KODIAK REGIONAL AQUACULTURE ASSOCIATION

ANNUAL REPORT 2012

OUR MISSION

The Kodiak Regional Aquaculture Association is dedicated to salmon fisheries development in the Area K Management Area for the benefit of all common property users — subsistence, sport, and commercial — through research and management efforts, habitat monitoring and protection, stocking, enhancement and rehabilitation projects. KRAA further promotes respect for Kodiak Area salmon resources through science education and partnership programs.

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Cover Photo by: Marla Greanya

EXECUTIVE LETTER

Salmon fishing has long been, and continues to be, a cornerstone of Alaska's economy and culture. Salmon provide a means of employment and a sustainable living for a family operating a commercial fishing business. Salmon provide a way of life for Native Alaskans who have cultivated this resource for centuries. Salmon provide a personal and cultural bonding experience for parents and children to share, as they set out to fill the freezer or land "the big one'"!

Recognizing the relationship of salmon fishing to the culture and economy of the Kodiak Archipelago, the Kodiak Regional Aquaculture Association is proud of the fishing opportunities we provide through our enhancement projects. Here at KRAA, we strive to continue to provide abundant, healthy salmon for subsistence, sport, and commercial fisheries. To that end, our managers work tirelessly to ensure that our projects undergo continuous analysis and improvements.

Likewise, our biologists ensure that research projects are carried out with the best values of scientific inquiry and integrity. We seek to determine community priorities, to investigate and strengthen salmon runs that have weakened, and to create new fishing opportunities to put food on the table, here in Kodiak and across the globe. We also hope to reach out to communities and individuals to include them and gain the support we need to assure the sustainability of our salmon resources and fisheries, our coastal communities, and the rich and vibrant ecosystems that are Kodiak.

When the Association takes on the role of financial steward, we employ the same level of diligence we do as steward of your salmon resource. As recipients of the Salmon Enhancement Tax, along with state and federal grants, we work to assure that every dollar spent on rehabilitation, enhancement, habitat, research, outreach, and all other aspects of the Association's business is utilized wisely, fairly, and efficiently.

While you read this report, we hope that our commitment to the Kodiak salmon resource is evident in our work and accomplishments. As the 2013 season comes nearer, we look forward to further advancing our mission. 2013 marks the Association's thirtieth year of commitment to salmon production in Kodiak waters.

Kevin Brennan
Executive Director

AQUACULTURE IN KODIAK

Regional aquaculture associations were originally formed in 1976 through legislative action prompted by Alaskan fishermen who lobbied for the exclusion of private enterprise from salmon fisheries development and enhancement (and the creation of the nonprofit hatchery associations—both the regional aquaculture association for each area, as well as other private non-profit or PNP organizations). The ultimate goal was to give Alaskans a voice in salmon fishery enhancement decisions and a hand in actions, such as rehabilitation of weak salmon stocks or supplemental salmon production, research and educational outreach, and habitat protection and improvement.

Photo by: Marla Greanya

Each association is governed by a board of directors comprised of area permit holders representing each gear group as well as processing, marketing, sport fishing and other interests. The Kodiak Regional Aquaculture Association (KRAA) was officially approved by the commissioner of the Alaska Department of Fish and Game in 1983, and it has been enhancing and rehabilitating salmon runs in the Kodiak area for nearly 30 years.

During its formative first decade, KRAA achieved much through lake enrichment projects and, by 1994, supplemental sockeye production from stocking barren lakes reached significant levels. Since then, KRAA's contribution to the Kodiak Area salmon harvest has continued to expand.

Currently, the Association is primarily funded through two avenues: cost-recovery fishery revenues and a two percent salmon enhancement tax (SET) on first point-of-sale commercial salmon fisheries harvest revenues. The SET is initially paid to the State of Alaska by Area K salmon permit holders. The tax is calculated from gross revenue at the time of delivery and is held in the State of Alaska General Fund until the time of disbursement each year. The monies distributed to each Regional Aquaculture Association are based on landings in that region, and SET revenues generated in Area K are disbursed annually to KRAA by the state Department of Commerce, Community, and Economic Development.

REGIONAL PLANNING TEAM

The Kodiak Regional Planning Team (KRPT) is comprised of six voting members: three positions are held by representatives of KRAA, and representatives of ADF&G hold three seats. The State is represented by two members of the Commercial Fisheries (CF) staff, one from local Kodiak Management Area (KMA) or regional (Region IV) salmon management, one from the Fisheries Monitoring, Permitting and Development (FMPD) Section, and one member of the Kodiak Sport Fish Division (SF) staff. The team currently has a non-voting chairman and several non-voting ex-officio members. According to Alaska regulations, 5AAC 40.340, "each regional planning team shall prepare a regional comprehensive salmon plan, for the appropriate region to rehabilitate natural stocks and supplement natural production with provisions for both public and private nonprofit hatcheries."

