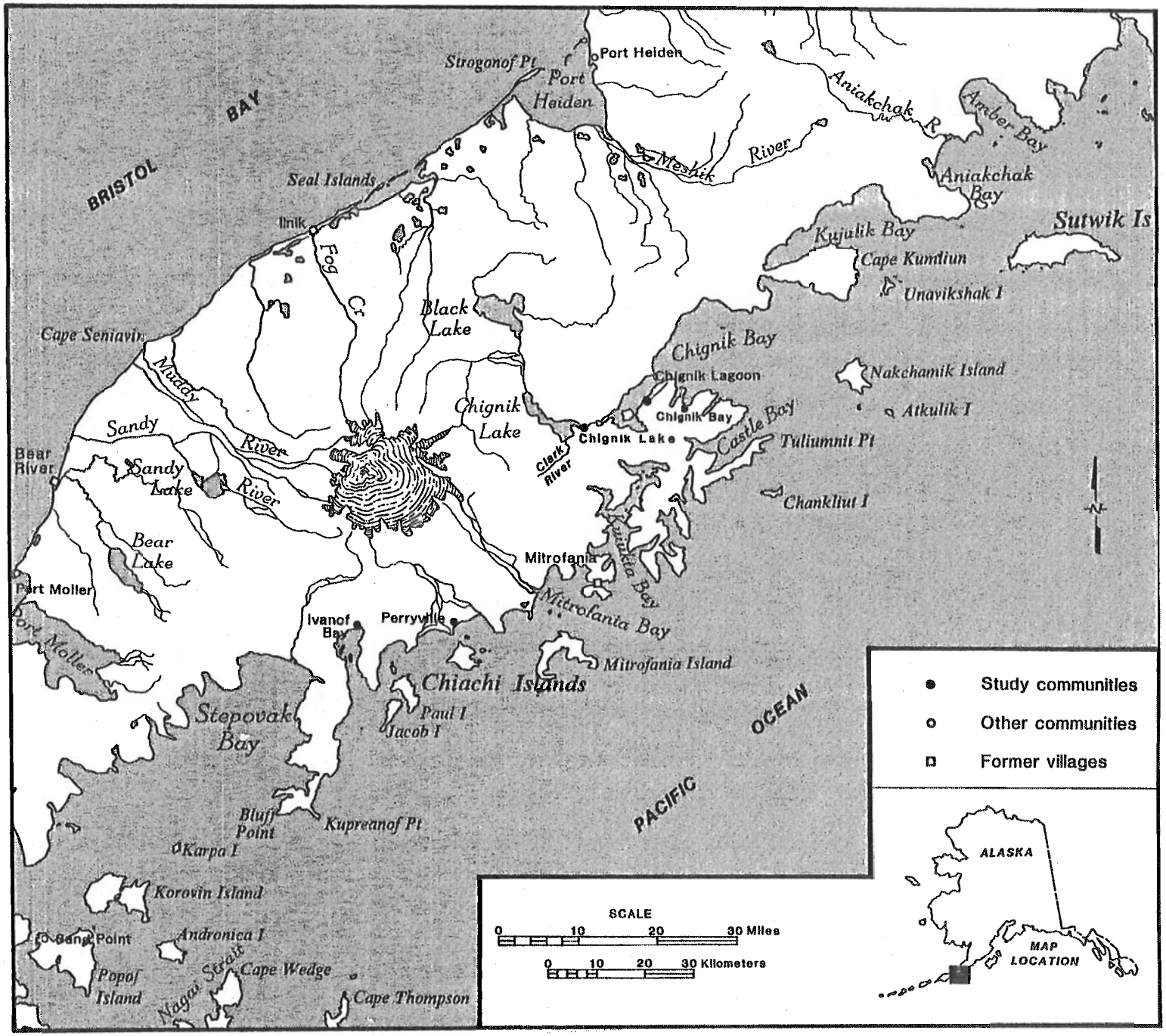

BRISTOL BAY
Strogonof Pt
Port Heiden
Port Heiden
Aniakchak R
Amber Bay
Meshik River
Aniakchak Bay
Seal Islands
Ilnik
Fog Cr
Black Lake
Sutwik Is
Kujulik Bay
Cape Kumliun
Unavikshak I
Cape Seniavin
Muddy River
Chignik Bay
Chignik Lagoon
Nakchamik Island
Chignik Lake
Chignik Bay
Atkulik I
Castle Bay
Tuliumnit Pt
Sandy River
Sandy Lake
Bear River
Clark River
Chignik Lake
Chankliut I
Bear Lake
Mitrofania
Port Moller
Ivanof Bay
Perryville
Mitrofania Bay
Mitrofania Island
Chiachi Islands
Stepovak Bay
Paul I
Jacob I
OCEAN
PACIFIC
Bluff Point
Kupreanof Pt
Karpa I
Korovin Island
Sang Point
Andronica I
Popof Island
Nagai Strait
Cape Wedge
Cape Thompson
Study communities
Other communities
Former villages
SCALE
0 10 20 30 Miles
0 10 20 30 Kilometers
ALASKA
MAP LOCATION

Figure 2

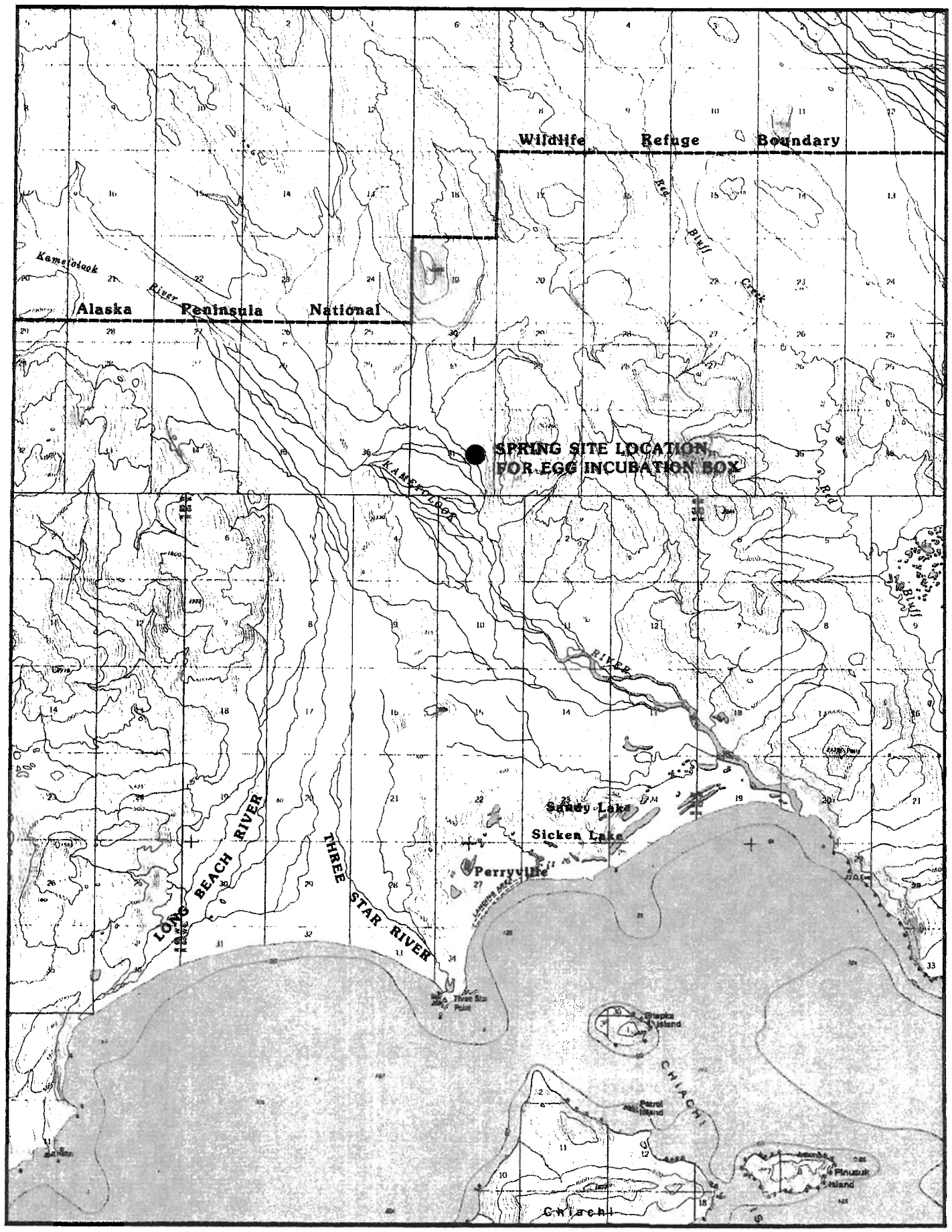
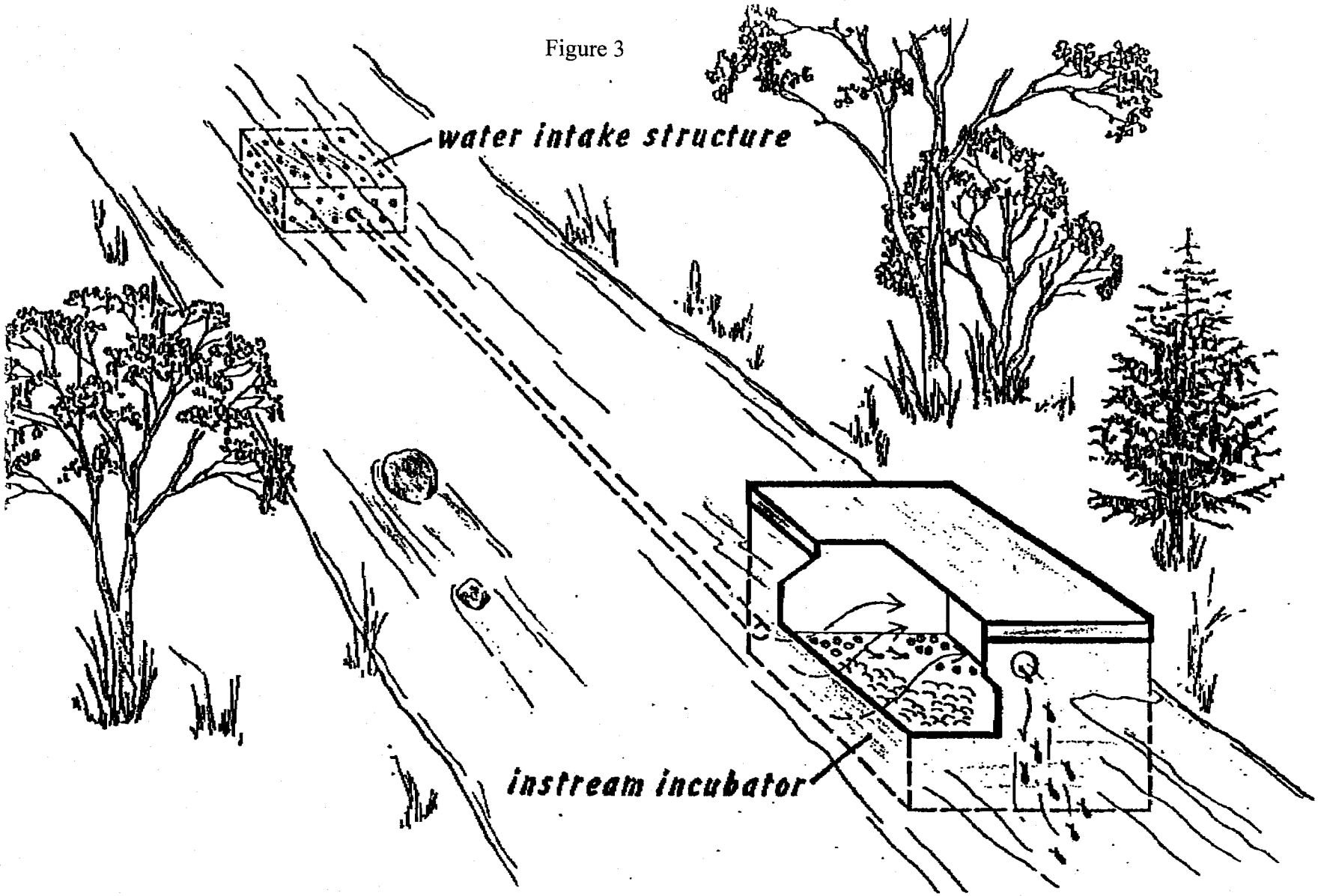