RPT MEMBERS

Tina Fairbanks, Chair (KRAA - Staff)
Rick Ellingson (KRAA - Board Member)
Wallace Fields (KRAA - Board Member)
Oliver Holm (KRAA - Board Member)
Ron Josephson (ADF&G - FMPD)
Jeff Wadle (ADF&G -KMA)
Donn Tracy (ADF&G - SF)

REGIONAL COMPREHENSIVE SALMON PLAN

The Kodiak Regional Comprehensive Salmon Plan, 1982-2002, was approved by the commissioner of ADF&G in 1984. This plan provided a socio-economic and geographic overview of the KMA and documented the status of the fisheries from a historical perspective. The plan also set goals for salmon harvest during the life of the plan. Results of the 1982 public survey supported more salmon enhancement activity in the KMA. All three commercial gear groups (set gillnet, beach seine, and purse seine) preferred to have sockeye salmon enhanced.

Kodiak is now in the third phase of this document that is in effect for 2010-2030. "Looking ahead to 2030, the Kodiak Regional Planning Team has again set goals for increasing the KMA salmon harvest to 37.7 million salmon during even numbered years and 34.2 million during odd numbered years. This represents 14.2 million more even-year and 18.7 million more odd-year salmon than the current ten-year average commercial harvest. At more than double the recent ten-year average, the supplemental harvest goals set by the KRPT are considerable. This plan outlines many opportunities, through projects and programs, which can be utilized to achieve these higher goals.

HATCHERY PROGRAMS

KRAA operates two State of Alaska owned hatchery facilities for the incubation and rearing of various salmon species, to supplement Kodiak Area common property fishery. The history-rich Kitoi Bay Hatchery is located on the east side of Afognak Island and Pillar Creek Hatchery is on the Kodiak road system. Both hatcheries are supplied by broodstock originally or currently from native salmon systems around the archipelago—Saltery Lake, Afognak Lake, Monashka Creek and Big Kitoi Creek.

KITOI BAY HATCHERY

The Kitoi Bay Hatchery (KBH) is located on Afognak Island, approximately 25 miles northwest of the City of Kodiak. KBH was constructed in 1954 by the United States Department of the Interior, Fish and Wildlife Service, but was destroyed in the 1964 earthquake and rebuilt by the Alaska Department of Fish and Game in 1965. KBH is owned by the State of Alaska; however, KRAA operates the facility under an agreement with the State of Alaska.

Photo by: Chet Thomas

The hatchery was initially designed as a sockeye salmon research facility, but by 1976, the hatchery production priorities switched to pink salmon enhancement. The present goal of the facility is to provide enhanced salmon fishing opportunities for the Kodiak Management Area by increasing the returns of pink, chum, coho, and sockeye salmon, to the Kitoi Bay area.

PILLAR CREEK HATCHERY

Pillar Creek Hatchery (PCH) was constructed in 1990 as a cooperative project between Alaska Department of Fish and Game and KRAA. Though the facility is owned by the State of Alaska, KRAA operates the hatchery under an agreement with the State.

The hatchery was originally designed to produce juvenile sockeye salmon for barren lake systems to enhance adult production, and to stock anadromous lakes to rehabilitate weak sockeye salmon stocks. These stocking projects were developed to improve sockeye salmon harvest opportunities in the Kodiak Management Area. Today, PCH continues to produce juvenile sockeye salmon for lake stocking and net pen projects and works cooperatively with ADF&G Division of Sport Fish to produce coho and king salmon, and rainbow trout to enhance fishing opportunities on the Kodiak road system.

Photo by: Chet Thomas

2012 EGG COLLECTION

Many of the 2012 sockeye egg-take goals were based on the recommended 2013 juvenile release figures for each lake stocking project. Some of the recommended stocking figures are based on an in-season assessment of each lake's zooplankton population in July and August 2012.

The required broodstock numbers for 2012 fell within the historic range; and actual numbers of eggs collected from each brood source are detailed in the table below.

LOCATION	SPECIES	NUMBER
Afognak Lk	Sockeye	556,003
Saltery Lk	Sockeye	3,717,449
Little Kitoi Lk	Sockeye	1,511,055
Monashka Ck	Chinook	359,100
Big Kitoi Ck	Chum	26,922,747
Big Kitoi Ck	Pink	117,970,985
Big Kitoi Ck	Coho	2,253,448
Buskin Lk	Coho	108,250

2012 RELEASE

In total, KRAA released approximately 3.1 million sockeye salmon, 22.2 million chum salmon, 156 million pink salmon, 666,000 coho salmon, and 114,000 king salmon to enhance Kodiak salmon fisheries. The potential return resulting from the number of juvenile salmon released in 2012 is approximately 11.2 million adult salmon (all species).