**Figure 2 Perryville/Kametolook River Coho Salmon Restoration Project Site**

Figure 3




The INSTREAM INCUBATOR (streamside incubator or hatch box) is an incubator designed to incubate salmon eggs and alevins (small fish) under conditions similar to those in natural spawning beds. The incubators are usually positioned in the stream or on the stream bank. Water is directed downstream through a pipeline which supplies the eggs with a continuous flow of oxygen-enriched water. Once fertilized eggs have been placed in the incubator, little maintenance is required. The eggs develop through the winter in a protective environment. In spring the young fry migrate out of the incubator to begin their long migration out to sea before returning as adults.

# STATE OF ALASKA
# DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

Permit No. P-00-033

Expires 12/31/00

Appendix A

## FISH RESOURCE PERMIT

This permit authorizes Patricia Garris-Shoemaker, Perryville School, Lake & Peninsula School District
(person, agency or organization)
of P. Box 103, Perryville, AK 99648 to conduct the following activities from January 12, to December 31, 2000 in accordance with AS 16.05.930

To obtain and incubate up to 500 coho salmon eggs for the purpose of a classroom incubation. The eggs will be obtained from an egg take conducted by ADF&G on the Kametalook River. The resultant fry may be released back into the Kametalook River at the egg take site or sacrificed.

**PURPOSE:** Students will learn the life cycles of fish, environmental hazards, weather and chemical problems and how they effect the fish.

**FINAL DISPOSITION:** The resultant fry may be released back into the Kametalook River at the egg take site or sacrificed.

**AUTHORIZED PERSONNEL:** Patricia Garris-Shoemaker, Jeff McKinney, and students. ADF&G personnel may assist with this project.

**PERMIT CONDITIONS:**

The following ADF&G employees at the Kodiak office must be notified prior to initiation of activities: Jim McCullough, (486-1813) Division of Commercial Fisheries; or Len Schwarz, Division of Sport Fisheries (486-1800).

(Continued on the next page)

REPORT DUE January 31, 2001. The report shall include species; numbers; dates and locations of collection and disposition; sex, age and breeding condition; lengths and weights of fish; what was achieved; other information as required.

GENERAL CONDITIONS, EXCEPTIONS AND RESTRICTIONS

1. This permit must be carried by the person(s) specified during approved activities who shall show it on request to persons authorized to enforce Alaska's fish and game laws. This permit is nontransferable and will be revoked or renewal denied by the Commissioner of Fish and Game if the permittee violates any of its conditions, exceptions or restrictions. No redelegation of authority may be allowed under this permit unless specifically noted.

2. Specimens taken under authority hereof may not be sold or bartered. Subpermittees shall not retain possession of live animals or specimens.

3. The permittee shall keep records of all activities conducted under authority of this permit, available for inspection at all reasonable hours upon request of any authorized state enforcement officer.

4. Permits will not be renewed until detailed reports, as specified above, have been received by the Department.

5. UNLESS SPECIFICALLY STATED HEREIN THIS PERMIT DOES NOT AUTHORIZE the exportation of specimens; or the taking of specimens in areas otherwise closed to fishing without appropriate licenses required by State regulations; or during closed seasons; or in any manner, by any means, at any time not permitted by those regulations.

Division of Commercial Fisheries

Deputy Director, Division of Commercial Fisheries
Alaska Department of Fish and Game

Division of Sport Fisheries



11-026F (2/95)

NOTE:

This permit will fulfill the requirements of 5 AAC 41.005 - 41.060 pertaining to fish transport permits (FTPs). Progeny from less than or equal to 500 eggs or one spawning pair may be destroyed or released ONLY at place of origin or in a departmentally approved landlocked lake. The effluent release will be either disinfected or discharged into a sewage treatment facility.

**A copy of this permit must accompany the fish or egg transport and be available if a Department of Fish and Game or Department of Public Safety employee wishes to examine it.**

A collection report will be required upon the expiration date of December 31 which should include the amount of eggs collected and incubated as of that date. If an egg take was done by the school, a description of the egg take is required--its success or failure.

The following additional data collection is required to be furnished the ADF&G, Division of Commercial Fisheries/Planning and Development Program, headquarters office (P.O. Box 25526, Juneau, AK 99802) when the project is completed:

1. Measure and record daily water temperatures.

2. Keep cumulative log of temperature unit development.

3. Note on temperature unit log when the eggs are eyed, when hatching begins and ends, and when fry begin to "swim up" in the tank.

4. Note the date the fry are released or sacrificed.



11-026F (2/95)

# Complete Disease History Search

| Accession # | | Begin Date | End Date | Brood Year | Brood Stock | Species | Age | Hatchery Name | Other |
|---|---|---|---|---|---|---|---|---|---|
| 19970033 | SC | 09/30/1996 | 10/02/1996 | WILD | KAMETOLOOK R | COHO | ADULT | ADFG ANCHORAGE | |

| Disease | # Pos | # Sampled | Percent |
|---|---|---|---|
| A. SAL | 0 | 32 | 0.0% |
| Y.RUCK (ERM I) | 0 | 32 | 0.0% |
| BKD ELISA | 14 | 32 | 43.8% |
| Y.RUCK (ERM II) | 1 | 32 | 3.1% |

**Diagnosis**

NONE

**Recommendation**

Submit 28 kidneys and 60 ovarian fluids to complete disease history.