In 2012, KRAA released 2.1 million sockeye salmon fry, approximately 242,000 sockeye salmon pre-smolt, and just over 700,000 sockeye salmon smolt at Telrod Cove, Spiridon, Hidden, Crescent, and Little Kitoi lakes. Just over 22 million chum salmon and over 156 million pink salmon fry were released from Kitoi Bay Hatchery into Big Kitoi Bay. Well over 390,000 coho salmon fry were released on Afognak Island, about 35,000 coho salmon pre-smolt were released in Katmai Lake on Spruce Island, an additional 88,000 coho fingerlings were released in ten road-system lakes around the City of Kodiak, and approximately 145,000 coho salmon smolt were released into Big Kitoi Bay and at Pillar and Monashka creeks. Following a year of rearing at Pillar Creek Hatchery, approximately 114,000 Chinook salmon smolt were released at Monashka Creek and the American and Olds rivers.

In addition to salmon releases, KRAA reared and released just under 70,000 rainbow trout at various road system lakes to provide sport fishing opportunities for Kodiak residents and visitors.

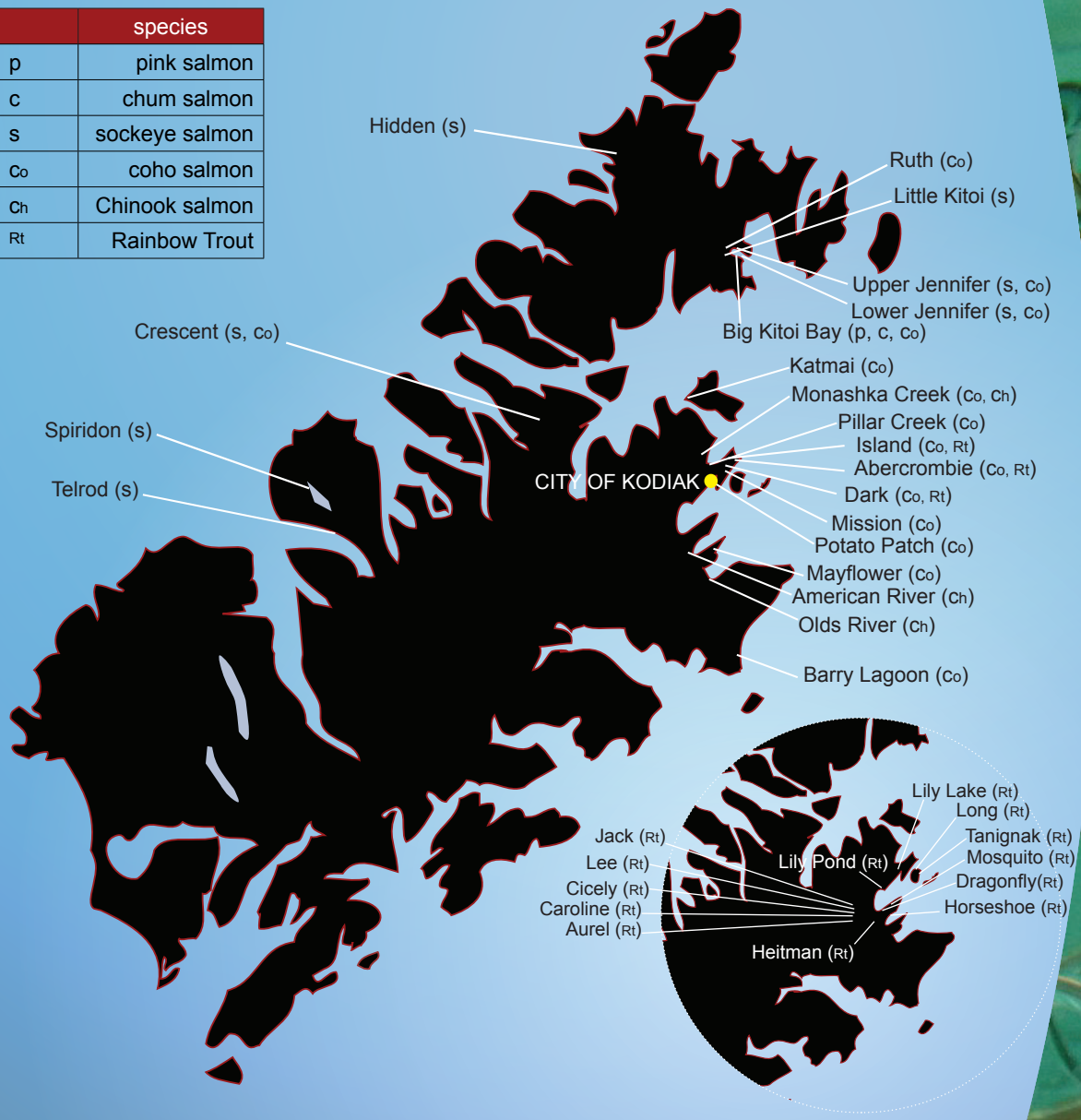
PILLAR CREEK HATCHERY

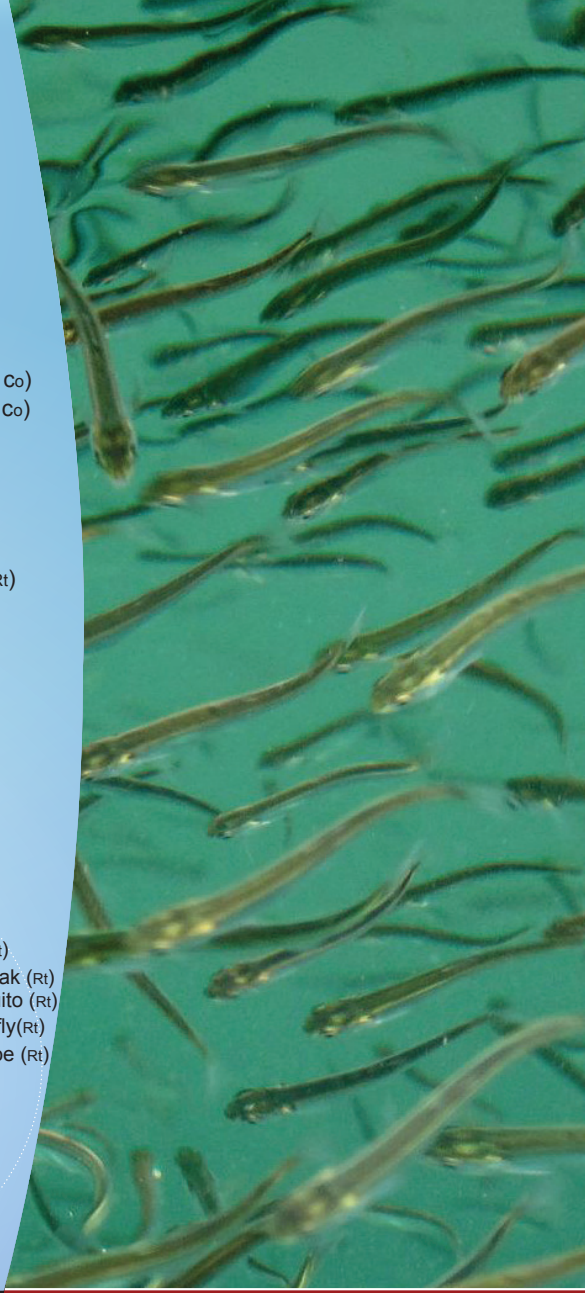
LOCATION	SPECIES	STOCK	STAGE	NUMBER
Hidden Lk	Sockeye	Afognak Lk	Fed Fry	229,151
Hidden Lk	Sockeye	Afognak Lk	Pre-smolt	50,312
Crescent Lk	Sockeye	Afognak Lk	Fed Fry	73,034
Crescent Lk	Sockeye	Afognak Lk	Pre-smolt	49,416