---

| Accession # | | Begin Date | End Date | Brood Year | Brood Stock | Species | Age | Hatchery Name | Other |
|---|---|---|---|---|---|---|---|---|---|
| 19990053 | SC | 11/11/1998 | 11/11/1998 | WILD | KAMETOLOOK R | COHO | ADULT | ADFG KODIAK | 3 X 3, 1 X 2 fish/pool. |

| Disease | # Pos | # Sampled | Percent |
|---|---|---|---|
| A. SAL | 0 | 18 | 0.0% |
| Y.RUCK (ERM I) | 0 | 18 | 0.0% |
| BKD ELISA | 2 | 18 | 11.1% |
| IHNV | 0 | 11 | 0.0% |
| VHSV | 0 | 11 | 0.0% |
| Y.RUCK (ERM II) | 0 | 18 | 0.0% |

**Diagnosis**

NONE

**Recommendation**

NONE

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| Accession # | | Begin Date | End Date | Brood Year | Brood Stock | Species | Age | Hatchery Name | Other |
|---|---|---|---|---|---|---|---|---|---|
| 20000040 | SC | 11/17/1999 | | WILD | KAMETOLOOK R | COHO | ADULT | ADFG KODIAK | |

| Disease | # Pos | # Sampled | Percent |
|---|---|---|---|
| BKD ELISA | 4 | 26 | 15.4% |
| A. SAL | 0 | 28 | 0.0% |
| Y.RUCK (ERM I) | 0 | 28 | 0.0% |
| Y.RUCK (ERM II) | 0 | 28 | 0.0% |
| IHNV | 0 | 1 | 0.0% |
| VHSV | 0 | 1 | 0.0% |

**Diagnosis**

Moderate prevalence of high level Rs Antigen

**Recommendation**

Submit another 48 ovarian fluids to complete the disease histroy on this stock.

---

**ACCESSION NO:** 97-0033

**ALASKA DEPARTMENT OF FISH AND GAME**
**FISH PATHOLOGY SECTION, CFM&D DIVISION**
**333 RASPBERRY ROAD, ANCHORAGE, AK 99518-1599**

**REPORT OF LABORATORY EXAMINATION**

**LOT (YEAR, STOCK, SPECIES):** Kametolook River coho salmon, Oncorhynchus kisutch

**FACILITY:** ADFG Anchorage Subsistence

**CONTACT PERSON/ADDRESS:** Lisa Scarborough, 333 Raspberry Road, Anchorage AK 99518

**SAMPLE DATE:** 09/30/96 - 10/2/96 **DATE SAMPLE RECEIVED:** 10/04/96

**SPECIMEN TYPE:** kidneys **LIFE STAGE:** adult **STATE:** frozen

**NUMBER IN SAMPLE:** 32 **WILD:** Yes

**HISTORY/SIGNS:**

**REASON FOR SUBMISSION:** Disease history development

**FINAL REPORT DATE:** 11/08/96

---

**CLINICAL FINDINGS:**

**FAT:** 0/32 positive for Aeromonas salmonicida
0/32 positive for Yersinia ruckeri Type I
1/32 positive for Yersinia ruckeri Type II, not confirmed in culture

**ELISA:** 14/32 positive for Renibacterium salmoninarum (Rs). Mean optical density values of ≥ 0.065 were considered positive for the Rs antigen.
Range of OD values - 13/14 positives ≥ 0.065 ≤ 0.146
Fish # 5 OD value = 0.578

**COMMENTS/RECOMMENDATIONS:** A high prevalence of low-level Rs antigen was detected in the kidney tissues submitted. An exception was one kidney (#5) with a high optical density indicating the presence of greater levels of Rs antigen.

Please submit another 28 kidneys and 60 ovarian fluids to complete the disease history for this stock.

**FISH HEALTH INVESTIGATOR(s):** Geesin, Burton, Meyers

**TECHNICAL ASSISTANCE:** Starkey, Short, Lipson

**COPIES TO:** FY97, Misc., Burkett, Meyers

**ACCESSION NO:** 98-0043

**ALASKA DEPARTMENT OF FISH AND GAME**
**FISH PATHOLOGY SECTION, CFM&D DIVISION**
**333 RASPBERRY ROAD, ANCHORAGE, AK 99518-1599**

**REPORT OF LABORATORY EXAMINATION**

**LOT (YEAR, STOCK, SPECIES):** Kametoolik River coho salmon, Oncorhynchus kisutch

**FACILITY:** ADFG – Kodiak

**CONTACT PERSON/ADDRESS:** Jim McCullough, ADFG-CFMD, 211 Mission Road, Kodiak AK 99615

**SAMPLE DATE:** 11/5/97 – 11/12/97 **DATE SAMPLE RECEIVED:** 11/7/97 – 11/18/97

**SPECIMEN TYPE:** Kidney tisssues/ovarian fluids **LIFE STAGE:** Adult **STATE:** Unfrozen, refrigerated

**NUMBER IN SAMPLE:** 17 kidneys, 8 ovarian fluids **WILD:** Yes

**REASON FOR SUBMISSION:** Update disease history

**FINAL REPORT DATE:** 1/23/98

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**CLINICAL FINDINGS:**

**FAT:** 0/17 positive for Aeromonas salmonicida
0/17 positive for Yersinia ruckeri Type I
0/17 positive for Yersinia ruckeri Type II

**ELISA:** 0/17 positive for Renibacterium salmoninarum (Rs). Mean optical density values ≥ 0.068 were considered positive for the Rs antigen.

**VIROLOGY:** 0/8 (4 X 2 ovarian fluid pools) positive for virus. Ovarian fluids processed by quantal assay on EPC and CHSE-214 cell lines at 15°C for 14 days and blindpassaged for an additional 14 days. Minimum level of detection = 5 infectious particles/ml of pooled sample. Cells pretreated with PEG to enhance viral infectivity.

**COMMENTS/RECOMMENDATIONS:** No viral or bacterial pathogens were detected in the samples submitted. Please submit 52 ovarian fluids and 43 kidneys to complete the updated disease history for this fish stock.

**FISH HEALTH INVESTIGATOR(s):** Burton, Geesin, Follett, Meyers

**TECHNICAL ASSISTANCE:** Starkey, Short, Van Houten

**COPIES TO:** FY98, Misc., Meyers, Simpson, Lisa Scarbrough (Subsistence – Anchorage)

**ACCESSION NO:** 99-0053

**ALASKA DEPARTMENT OF FISH AND GAME**
**DIVISION OF COMMERCIAL FISHERIES - FISH PATHOLOGY SECTION**
**333 RASPBERRY ROAD, ANCHORAGE, AK 99518-1599 - Phone (907)267-2244/fax 267-2462**

## REPORT OF LABORATORY EXAMINATION

**LOT (YEAR, STOCK, SPECIES):** Kametolook River coho salmon, Oncorhynchus kisutch

**FACILITY:** ADFG Kodiak

**CONTACT PERSON/ADDRESS:** Jim McCullough, ADFG, 211 Mission Road, Kodiak, Alaska 99615

**SAMPLE DATE:** 11/11/98 **DATE SAMPLE RECEIVED:** 11/13/98

**SPECIMEN TYPE:** Ovarian fluids & kidneys **LIFE STAGE:** Adult **STATE:** Unfrozen/refrigerated

**NUMBER IN SAMPLE:** 11 ovarians, 18 kidneys **WILD:** Yes

**REASON FOR SUBMISSION:** Disease History Development.

**FINAL REPORT DATE:** 1/20/99

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**CLINICAL FINDINGS**

**FAT:** 0/18 positive for Aeromonas salmonicida
0/18 positive for Yersinia ruckeri Type I
0/18 positive for Yersinia ruckeri Type II

**ELISA:** 2/18 kidneys positive for Renibacterium salmoninarum (Rs). Mean optical density values of ≥ 0.068 were considered positive for the Rs antigen. See attached data.

**VIROLOGY:** 0/11 (3x3, 1x2 fish/pool) positive for virus. Ovarian fluids processed by quantal assay on EPC and CHSE-214 cell lines at 15°C for 14 days and blindpassaged for an additional 14 days. Minimum level of detection = 5 infectious particles/ml of pooled sample. Cells pretreated with PEG to enhance viral infectivity.

**COMMENTS/RECOMMENDATIONS:** A low prevalence of Rs antigen was detected in the samples submitted. No other bacterial or viral pathogens were detected. Submit another 49 ovarian fluids and 10 kidneys to complete the disease history on this stock.

**FISH HEALTH INVESTIGATOR(s):** Burton, Follett, Meyers

**TECHNICAL ASSISTANCE:** Starkey, Lipson

**COPIES TO:** FY99, Misc., Meyers, Scarbrough, Simpson

**ACCESSION NO:** 2000-0040

**ALASKA DEPARTMENT OF FISH AND GAME**
**DIVISION OF COMMERCIAL FISHERIES - FISH PATHOLOGY SECTION**
**333 RASPBERRY ROAD, ANCHORAGE, AK 99518-1599 - Phone (907)267-2244/fax 267-2462**

## REPORT OF LABORATORY EXAMINATION

**LOT (YEAR, STOCK, SPECIES):** Kametolook River coho salmon, Oncorhynchus kisutch

**FACILITY:** ADF&G Kodiak

**CONTACT PERSON/ADDRESS** Jim McCullough, ADF&G, Commercial Fisheries Division, 211 Mission Road, Kodiak, AK 99615

**SAMPLE DATE:** 11/17/99 **DATE SAMPLE RECEIVED:** 11/19/99

**SPECIMEN TYPE:** Ovarian fluids, kidneys **LIFE STAGE:** Adult **STATE:** Unfrozen/refrigerated

**NUMBER IN SAMPLE:** 8 ovarian fluids, 28 kidneys **WILD:** Yes

**REASON FOR SUBMISSION:** Establish disease history.

**FINAL REPORT DATE:** 1/27/00

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**CLINICAL FINDINGS**

**FAT:** 0/28 positive for Aeromonas salmonicida
0/28 positive for Yersinia ruckeri Type I
0/28 positive for Yersinia ruckeri Type II

**ELISA:** 4/26 positive for Renibacterium salmoninarum (Rs). Mean optical density values of ≥ 0.068 were considered positive for the Rs antigen. See attached results.

**VIROLOGY:** 0/1 positive for virus. Ovarian fluid processed by quantal assay on EPC and CHSE-214 cell lines at 15°C for 14 days and blindpassaged for an additional 19 days. Minimum level of detection = 5 infectious particles/ml sample. Cells pretreated with PEG to enhance viral infectivity.

**COMMENTS/RECOMMENDATIONS:** A moderate prevalence of high level Rs antigen was detected in the samples submitted. No other bacterial or viral pathogens were found. Although 8 ovarian fluid samples were submitted, 7 of them were not usable as they contained only eggs. Please submit another 48 ovarian fluids to complete the disease history on this stock. No additional kidney samples are necessary at this time.

**FISH HEALTH INVESTIGATOR:** Burton, Meyers

**TECHNICAL ASSISTANCE:** Starkey, Glass

**COPIES TO:** FY2000, Misc., Meyers, Scarbrough, Simpson

STATE OF ALASKA

**DEPARTMENT OF FISH AND GAME**

*DIVISION OF COMMERCIAL FISHERIES*

***TONY KNOWLES, GOVERNOR***

*211 Mission Road*
*KODIAK, AK 99615*
*PHONE: (907) 486-1813*
*FAX: (907) 486-1841*

April 4, 2001

Perryville Village Council
Gerald Kosbruk
P.O. Box 101
Perryville, AK 99648

Re: Coho Salmon Project Update

Denby Lloyd requested that I update you and the Perryville Village Council regarding the Kametolook River coho restoration project. The incubation boxes project was designed to incubate about 200,000 coho salmon eggs. To obtain this number of eggs would require that we have access to about 60 female and 60 male adult coho salmon.

As you may be aware, we have not been successful in achieving an egg take of this magnitude. In 2000, we took eggs from only 2 females. In 1999, we took eggs from eight females, in 1998 we spawned eleven females, in 1997 we spawned 2 full and 3 partially spent females (progeny were all released into landlocked lakes or Three Star River), and in 1996 one female was spawned (project test and no progeny were released).

Our primary problem has been our inability to capture enough coho salmon for the project. The reason we have been unable to capture the salmon is due to the low escapements. In 1998, we began using adult holding pens. This enabled us to capture adult salmon and hold them until they were ready to be spawned. This greatly increased the efficiency of the egg takes but the low coho salmon escapements continue to plague the project.

However, only by fully protecting the ripening and spawning fish in the upper portion of the river will this salmon run recover.

The State of Alaska, the Federal government, and many others have met to discuss the coho salmon subsistence needs of the people of Perryville. The Fish and Wildlife Service has proposed a project to study the coho habitat and carrying capacity of the Kametolook River. In December I explored the possibility of transferring juvenile coho salmon from a nearby river for release in the Kametolook. We have also discussed hatchery options, both local and remote hatcheries. All restoration methods have their own set of problems and all projects have to secure a funding source.

But no matter what restoration technique(s) might be used, the coho salmon harvest in the upper Kametolook River should be delayed until the run has recovered, and the recovery will take several more years.

I would be glad to discuss the incubation project with you and the village council or any other ideas you have concerning the restoration of the Kametolook coho salmon.

Sincerely,

Jim McCullough

Jim McCullough
Regional Resource and Development Biologist
Division of Commercial Fisheries-Kodiak
(907) 486-1813

cc: Denby Lloyd, Jim Fall, Patti Nelson, Lisa Scarbrough, Rod Campbell, Boris Kosbruk, George Pappas

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

*DIVISION OF ADMINISTRATION*

***TONY KNOWLES, GOVERNOR***

*P.O. BOX 25526*
*JUNEAU, AK 99802-5526*
*PHONE: (907) 465-6177*
*FAX: (907) 465-6078*
*INTERNET: Tom_Taylor@FishGame.State.AK.US*

October 29, 1999

Mr. Gerald Kosbruk
Native Village of Perryville
P.O. Box 101
Perryville, Alaska 99648

Dear Mr. Kosbruk:

Enclosed is a copy of Amendment Five to Cooperative Agreement #COOP-97-083 between the Alaska Department of Fish and Game, Division of Commercial Fisheries and The Native Village of Perryville. This copy is for your files.

The Department's Project Director is Lisa Scarbrough. Please direct all inquiries concerning this project to her at (907) 267-2396. Please refer to the above tracking numbers on all billings and correspondence.

Sincerely,

Tom Taylor
Contracting Officer

Cc: Lisa Scarbrough
Darin Morfield
Shirley Penrose

**AMENDMENT 5**
**to a**
**Cooperative Agreement**
**between the Alaska Department of Fish and Game**
**and the Native Village of Perryville**

This agreement is being amended pursuant to Article II and Attachment 1, Item 12 of the original Agreement, dated August 26, 1997.

I. Background

The Exxon Valdez Oil Spill (EVOS) Trustee Council has approved the continuation of this project and funding which started in Federal Fiscal Year 97 (FFY 97), for FFY 00. The FFY 00 Detailed Project Description (DPD) has been approved by the Chief Scientist and Trustee Council, and NEPA requirements have been satisfied by a Finding of No Significant Impact by the US Fish and Wildlife Service in May, 1997. The DPD is attached and made a part of this amendment. The following reflect the changes to this agreement for the FFY 00 DPD.

II. Period of Performance

The period of performance for work performed on the FFY 00 DPD is October 1, 1999 through September 30, 2000. Contingent upon project and funding approval from the EVOS Trustee Council and subject to authorized appropriation, this agreement may be amended for three additional one year periods. Any additional work will be authorized by written amendments signed by both parties.

III. Covenants of the Native Village of Perryville

Delete Item 6. This item described an activity that took place in FFY 97 (training for project assistants at the Pillar Creek hatchery) which will not be repeated in FFY 00.

IV. Covenants of the Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development

Delete Item 5. Orientation and instruction in egg take techniques at the Pillar Creek hatchery will not take place in FFY 00.

V. Budget

For FFY 00, as approved by the EVOS Trustee Council, funds in the amount of $5,000.00 have been allocated to support the activities of the Native Village of Perryville as reflected in the budget in the detailed project description.

VII. Financial Arrangements

For work performed on the FFY 99 DPD, the Native Village of Perryville will be paid an amount not to exceed $5,000.00.

Invoices shall be submitted for work performed on the FFY 00 DPD at quarterly intervals with the final invoices received by ADF&G no later than November 30, 2000.

All other terms and conditions of the original agreement remain in effect.

This amendment is affirmed by the parties shown below.

For the Native Village of Perryville

Gerald Kosbruk, President

Oct 12, 1999
Date

For the Alaska Department of Fish and Game

Elizabeth Andrews for Mary C. Pete, Director
Division of Subsistence

10-20-99
Date

~~Robert Clasby~~, Director Doug Mecum
Division of Commercial Fisheries Management and Development

10/27/99
Date

Kevin Brooks, Director
Division of Administration

10.28.99
Date

STATE OF ALASKA
Appendix I

**DEPARTMENT OF FISH AND GAME**

*DIVISION OF ADMINISTRATION*

***TONY KNOWLES, GOVERNOR***

*P.O. BOX 25526*
*JUNEAU, AK 99802-5526*
*PHONE: (907) 465-6177*
*FAX: (907) 465-6078*
*INTERNET: Tom_Taylor@FishGame.State.AK.US*

December 14, 2000

Mr. Gerald Kosbruk
Native Village of Perryville
P.O. Box 101
Perryville, Alaska 99648

Dear Mr. Kosbruk:

Enclosed is a fully executed copy of Amendment Six to Cooperative Agreement #COOP-97-083 between the Alaska Department of Fish and Game, Division of Commercial Fisheries and the Native Village of Perryville. This copy is for your files.