Spiridon Lk	Sockeye	Saltrey Lk	Fed Fry	1,836,794
Telrod Cove	Sockeye	Little Kitoi Lk	Smolt	162,850
Telrod Cove	Sockeye	Saltrey Lk	Smolt	125,814
Island Lk	Coho	Buskin Lk	Fingerling	22,500
Dark Lk	Coho	Buskin Lk	Fingerling	7,500
Mission Lk	Coho	Buskin Lk	Fingerling	12,500
Potato Patch Lk	Coho	Buskin Lk	Fingerling	9,500
Mayflower Lk	Coho	Buskin Lk	Fingerling	7,500
Abercrombie Lk	Coho	Buskin Lk	Fingerling	3,500
Barry Lagoon	Coho	Buskin Lk	Fingerling	25,000
Pillar Creek	Coho	Buskin Lk	Smolt	28,936
Monashka Ck	Coho	Buskin Lk	Smolt	34,765
Katmai Lk	Coho	Big Kitoi Ck	Pre-smolt	35,406
Monashka Ck	Chinook	Monashka Ck	Smolt	34,765
American River	Chinook	Monashka Ck	Smolt	39,740
Olds River	Chinook	Monashka Ck	Smolt	39,300
Kodiak Road System Lakes	Rainbow Trout	Ft. Richarson Cap. Spawn	Fingerling	64,976

KITOI BAY HATCHERY

LOCATION	SPECIES	STOCK	STAGE	NUMBER
Big Kitoi Bay	Chum	Big Kitoi Ck	Fed Fry	22,244,780
Big Kitoi Bay	Pink	Big Kitoi Ck	Fed Fry	156,644,477
Little Kitoi Lk	Sockeye	Saltrey Lk	Pre-smolt	142,717
Little Kitoi Lk	Sockeye	Saltrey Lk	Smolt	413,015
Ruth Lk	Coho	Big Kitoi Ck	Fed Fry	32,709
Lower Jennifer Lk	Coho	Big Kitoi Ck	Fed Fry	100,000
Upper Jennifer Lk	Coho	Big Kitoi Ck	Fed Fry	100,000
Crescent Lk	Coho	Big Kitoi Ck	Fed Fry	165,000
Big Kitoi Bay	Coho	Big Kitoi Ck	Smolt	81,649

	species
p	pink salmon
c	chum salmon
s	sockeye salmon
Co	coho salmon
Ch	Chinook salmon
Rt	Rainbow Trout