The Department's Project Director is Lisa Scarbrough. Please direct all inquiries concerning this project to her at (907) 267-2396. Please reference the above listed tracking number on all correspondence and billings.

Sincerely,

Tom Taylor
Contracting Officer

Cc: Lisa Scarbrough
Darin Morfield
Shirley Penrose

**AMENDMENT 6**
**to a**
**Cooperative Agreement**
**between the Alaska Department of Fish and Game**
**and the Native Village of Perryville**

This agreement is being amended pursuant to Article II and Attachment 1, Item 12 of the original Agreement, dated August 26, 1997.

I. Background

The Exxon Valdez Oil Spill (EVOS) Trustee Council has approved the continuation of this project and funding which started in Federal Fiscal Year 97 (FFY 97), for FFY 01. The FFY 01 Detailed Project Description (DPD) has been approved by the Chief Scientist and Trustee Council, and NEPA requirements have been satisfied by a Finding of No Significant Impact by the US Fish and Wildlife Service in May, 1997. The DPD is attached and made a part of this amendment. The following reflect the changes to this agreement for the FFY 01 DPD.

II. Period of Performance

The period of performance for work performed on the FFY 2001 DPD is October 1, 2000 through September 30, 2001. Contingent upon project and funding approval from the EVOS Trustee Council and subject to authorized appropriation, this agreement may be amended for five additional one year periods. Any additional work will be authorized by written amendments signed by both parties.

III. Covenants of the Native Village of Perryville

Delete Item 6. This item described an activity that took place in FFY 97 (training for project assistants at the Pillar Creek hatchery) which will not be repeated in FFY 01.

IV. Covenants of the Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development

Delete Item 5. Orientation and instruction in egg take techniques at the Pillar Creek hatchery will not take place in FFY 01.

V. Budget

For FFY 01, as approved by the EVOS Trustee Council, funds in the amount of $9,400.00 have been allocated to support the activities of the Native Village of Perryville as reflected in the budget in the detailed project description.

VII. Financial Arrangements

For work performed on the FFY 01 DPD, the Native Village of Perryville will be paid an amount not to exceed $9,400.00.

Invoices shall be submitted for work performed on the FFY 01 DPD at quarterly intervals with the final invoices received by ADF&G no later than November 30, 2001.

All other terms and conditions of the original agreement remain in effect.

This amendment is affirmed by the parties shown below.

For the Native Village of Perryville

Gerald Kosbruk, President

September 18, 2000
Date

For the Alaska Department of Fish and Game

Mary C. Pete, Director
Division of Subsistence

Date

Doug Mecum, Director
Division of Commercial Fisheries Management
and Development

12/12/00
Date

Kevin Brooks, Director
Division of Administration

12.13.00
Date

ALASKA DEPARTMENT OF FISH AND GAME

*DIVISION OF COMMERCIAL FISHERIES*

MEMORANDUM

TO: Jim Fall
Regional Program Manager
Division of Subsistence
Anchorage

DATE: November 22, 1999
PHONE: (907) 486-1813
FAX: (907) 486-1841

AND: Denby Lloyd
Regional Finfish Supervisor
Commercial Fisheries Division
Region IV - Kodiak

FROM: Jim McCullough
Regional Finfish Research Biologist
Commercial Fisheries Division
Region IV - Kodiak

SUBJECT: Perryville Field Trips
1 – 5 & 15 – 19
November, 1999

Jim McCullough participated in a field trip on 1 through 5 November 1999, to Perryville, Alaska. The purpose of the trip included: 1) survey Kametolook River's salmon escapement, 2) set up holding pens for ripening adult coho salmon, 3) capture and place in holding pens adult coho salmon, 4) clean and set up the coho salmon school aquarium project and 5) meet with villagers to determine how the 1999 salmon subsistence fishery was proceeding.

On Monday evening, 1 November I traveled from Kodiak and stayed overnight in Anchorage to catch the flight the next morning to King Salmon.

On Tuesday, 2 November I traveled from Anchorage to Perryville via King Salmon. The morning flight was cancelled when a service truck ran into the plane causing major mechanical problems. About noon, the scheduled Anchorage to Dutch Harbor Pen Air flight was routed through King Salmon with the morning passengers. I arrived in Perryville in the evening and stayed at the village school.

On Wednesday, 3 November the weather was terrible and I spent the day cleaning and setting up the school aquarium. I also met with the junior and high school teachers to discuss the school aquarium project.

On Thursday, 4 November Jerry Yagie, Jim McCullough and one high school student, Michael Shangin set up the holding pens in the spring above the Kametolook River incubation boxes. We also surveyed the Kametolook River for the presence of any fish. In the spring of 1999, about 75% of the glacial water that had been flowing into the Long Beach River changed course and began flowing into the Kametolook River. The additional flow nearly doubled the size of the Kametolook River and made extremely poor salmon survey conditions due to turbidity. We observed only 3 coho salmon immediately below the incubation box site, an additional 6 coho salmon in the main stem and 5 coho salmon in clear water tributaries. Jerry noted that in one clear tributary, where we saw only 2 sockeye and one coho salmon, he had observed 20 coho salmon about two weeks earlier. I also saw 10 sockeye salmon in the main stem of the river.

On Friday, 5 November Jerry Yagie, Michael Shangin and Jim McCullough captured 6 female and 16 male coho in the stream reach just below the incubation boxes. We kept and put in the holding pens all 6 females and 13 male coho salmon. We were surprised by this catch because we had only observed 3 salmon the previous day in this area. The glacial melt water made the survey conditions very poor. I was able to depart Perryville about 3 p.m. and returned to Kodiak arriving about 11:30 p.m.

During this trip I asked several people about the on-going coho salmon subsistence fishery. I was informed that fishing in Sleepy Hollow and Humpback Bay was slow while Anchor Bay and Ivan River fishing was generally good. One person said they had just returned from Chignik Lake with 96 "red" sockeye salmon from the Clark River and that their fishing partners had also taken about 100 fish each for a total of ~300 sockeye salmon. People also noted that the coho run to Ivanof was good with plenty of fish for that village.

On Tuesday, 9 November Jerry Yagie and another person caught 3 female and 7 male coho salmon and added these to the holding pens.

Jim McCullough participated in a field trip on 15 through 19 November 1999, to Perryville, Alaska. The purpose of the trip included: 1) a coho salmon egg take from the Kametolook River's salmon stock, 2) collecting biological samples from the salmon used in the egg take, 3) winterizing the holding pens and other equipment and 4) placing fertilized eggs in the incubation boxes and in the school aquarium.

On Monday evening, 15 November I traveled from Kodiak and stayed overnight in Anchorage to catch the flight the next morning to King Salmon.

On Tuesday, 16 November I traveled from Anchorage to Perryville via King Salmon. I arrived in Perryville in the evening and stayed at the village school.

On Wednesday, 17 November Jerry Yagie, Austin Shangin, five junior and high school students (Boris Kosbruk, Alec Phillips, Harry (JR) Kosbruk, Ryan O'Domin and Johnathan Kosbruk) and I collected eggs and milt from the coho salmon that had been placed in the holding pens. We also collected kidney, ovarian and genetic samples. Standard delayed fertilization techniques were used and the fertilized eggs were placed in the incubation boxes. I held back about 400 eggs from a

singe female and milt from 2 males for the school aquarium. The holding pens and other equipment that was no longer needed was winterized at Jerry Yagie's house.

On Thursday, 18 November I met with the grade school and high school students that did not accompany me during the previous days egg take. Again using standard delayed fertilization techniques; the eggs were fertilized and added to the aquarium. Students got to watch the process and a discussion of the care of the eggs and aquarium followed. I flew to Anchorage that evening arriving about 8:30 p.m.

On Friday, 19 November I dropped off the kidney and ovarian samples at the ADF&G lab and the genetic samples at the US Fish and Wildlife lab in Anchorage. I depart Anchorage about 5:30 p.m. and returned to Kodiak arriving about 7:00 p.m.

cc: Campbell Pappas Bouwens McCallum Scarbrough

# ALASKA DEPARTMENT OF FISH AND GAME

*DIVISION OF COMMERCIAL FISHERIES*

## MEMORANDUM

| | | | |
|---|---|---|---|
| TO: | Jim Fall<br>Regional Program Manager<br>Division of Subsistence<br>Anchorage | DATE:<br><br>PHONE:<br>FAX: | November 6, 2000<br><br>(907) 486-1813<br>(907) 486-1841 |
| AND: | Denby Lloyd<br>Regional Supervisor<br>Commercial Fisheries Division<br>Region IV - Kodiak | | |
| FROM: | Jim McCullough<br>Regional Finfish Research Biologist<br>Commercial Fisheries Division<br>Region IV - Kodiak | SUBJECT: | Perryville Field Trip<br>November 1 - 5, 2000 |

Jim McCullough participated in a field trip on 1 through 5 November 2000, to Perryville, Alaska. The purpose of the trip included: 1) survey Kametolook River's salmon escapement, 2) set up holding pens for ripening adult coho salmon, 3) capture and place in holding pens adult coho salmon, 4) clean and set up the coho salmon school aquarium project and 5) meet with villagers to determine how the 2000 salmon subsistence fishery was proceeding.

On Wednesday evening, 1 November I traveled from Kodiak and stayed overnight in Anchorage to catch the flight the next morning to King Salmon and Perryville.

On Thursday, 2 November I traveled from Anchorage to Perryville via King Salmon. I arrived in Perryville in the afternoon and stayed at the village school. I checked in with Jerry Yagie concerning our plans for setting up the holding pens and catching fish for the project. I also met with the schoolteachers and discussed the school salmon aquarium project.

On Friday, 3 November Jerry Yagie, Andrew Shangin, and I set up the holding pens and captured 4 female and 8 male coho salmon and placed them in the holding pens. We saw only 3 additional coho in the upper river reach, which we did not catch and no sockeye salmon. Jerry and Andrew had surveyed the river on Wednesday and had observed 20 to 25 coho and about 20 sockeye salmon at this location. It is likely that two village subsistence fishers harvested all the sockeye and the "missing" coho salmon. Signs authored by the village council closing the upper half of the river to subsistence fishing were in plain view. Because of Jerry's recent survey and an approaching storm we returned to the village without surveying the rest of the river.

On Saturday, 4 November I cleaned the school aquarium and made it ready for the egg take that will occur on my next trip to Perryville (November 14 - 20). I interviewed Jerry and Cecilia Yagie and Borus Kosbruk concerning their subsistence harvest efforts. I met with the head schoolteacher, Mike Looney, concerning the school aquarium. Mike mentioned that of the three village teachers none are "science teachers". Mike said the teachers would discuss the salmon aquarium project prior to my next trip and let me know if they are interested in pursuing the project. A village council meeting occurred in the evening. I did not attend but I was told that the primary topic

was the apparent disregard of a 1998 village council resolution closing the upper half of the Kametolook River to fishing by two local subsistence fishers.

On Sunday, 5 November I interviewed Effie Shangin and Andrew Shangin concerning their subsistence harvest efforts. I departed Perryville about 1:00 p.m. via King Salmon and Anchorage, returning to Kodiak in the evening.

In 1999, most of the Long Beach River water cut a new channel and flowed into the Kametolook River. The addition water was glacial and likely caused poor juvenile fish rearing conditions in the Kametolook River. In the spring of 2000 another flood caused most of this water to return to the Long Beach River. Several sloughs in the Kametolook River drainage that had been excellent rearing for juvenile coho salmon were changed, some areas filled in with sand and new channels were cut. The recent changes probably improved the overall spawning and rearing conditions in the Kametolook River but the drastic changes from year to year are causing difficult spawning and rearing conditions.

Jerry Yagie observed a total of about 50 coho and 30 sockeye salmon on several foot surveys of the Kametolook River. The water this fall was generally good for survey conditions. Using a common coho salmon expansion factor of 2 for expanding foot surveys to actual escapement and subtracting a likely harvest of 15 fish; I estimated a total coho salmon escapement of 85 fish in 2000 for the Kametolook River.

During this trip I asked several people about their subsistence needs. I was informed that fishing in streams outside of the Perryville area (Ivan, Anchor, Smokey Hollow, Ivanof, and Humpback) was generally good for pink and coho salmon. I was told that getting to these streams was at times difficult and on two occasions skiffs swamped in the surf while attempting to get back to Perryville. Cod and halibut fishing from the Perryville beach produced mixed results. Chinook salmon fishing from the beach was exceptional, lots of forage fish (sand lance and smelt) were available to the chinook salmon all summer and fall. The hooligan run into the Kametolook and Three Star Rivers was also excellent this spring. No caribou have been seen in the Perryville area. Several Perryville people have traded frozen and salted cod and halibut for caribou meat with people in King Salmon and Dillingham. People were also beginning their annual harvest of seals, sea lions, bear, and moose. A few Perryville residents also expected to get more "red" fish from Chignik Lake and local streams.

Ivanof residents noted that the coho run to the Ivanof River was average this year. They had put up enough fish for the year but bears had gotten into most of these fish. Because the Ivanof River run was over they would have to try Sleepy Hollow or other late runs and try to put up more fish.

Jerry Yagie and Andrew Shangin will try to catch more coho salmon and add them to the ones in our holding pens, if any addition fish move up into the broodstock collection area.

ALASKA DEPARTMENT OF FISH AND GAME

*DIVISION OF COMMERCIAL FISHERIES*

MEMORANDUM

TO: Jim Fall
Regional Program Manager
Division of Subsistence
Anchorage

DATE: November 21, 2000

PHONE: (907) 486-1813
FAX: (907) 486-1841

AND: Denby Lloyd
Regional Supervisor
Commercial Fisheries Division
Region IV - Kodiak

FROM: Jim McCullough
Regional Finfish Research Biologist
Commercial Fisheries Division
Region IV - Kodiak

SUBJECT: Perryville Field Trip
November 13 - 18, 2000

Jim McCullough participated in a field trip on 13 through 18 November 2000, to Perryville, Alaska. The purpose of the trip included: 1) a coho salmon egg take from the Kametolook River fish stock, 2) placing fertilized eggs in the incubation boxes and in the school aquarium and 3) winterizing the holding pens and other equipment. No biological samples were taken due to the few salmon available (kidney sample size requirements were met in 1999).

On Monday evening, 13 November I traveled from Kodiak and stayed overnight in Anchorage to catch the flight the next morning to King Salmon and Perryville.

On Tuesday, 14 November I traveled from Anchorage to Perryville via King Salmon. I arrived in Perryville in the afternoon and stayed at the village school. I checked in with Jerry Yagie concerning our plans for the egg take. Jerry was not successful in find any additional broodstock in the Kametolook River for the incubation boxes (four female and eight male coho salmon had been captured during a prior trip). I also met with the schoolteachers and discussed the school salmon aquarium project. To allow high school students to aid me on the egg take the head teacher required written parent permission and one of the two junior/high school teachers would have to accompany the students.

On Wednesday, 15 November the weather prevented the egg take. I met with the students and teachers about the project. Other scheduled school activities were conflicting with the egg take

project and the school decided not to participate in the egg take this year. I met with several villagers and we discussed the restoration project, the dynamics of the rivers in the Perryville valley, and the different stocks run strength. Boris Kosbruk was interested in other methods to increase the coho salmon run strength, especially a local hatchery.

On Thursday, 16 November Jerry Yagie, Austin Shangin, and I collected eggs from two ripe coho and milt from 7 ripe male coho. One female and one male were still green and released to spawn naturally in the river and one female had died in the holding pens. Standard delayed fertilization techniques were used and the fertilized eggs were placed in the incubation boxes. I held back about 200 eggs from each female and part of the milt from three males for the school aquarium. The holding pens and other equipment that were no longer needed were winterized at Jerry Yagie's house. In the afternoon, again using typical delayed fertilization techniques I fertilized about 400 eggs and placed them in the school aquarium.

On Friday, 17 November I instructed the head schoolteacher, Mike Looney, about caring for the school aquarium and the fertilized eggs. In the evening I traveled to Anchorage.

On Saturday, 18 November I returned to Kodiak.

cc: Scarbrough Campbell Pappas McCallum Bouwens

Appendix M

Chignik Regional Aquaculture Association
PO Box 46
Chignik AK 99564

Jim Fall
Subsistence Resource Program Manager
Alaska Department of Fish and Game
333 Raspberry Road
Anchorage, AK 99518-1599

April 10, 2001

Dear Jim:

Subject: Kametolook River Subsistence ---Coho Run Restoration

First, CRAA thanks you for attending the March 2001 Anchorage meeting concerning the Perryville's Kametolook River coho run.

At the meeting, several consensus points were reached and these include:

- The Kametolook River coho run is highly important to Perryville village, culturally and subsistence wise;
- The EVOS project has provided excellent educational benefits to the village, and the field egg-incubation operation/technology is well suited to the Kametolook River habitat.
- The August 20th closure of the Perryville and Western Districts is reasonable but an absence of a similar closure in the SEDM fishery timing is inconsistent;
- Chignik commercial fishers should continue with late season coho deliveries to the village;
- The village council's prohibition of instream coho fishing must be better enforced to insure escapement protection and;
- Current restoration efforts (EVOS project) must be augmented as annual coho escapements are at less than threshold level, and the run may well be genetically bottlenecked.

On March 30th, CRAA filed two permit applications with ADF&G for an alternate egg supply (brood) source for the Kametolook River coho egg-incubation project and relocating fry to the system. Shortly thereafter, ADF&G Juneau headquarters informed us that these permits would be processed only after a disease-fee brood stock is identified. The attached Fish Resource Permit Application, submitted last Friday, proposes disease testing three neighboring coho systems as alternative brood sources for the Kametolook River run.