RESEARCH & MONITORING

To evaluate the success and effectiveness of KRAA programs, KRAA and ADF&G biologists implement projects centered on monitoring and evaluating juvenile salmon survival and/or adult salmon returns. Projects for 2012 included:

SPIRIDON LAKE/TELROD COVE

Spiridon Lake is located on the west side of Kodiak Island (approximately 74 km southwest of the city of Kodiak). It is the third largest lake on Kodiak Island and drains into Telrod Cove and Spiridon Bay by way of Telrod Creek. Telrod Creek has three waterfalls that are impassable to anadromous fish. Two waterfalls are located approximately 0.8 km downstream of the lake outlet, and a third waterfall, located near the stream terminus, blocks salmon from migrating further upstream.

In 1991, KRAA and ADF&G, with permitting by USFWS, began stocking juvenile sockeye salmon into Spiridon Lake, where they reside and feed until they are ready to move out of the system (emigration). Smolt are shunted into a small pipeline to allow study of the fish and to increase survival as they move down to the bay.

Annual sockeye salmon smolt emigrations from Spiridon Lake are enumerated and sampled for age and size to assess growth, juvenile survival and smolt-to-adult survival. These efforts include operation and maintenance of a bypass system (diversion weir, traps, dewatering tanks, and pipeline) in May and June. In 2012, approximately 1.0 million sockeye salmon smolt emigrating from Spiridon Lake were enumerated through the bypass system.

LOCATION	SOCKEYE SMOLT	AGE 1	AGE 2	AGE 3
Spiridon Lk	1,009,179	73.3%	26.8 %	0%

Returning adult sockeye salmon are harvested in the commercial salmon fisheries within the Northwest Kodiak District with a large portion caught in the Spiridon Bay Special Harvest Area (SBSHA), located at Telrod Cove. From mid-June to early August, the fishery in the SBSHA is monitored by KRAA staff. Monitoring duties include estimating the build-up of returning sockeye salmon, estimating and sampling the sockeye salmon harvest, and estimating the incidental harvest of Chinook, chum, pink, and coho salmon. Just under 80,000 sockeye salmon were harvested in Telrod Cove during the 2012 season.

WATERFALL BAY

The Waterfall lakes and the adjacent Waterfall Bay Special Harvest Area (WBSHA) are located on the northern end of Afognak Island at Perenosa Bay and include Little Waterfall and Big Waterfall bays.

Sockeye salmon juveniles were stocked into Little Waterfall Lake from 1992-2009 and 2011, and intermittently into Big Waterfall Lake in 1992, 1994, and 1999-2010. In addition to stocking, Little Waterfall Lake was fertilized from 1993 through 2001 in order to maintain a stable forage base (zooplankton) for the rearing juvenile sockeye salmon. Due to low zooplankton levels, no fish were released at Little Waterfall and Big Waterfall lake in 2012.

To quantify sockeye salmon returns to the Waterfall Bay Special Harvest Area, the ADF&G and KRAA have been monitoring the annual commercial harvest since 1995. Commercial harvest monitoring duties include the installation and maintenance of a barrier net in the estuary of Little Waterfall Bay. The barrier net provides fishermen the opportunity to harvest all of the returning sockeye salmon to the WBSHA. In 2012, harvest at WBSHA yielded 15,729 sockeye salmon.

HIDDEN LAKE/FOUL BAY

Hidden Lake is located on the northwest side of Afognak Island at Foul Bay. A stocking project was designed and implemented in 1992 to utilize the abundant zooplankton population in the lake to produce sockeye salmon smolt that would immigrate to the ocean and return as adults to Foul Bay.

Sockeye salmon returning to Foul Bay are harvested in the Foul Bay Special Harvest Area (FBSHA). ADF&G annually monitors the commercial harvest and collects adult AWL samples. Lake limnology data is collected to evaluate the response of the lake's zooplankton community to the predation by juvenile salmon. Additionally, freshwater growth and fry to adult survival data are collected and evaluated. A total of 24,591 sockeye salmon were harvested in Foul Bay.

LOCATION	SOCKEYE HARVEST	AGE 1.1	AGE 1.2	AGE 1.3	AGE 2.2	AGE 2.3
Telrod*	77,934	1.9 %	45.3%	12.3%	24.6%	15.3%
Waterfall	15,729	1.8%	35.6%	55.6%	3.9%	3.0%
Foul Bay	24,591	1.2 %	67.7%	26.3%	2.5 %	1.8 %

*age classes 0.3, 1.4, 2.1, 3.2, 3.3 combined accounted for less than 1% of the total age composition
** 4-ocean (age class 1.4 and 2.4) fish accounted for 0.5% of the total age composition

FRAZER LAKE

Located on the southeastern side of Kodiak, Frazer Lake is the second largest lake on Kodiak. Prior to 1951 the lake was barren of anadromous fish until a stocking project was initiated and a self-sustaining sockeye was established. To traverse the impassible waterfall, returning fish were backpacked around the falls and up to the lake. Finally, in 1962 a fish pass was constructed around the barrier, which allowed fish to access Frazer Lake and tributary spawning habitats volitionally. Throughout the years, many improvements have been made to the fish pass, and now both juvenile salmon and adults are passed and enumerated to provide better forecasting and management strategies.

Today, ADF&G and KRAA work in collaboration to operate the Frazer fish pass and weir for the duration of the sockeye return. To estimate the abundance of smolt, an inclined plan trap is installed in the upper reaches of the Dog Salmon River and fished May through early July. Throughout the emigration, age weight and length data are collected from 200 fish per week.

An objective of the 2012 smolt project of Frazer Lake was to explore the feasibility of capturing 100% of the sockeye salmon smolt emigrants utilizing a smolt trapping and pipeline system. Because Frazer Lake is a large system and an estimated 5.5 million smolt emigrated in 2012, great consideration must be taken to minimize smolt mortality.

In 2012, nearly 149,000 sockeye salmon were passed through the fish pass and into the upper reaches of the Frazer Lake. The commercial fishery in the Alitak Bay District is sampled and harvests are apportioned. In 2012 an estimated 217,631 Frazer sockeye salmon were harvested in Alitak* commercial fisheries.

SALTERY RIVER

The Saltery River weir, approximately 37 m (120 ft) long, is located about 0.4 km (one-quarter of a mile) below the outlet of Saltery Lake, on the northeast side of Kodiak Island. Saltery weir was first constructed and installed in 1985.

KRAA provides funding and personnel to ADF&G to install and operate the weir on an annual basis. Reliable and accurate counts are particularly important to KRAA operations due to the remote egg-takes that occur on the system. Every summer, Pillar Creek Hatchery collects eggs from Saltery Lake sockeye salmon to be reared for release at Spiridon Lake or one of KRAA's other late-run sockeye salmon projects.

In 2012, more than 27,000 sockeye salmon were passed through the Saltery River weir. Once escapement goals were met, KRAA utilized 2,266 adult sockeye salmon for broodstock. Saltery sockeye are targeted by subsistence, sport and commercial fishermen. The estimated commercial harvest in 2012 was 14,357 sockeye salmon.

*Alitak District (257) includes: Olga, Moser, Alitak (257-40,-43,-41). Also includes: Cape Alitak and Humpy Deadman sections (257-10, -20, -50, -60, -70)

Reliable and accurate counts are particularly important to KRAA operations due to the remote egg-takes that occur on the system.

LIMNOLOGY

ADF&G, with KRAA funding and equipment, operates a limnology laboratory in Kodiak for the collection, processing and analysis of water chemistry and zooplankton samples. Limnology data collection from Kodiak lakes began in the early 1980's. KRAA, in a cooperative agreement with the ADF&G, has provided the funding for the majority of limnology data collection and processing since 1991. In 2012, 17 lakes in the Kodiak Archipelago were routinely sampled.

Most lakes in the Kodiak area are accessible only by floatplane. Samples collected while working off the floats include zooplankton net hauls, water samples, temperature and dissolved oxygen profiles, and light incidence measurements. In the laboratory, zooplankton is measured and enumerated under the microscope, and water samples can be analyzed for pH, alkalinity, Chlorophyll a, and nutrient content.

ADF&G uses limnology data to assess lake productivity and changes in the freshwater rearing environment of sockeye salmon. Zooplankton data are also used in stocking recommendations for salmon stock enhancement projects. In 2009, KRAA commissioned a report to summarize limnology data collected on multiple lakes in the Kodiak Archipelago since approximately 1980, for the purpose of determining whether sockeye salmon production could be increased in some lakes by adding nutrients (read more on page 15). Every year as data is collected and analyzed, the results are added to the database.

Photo by: Marla Greanya


Big Waterfall
Little Waterfall
Laura
Hidden
Ruth
Little Kitoi
Malina
Upper Jennifer
Lower Jennifer
Crescent
Spiridon
Buskin
CITY OF KODIAK
Karluk
Frazer
Saltery
Upper Olga

LAKE ENRICHMENT

Lake nutrient enrichment techniques contribute to both the restoration and enhancement of sockeye salmon populations. Sockeye fry originating from enriched lakes gain size and survival advantages that ensure increased returns of adults (Hyatt et. al 2004). The positive affect of lake nutrient enrichment programs on juvenile sockeye salmon growth and recruitment, and on subsequent marine survival and adult returns, has been documented since studies at Bare Lake ((which drains into the Ayakulik River) in the 1950s (Nelson, P., 1959), and lake enrichment projects have been employed in many Alaskan lakes in ensuing decades.