CRAA fully acknowledges and appreciates that your office has already contributed much in manpower and other resources to the Kametolook River restoration efforts. More help is needed.

If you would contribute to or cover the field costs of the disease sampling efforts, restoration of Kametolook River coho run would be more assured.

ADF&G's Kodiak biologist Jim McCullough has estimated the field sampling cost at about $36,600.

I thank you for considering this request and your continued involvement in Chignik fisheries and concern for Perryville.

Sincerely,

Chuck McCallum, Director

attachment-1

cc Lisa Scarbrough

Appendix N

# STATE OF ALASKA
# DEPARTMENT OF FISH AND GAME
## Fish Resource Permit Application
## — Email Form —

A **FISH RESOURCE PERMIT** is required to take, possess, hold alive, or tag FISH AND THEIR EGGS (except goldfish and decorative tropical fish) FOR SCIENTIFIC OR EDUCATIONAL PURPOSES.

(in order to use this form over again as a "blank form" first re-name and save this as a new document)

| Chuck McCallum, CRAA Director & Bruce Barrett, CRAA Biologist | Chignik Regional Aquaculture Association |
|---|---|
| (Name of Applicant) | (Organization or School) |

P O Box 46, Chignik, Ak 99654

(type in complete mailing address including City, State, and Zip Code)

| 1-800-647-5542 or (406) 844-3453 | (360) 733-4744 | craacsa@att.net or deerhunter1355@yahoo.com |
|---|---|---|
| (your Telephone Number) | (Fax Number) | (Email Address) |

(type in the name and address of the organization with which you are under contract)

**I am making application to capture fish of the following species and number for the specified disposition** (example: identify and release, measure and release, genetic sample and release, tag and release, sacrifice, transport, hold alive, etc.):

| Species Common Name | Species Scientific Name | Life Stage | Number | Disposition* |
|---|---|---|---|---|
| Coho Salmon | Oncorhynchus kisutch | Adult | 60 | Disease sample and sacrifice |
| Coho Salmon | Oncorhynchus kisutch | Adult | 60 | Disease sample and sacrifice |
| Coho Salmon | Oncorhynchus kisutch | Adult | 60 | Disease sample and sacrifice |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

*For multiple sample locations give detail of species and number and disposition in your study plan

**I understand permits are only valid for dates within a calendar year; I am requesting this permit for the following period:** (a new application is required each year)

| 2001 | August 15 | November 21 |
|---|---|---|
| **Year:** (20__) | **From:** (month and day) | **To:** (month and day) |

**I wish to obtain the above fish [finfish, shellfish, amphibians] by means of:**

**Beach seine and/or gillnet**

(Specify gear type(s): minnow traps, hoop traps, fyke nets, gillnets, dip nets, spat collectors, etc.)

**from the following location(s):**

**Chignik Salmon Management Area: Ivanof River (Perryville District 275-40; anadromous waters catalogue #275-40-10600) & Smokey Hollow River (Perryville District 275-40; anadromous waters catalogue #275-40-10400) & Ivan River (Western District 273-722; anadromous waters catalogue #273-72-10200).**

(Specify location(s), i.e., X River at latitude/longitude, or ESE of Pt. Barrow, or on Kodiak Island, etc.)

**The purpose of the activities for which a permit is being requested:** (a brief purpose statement)

Use this as an enabling document to secure a collection permit for a 60-fish pathology sample from each stream (Ivanof, Smokey Hollow, Ivan). The intent is identify a suitable donor stock for restoration of the Kametolook River (Perryville village) coho run.

(this area and other boxes will expand as you type)

☞ **NOTE: A STUDY PLAN or RESEARCH PROPOSAL explaining the purpose and need, the objectives, and the procedures you will use must be included in/with this permit application:**

RESEARCH PROPOSAL- IDENTIFICATION OF POTENTIAL DONOR STOCK FOR RESTORATION OF PERRYVILLE'S KAMETOLOOK RIVER COHO SALMON RUN

Background: The Kametolook coho run is depleted and no longer meets the subsistence requirements for the native village of Perryville. Recent attempts to restore the run, through an EVOS instream egg-incubation project, has been unsucessful due to insufficient escapement. Use of a nearby coho salmon donor stock may be the only practical means of re-establishing a viable coho run to the Kametolook system.

Project Objective: Identify a suitable nearby coho run that may be used as a potential egg-source for restoration of the Kametolook River run.

Project Task: Collect a 60-adult female sample (kidney and ovarian fluids) from each of three coho salmon river systems near Perryville, which have instream escapements sufficient, as determined by ADF&G, to meet spawning and subsistence requirements and the proposed egg collection. If a suitable donor stock is found, 120 adult salmon (60 ripe spawning pairs of coho salmon) would be used as the future brood source.

Project Procedures: Adult female coho salmon will be seined or gillneted from the selected rivers. Using standard sampling containers and sampling techniques (per ADF&G Pathology Section) 60 adult female coho salmon will be processed for a disease sample (kidneys and ovarian fluids). The samples will be sent to the ADF&G Pathology Lab in Anchorage for analysis.

Prior to field collections the ADF&G Chignik Salmon Area Mangement Biologist, George Pappas, and the Regional Resource and Development Biologist, Jim McCullough will be notified.

(Study Plan)

**Final disposition of collected specimens* not to be released live at the site of capture will be:**

Immediately after sampling, the adult coho carcasses will be buried on exposed gravel bars so as to minimize nutrient loss, predator attraction, and soil distrubance/erosion.

*(specimens may not be consumed, sold, traded, or bartered, or used in any commercial manner)

**The following people will participate in field collections under terms of this requested permit:**

| | | |
|---|---|---|
| Non-specified, available CRAA staff and local village hires. It is anticipated that ADF&G may provide field collection assistance. | | |
| | | |
| | | |
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|---|---|---|
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| | | |

**I certify that all statements entered on this application are true, that I will abide by all conditions and restrictions of a permit if issued, and promise to submit a report of activities carried out under terms of such permit within 30 days of its expiration date:**

| | Chuck McCallum/ Bruce Barrett | Director/ Biologist | April 6, 2001 |
|---|---|---|---|
| (Latest Fish Resource Permit number, if any) | (Name: First. Middle Initial, Last) | (Title) | (Date) |

(If applicant is representing a corporation or institution, a certification of affiliation may be required which must be notarized and attached to this application).

( completed application must be submitted to ):

## Email Address:

Freshwater and estuarine environment collections (Division of Sport Fish):\
alan_havens@fishgame.state.ak.us

Marine environment collections (Division of Commercial Fisheries):
jamie_barlow@fishgame.state.ak.us

*or*

## Mailing Address:

**Alaska Department of Fish and Game**
**Division of Sport Fish — Permits,** (freshwater and estuarine environment collections), or
**Division of Commercial Fisheries — Permits** (permits for marine environment collections
**P.O. Box 25526** and for permits involving propagation).
**Juneau, AK 99802-5526**

**REPORT OF PROJECT ACTIVITIES AND EXPENSES FOR FFY-00 (Oct 99-Sept.00)**

**ADF&G/PERRYVILLE COOP-97-083**

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of pay | DESCRIPTIONS | PERSON | TRAVEL | LODGING |
|---|---|---|---|---|---|
| 4267 | 11/19/99 | Caught fish for incubation boxes | Jerry A. Yagie | | |
| | | 3 females | | | |
| | | 4 males | | 9-Nov-99 | |
| | | | | | |
| 4268 | 11/19/99 | put fish pens together, cleaned fish | Michael A. Shangin | | |
| | | boxes, assisted jerry y. and jim mcCullough | | 11-Nov-99 | |
| | | caught fish for fish pens, cleaned fish | Michael A. Shangin | | |
| | | boxes, fixed dam by fish pens | | 12-Nov-99 | |
| | | | | | |
| 4269 | 11/19/99 | dragging gillnet with jerry y. 9-Nov-99 | Daniel Shangin | | |
| | | caught fish for incubation boxes | | 9-Nov-99 | |
| | | | | | |
| | | cohoe eggs into incubation boxes | Jerry A. Yagie | 17-Nov-99 | |
| | | 9 females | | | |
| | | 18 males | | | |
| | | brought holding pens back to village | | | |
| | | washed 2 each - 5 gallon containers | | | |
| | | | | | |
| 4274 | 11/19/99 | dragging gillnet w/jerry & daniel | Austin Shangin | 9-Nov-99 | |
| | | took fish from holding pens, deegged | | | |
| | | milked them, put into fish boxes | Ausin Shangin | 17-Nov-99 | |
| | | | | | |

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**ADF&G/PERRYVILLE COOP-97-083**