In 2009, KRAA commissioned a report to summarize limnology data collected on multiple lakes in the Kodiak Archipelago since approximately 1980, for the purpose of determining the nutrient 'health' of Kodiak's major sockeye nursery lakes. The data was analyzed to discern whether sockeye salmon production could be increased in some lakes by adding nutrients. Based on these data, specific recommendations were made for future limnology sampling and for nutrient enrichment.

Kodiak's three largest lakes, Karluk, Frazer, and Spiridon were named as the top ranking lakes that would respond favorably to a program of nutrient enrichment. Since these findings were first uncovered, KRAA has been diligently working with government agencies, biological experts, and political advisors to develop nutrient enrichment programs for these three lakes that fully comply with rigid federal and state guidelines. While working to acquire permits necessary for nutrient enrichment, KRAA continues to research and monitor Karluk, Frazer, and Spiridon lakes through extensive limnological, hydroacoustic, and smolt enumeration programs.

LAKE ENRICHMENT PROJECT SUPPORTERS

Atognak Native Corporation

Alaska Department of Fish and Game

Native Village of Afognak
Celebrating Our Afognak Alutiiq Heritage

Eskimo Aleut Indian

City of Kodiak Alaska

CITY OF LARSEN BAY

CITY OF PORT LIONS

Kodiak Island Borough

KONIAG

KARLUK IRA TRIBAL COUNCIL

Larson Bay Tribal Council

NATIVE VILLAGE OF PORT LIONS

Natives of Kodiak

SWAMC
Southwest Alaska Municipal Conference

Ouzinkie Native Corporation

EDUCATION & OUTREACH

As a state sanctioned regional aquaculture association, KRAA has the unique ability to provide resources for the communities of Kodiak. In some years, the Association has produced over 50 percent of Kodiak's annual pink salmon harvest and annually produces significant contribution to the chum. Along with producing salmon, KRAA provides dynamic educational opportunities, events, and resources that advance scientific knowledge and promote stewardship of Kodiak's salmon resource. KRAA's education and outreach efforts strive to foster two-way communication and actively involve the community in salmon enhancement decisions.

In an effort to make information about the Association more accessible, KRAA redesigned and launched a new website – www.kraa.org. This site allows users to stay updated on the Association's enhancement and research activities and gain insight on the history of aquaculture in Kodiak. Important documents and research proposals are also posted on the site for ease of public access. As the site progresses, KRAA intends to develop user friendly "fish tools": pages that provide daily fish counts, interactive maps of stocking locations, and project updates!

Ongoing Efforts and Programs:

- Hatchery tours
- Buskin River egg take
- Saltery Lake egg take
- Salmon dissections in the classroom (ADF&G joint)
- Envirothon (KNWR joint)
- Salmon Celebration (ADF&G joint)
- Commfish booth
- SCA internships
- Staff presentations

KRAA INTERNSHIP PROGRAM

KRAA began an internship program in partnership with the Student Conservation Association (SCA) in 2008. The program is targeted toward students studying fisheries, aquaculture, biology, and natural resources degrees. Students participating in the program are provided a hands-on opportunity to work in a field camp and gather data. By working alongside experienced biologists and technicians, students are provided professional development opportunities and acquire skills that often are not available in classroom settings.

In turn, by working with the students from universities outside of Alaska, the Association is able to introduce our enhancement programs and raise national awareness of Aquaculture in Alaska and its role in enhancing and providing sustainable salmon. Moreover, while employing interns provides a considerable cost savings, KRAA is able to develop relationships with potential employees.

Since its inception, the program has provided opportunities for numerous individuals, several of whom have returned to KRAA to work as technicians.

SCA assists KRAA by screening and providing quality applicants who are typically upper class or graduate students and assists successful applicants with logistic and administrative support as they become. Students participating in the program are also eligible for an AmeriCorps scholarship, which provides funding for students' tuition and other qualified expenses as they pursue their degree.

"My internship with Kodiak Regional Aquaculture Association was one of my most educational and rewarding experiences...I cannot thank KRAA enough for the amazing opportunity they provided me."

- Jenell de la Pena

Photo by: Marla Greanya

2012 KRAA INTERNS

Karl Seitz, University of Buffalo
Karluk Smolt and Monashka Chinook weir

Christine Manach, East Stroudsburg University
Karluk Smolt and Monashka Chinook weir

Jenell de la Pena, San Diego State University
Spiridon Smolt and Telrod Sockeye

COST RECOVERY

Cost recovery harvests are authorized by the State of Alaska to "recover" all or part of the costs of operating the hatchery, for improvements to the hatchery, or for other salmon enhancement or rehabilitation projects in the region, fisheries research, or reasonable operating or administrative costs. Prior to the fishing season, the KRAA Board of Directors establishes cost recovery goals designed, in part, to reach funding objectives while minimizing impact on the common property fishery. KRAA is authorized by the state to license the harvest of salmon for cost recovery in strategically designated locations called Special Harvest Areas. These areas, often located in terminal or hatchery locations, allow harvest of salmon with minimal impact on common property openings. Once the cost recovery goals are realized, salmon fishing may be opened to the common property fishery.

In 2012, the Association concentrated cost recovery efforts at the Kitoi Bay and Spiridon Bay Special Harvest Areas.

SPIRIDON BAY SPECIAL HARVEST AREA - TELROD COVE

KRAA initiated a cost recovery program in 2011 to provide a regular funding stream for Pillar Creek Hatchery and salmon research and monitoring projects. The 2012 Telrod cost recovery goal was set at 120,000 pounds of sockeye salmon returning from Spiridon Lake stocking projects.

In 2012, the Telrod Cove cost recovery harvest began on June 24, 2012 and concluded on July 7, 2012. A total of 21,038 sockeye salmon, averaging approximately 5.8 lbs. were harvested during the cost recovery fishery, and an additional 56,896 sockeye salmon were harvested within the SHA during the common property fishery. The total return of Telrod Cove bound sockeye salmon was calculated at 171,344 adult fish and contributed more than 93,000 fish to fisheries in districts outside the SHA.

KITOI BAY SPECIAL HARVEST AREA

The Kitoi Bay cost recovery goal for 2012 was set at 4 million pounds of Kitoi Bay Hatchery pink salmon. Efforts began on August 3, 2012 and concluded on August 13, 2012 when a total of 1,152,705 pink salmon had been harvested and the 4 million pound goal was realized. Over 1.8 million pink salmon were harvested in the common property fishery at Kitoi Bay.


Closed Area
Section Boundries
Ruth Bay
Little Kitoi Bay
Elk Lake
KITOI BAY SPECIAL HARVEST AREA
Ruth Lake
Little Kitoi Lake
Kitoi Bay Hatchery
Inner Kitoi Bay Section
Upper Jennifer Lake
Lower Jennifer Lake
Big Kitoi Lake
Big Kitoi Bay
Outer Kitoi Bay Section
"The Jaws"
Spridon Lake
Telrod Creek
SPIRIDON BAY SPECIAL HARVEST AREA
Inner Harvest Boundry
Telrod Cove
Outer Harvest Boundry
Spridon Bay

BOARD OF DIRECTORS

EXECUTIVE COMMMITTEE

Oliver Holm, *President*
Wallace Fields, *Vice-President*
Harvey Goodell, *Secretary*
Raymond May, *Treasurer*
Chris Burns, *At-Large*

OLIVER HOLM
Purse Seine

WALLACE FIELDS
Westside Set Net South

HARVEY GOODELL
Westside Set Net North

DANA REID
Purse Seine

CHRIS BERNS
Any Gear At-Large

DON DUMM
Beach Seine

KIP THOMET
Set Net At-Large

LEE ROBBINS
Sport Fish

RAYMOND MAY
Purse Seine

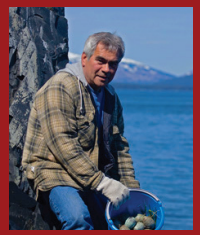
JEFF STEPHAN
Marketing

RICK ELLINGSON
Alitak Set Net

STEVE LEE
Processor

RICK BERNS
Purse Seine

STEVEN HORN
Any Gear At-Large



HERMAN SQUARTSOFF
Subsistence

KODIAK REGIONAL AQUACULTURE ASSOCIATION STAFF

ADMINISTRATION AND OPERATIONS

KEVIN BRENNAN	EXECUTIVE DIRECTOR
TAMMY HULSEY	EXECUTIVE ASSISTANT
TINA FAIRBANKS	PRODUCTION & OPERATIONS
MEGAN HOLLAND	ACCOUNTING CLERK
ESA AUTEN	CONSTRUCTION MANAGER

RESEARCH AND MONITORING

TRENTEN DODSON	R & M MANAGER
RACHEL HAMM	FISHERIES BIOLOGIST

KITOI BAY HATCHERY

ANDREW ARO	MANAGER
MICHAEL SMIMMO	ASSISTANT MANAGER
PAYNE ISANOGLE	MAINTENANCE MANAGER
TERRY NORRIS	ASSISTANT MAINTENANCE
JOESEPH SAN	FISH CULTURIST
SCOTT CUNFER	FISH CULTURIST
RANDY MASON	FISH CULTURIST

PILLAR CREEK HATCHERY

AL SEALE	MANAGER
ANDREW WALTER	ASSISTANT MANAGER
JAMES TURMAN	FISH CULTURIST

Photo by: Marla Greanya

KODIAK
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