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of pay | DESCRIPTIONS | PERSON | TRAVEL | LODGING | PER DI FOOD |
|---|---|---|---|---|---|---|
| 4256 | 11/8/99 | checked Kametolook River for silvers | Jerry A. Yagie | | | ck# |
| 4257 | 11/8/99 | 30 silvers at mouth Candle slough | Bruce Phillips | rode piggy back with jerry yagie | | |
| | | 20 reds up the Candle slough | | | | |
| | | couldn't see fish at hole below the | | | | |
| | | incubation boxes | | | | |
| | | Bruce P. saw a finner 26-Oct-99 | | | | |
| | | | | | | |
| | | set up holding pens and looked for | Jerry A. Yagie | | | |
| | | fish at Kametolook River | | | | |
| | | seen 20 - 30 fish 4-Nov-99 | | | | |
| | | | | | | |
| | | Cleaned out incubation boxes | Jerry A. Yagie | | | |
| | | caught 6 females | | | | |
| | | caught 14 males in holding pens | | | | |
| | | 5-Nov-99 | | | | |

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**ADF&G/PERRYVILLE COOP-97-083**

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of pay | DESCRIPTIONS | PERSON | TRA |
|---|---|---|---|---|
| 4290 | 12/21/99 | checked incubator boxes | Jerry A. Yagie | |
| 4291 | 12/21/99 | checked fish eggs | Bruce E. Phillips | |
| | | eggs violet color | | |
| | | about 20 eggs dead - white color | | |
| | | | | |
| | | | | |

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**ADF&G/PERRYVILLE COOP-97-083**

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of pay | DESCRIPTIONS | PERSON | TRAVEL |
|---|---|---|---|---|
| 4307 | 1/28/00 | went up to the country, made it as | Jerry A. Yagie | |
| | | far as the big island, too much snow | | |
| | | did not make it to the fish boxes | | |
| 4336 | 3/14/00 | removed old thermograms replaced | Jerry A. Yagie | |
| | | with new thermograms, checked | | |
| 4337 | | incubator boxes | Harry W. Kosbruk | |
| | | | | |
| 4349 | 4/7/00 | check incubation boxes, cleaned | Jerry A. Yagie | |
| | | #1 incubation box of brown slime | | |
| 4350 | | | Harry W. Kosbruk | |
| | | | | |
| 4382 | 5/11/00 | attempted to check the egg boxes | Jerry A. Yagie | |
| | | couldn't make it due to soft show | | |
| | | at the middle of the big island | | |

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**ADF&G/PERRYVILLE COOP-97-083**

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of pay | DESCRIPTIONS | PERSON | TRAVEL |
|---|---|---|---|---|
| 4392 | 5/19/00 | checked incubation boxes, cleaned | Jerry A. Yagie | |
| | | out brown alge on box #1, eggs | | |
| | | hatched fry below saddles | | |
| 4405 | 6/2/00 | checked fish in boxes. couldn't | Jerry A. Yagie | |
| | | cross Kametolook River | | |
| 4406 | | cut gillnet in half . Repaired | Raymond G. Shangin | |
| | | and mend holes in existing gillnet | | |
| 4421 | 6/26/00 | assisted Jerry A. Yagie | David E. Phillips | |
| | | on January 20, 2000 | | |

00247

**REPORT OF PROJECT ACTIVITIES AND EXPENSES FOR FFY-00 (Oct 99-Sept. 00)**

**ADF&G/PERRYVILLE COOP-97-083**

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of PAY | DESCRIPTIONS | PERSON | TRAVEL |
|---|---|---|---|---|
| | 9/16/00 | picked up saddles from incubation | Jerry A. Yagie | |
| | | boxes & checked for fish below boxes | | |
| | | 20 dogs, 2 reds | | |
| | 9/18/00 | cleaned saddles 6 bags | Jerry A. Yagie | |
| | 9/19/00 | check Kametolook River for fish | Jerry A. Yagie | |
| | | 10 fish at the second slough | | |
| | | 15 dogs below incubation boxes | | |
| **4488** | **9/26/00** | 2 reds above boxes | | |
| | | | | |
| | 9/28/00 | move intake box and put sand bags | Jerry A. Yagie | |
| | | on the dam. Checked Kametolook | Austin N. Shangin | |
| | | River for fish. 25 red & dogs below | Tom O'Domin | |
| | | incubation boxes. 2nd slough had | | |
| | | 15 silvers | | |
| | 9/29/00 | scrubbed, cleaned, and disinfected | | |
| **4511** | **9/29/00** | the incubation boxes | Jerry A. Yagie | |
| **4512** | **9/29/00** | | Austin N. Shangin | |
| **4513** | **9/29/00** | | Tom O'Domin | |

01247

## REPORT OF PROJECT ACTIVITIES AND EXPENSES FOR FFY-01 (Oct 1, 2000 - Sept.30, 2001)

## ADF&G/PERRYVILLE COOP-97-083

| check number | DATE of PAY | DESCRIPTIONS | PERSON |
|---|---|---|---|
| 4544 | 10/6/00 | put wood screws on #1 intake box | Jerry A. Yagie |
| 4543 | | | Thomas O'Domin |
| | | | |
| 4554 | 10/23/00 | checked Kametolook River for fish | Jerry A. Yagie |
| 4555 | | silvers below the incubation boxes | Austin Shangin |
| | | 5-10 silvers at Second slough | |
| | | no silvers along the River | |
| | | 25-30 Red Salmon | |
| | | | |
| | | | |
| | | | |
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| | | | |

REPORT OF PROJECT ACTIVITIES AND EXPENSES FOR FFY-01 (Oct. 1, 2000 - Sept. 30, 2001)

ADF&G/PERRYVILLE COOP-97-083

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of PAY | DESCRIPTIONS | PERSON |
|---|---|---|---|
| 4599 | 11/6/00 | **Oct 27**,00, one red at second slough | Jerry A. Yagie |
| 4600 | 11/6/00 | 20-25 silvers below incubation boxes | Bruce E. Phillips |
| | | 10 reds below incubation boxes | |
| | | 10 more reds with the silvers | |
| | | no fish along Kametolook River | |
| | | **11/2**/00, checked below the incubation | Jerry A. Yagie |
| | | boxes and counted fish about 7 silvers | |
| | | near the hole S.E. of incubation boxes | |
| | | and 2 silvers below the hole S.E. of | |
| | | incubation boxes. | |
| | | **11/03/00**, set up holding pens, | Jerry A. Yagie |
| 4598 | 11/6/00 | cleaned incubation boxes, | Andy J. Shangin |
| | | caught 4 females, put 8 males in | James McCullough |
| | | silver salmon fish pens | |

REPORT OF PROJECT ACTIVITIES AND EXPENSES FOR FFY-01 (Oct. 1, 2000 - Sept. 30, 2001)

ADF&G/PERRYVILLE COOP-97-083

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of PAY | DESCRIPTIONS | PERSON |
|---|---|---|---|
| 4614 | 11/17/00 | **Nov 11**, 00, checked incubation | Jerry A. Yagie |
| 4615 | 11/17/00 | boxes and holding pens | Andy J. Shangin |
| | | | |
| | | | |
| | | **Nov 16**, 00, Fertilized 2 females and | Jerry A. Yagie |
| 4616 | 11/17/00 | put into incubation boxes | Austin Shangin |
| | | dismantled pens | James McCullough |
| | | build up the dam | |
| | | | |
| 4518 | ~~9/29/00~~ | Policy# TBA-Liab 10/28/00-10/28/01 | |
| | 10/1/00 | Alaska General Insurance renewal | |
| | | Cathcart LTD | |
| | | | |
| | | | |
| | | | |

Project 01247

# REPORT OF PROJECT ACTIVITIES AND EXPENSES FOR FFY-01 (Oct. 1, 2000 - Sept. 30, 2001)

## ADF&G/PERRYVILLE COOP-97-083

WORKSHEET PERRYVILLE VILLAGE COUNCIL

| check number | DATE of PAY | DESCRIPTIONS | PERSON |
|---|---|---|---|
| 4676 | 1/12/01 | **Dec 29, 00** check boxes put thermograms | Jerry A. Yagie |
| | | scrubbed boxes | |
| 4696 | 1/26/01 | **Jan 22, 01** check incubation boxes and | Jerry A. Yagie |
| | | scrubbed intake boxes | |
| 4739 | 3/23/01 | **mar 23,01** scrubbed intake boxes and | Jerry A. Yagie |
| | | checked incubation boxes | |
| 4742 | 3/27/01 | **Mar 23, 01** checked incubation boxes with | Andy J. Shangin |
| | | jerry yagie | |
| 4767 | 4/23/01 | **April 19, 01** scrubbed incubation boxes | Jerry A. Yagie |
| | | and checked incubation boxes | |
| cash | 4/23/01 | **April 23, 01** postage, Perryville to Kodiak, Alaska | |
| | | part returning to Jim McCullough | |
| 4781 | 5/4/01 | **May 1, 01** Drilled holes on new intake boxes | |
| | | one day tool rental $30.00 | |
| | | **May 2, 01** Drilled holes on new intake | |
| | | boxes, one day tool rental $30.00 | |
| 4808 | 6/15/01 | June 7, 01 picked up saddles from incubation boxes | Jerry A. Yagie |
| 4809 | 6/15/01 | cleaned saddles washed out egg seperators | Alec Phillips, Sr. |