

HATCHERY NEWS

Armstrong-Keta, Inc.

Summer 2006

PRESIDENT'S REPORT

New Skippers at the Helm

After more than two decades of operation, Armstrong-Keta, Inc. is maturing as an organization. Since its founding in 1981, AKI has been progressing along the evolutionary curve that most companies follow from startup to established. New projects like salmon hatcheries are typically launched by visionaries characterized by creativity and high energy, willing to make the project their "baby" and nurse it along through the challenging early years. There is always a steeper learning curve at the beginning, and a flexible seat-of-the-pants style of leadership can be an asset in maneuvering through all the countless unforeseen obstacles that a new operation inevitably encounters.

Eventually, if the company manages to survive the early hurdles, it accumulates enough experience to build a solid foundation for its operations and refine the details in a more stable way. At this stage, it is important for the company to make the transition to an organization that depends less on the efforts of any single individual and more on the structure of its mission and systems. The organization must develop an "institutional memory" through its business culture and specific procedures that provides guidance for both its staff and its board of directors. With such a framework in place, the company can carry on over the years efficiently and consistently, without being too greatly affected by changes in personnel and leadership. These evolutionary stages are just as valid for a non-profit organization like an Alaskan salmon hatchery as for the typical profit-making company. AKI has recently been undergoing that transformation.

In AKI's case the early entrepreneurial stage was stretched out a little longer than usual by the major changes that hit the industry over the last decade. The dramatic drop in pink prices that severely impacted much of the Alaskan salmon fishing industry meant that AKI had to scramble to redefine its business plan just to stay alive. In Southeast Alaska, all the other financially self-sufficient hatcheries depend on chums rather than pinks for the bulk of their cost recovery income, and of course the regional associations could also take advantage of their aquaculture tax income to help support their operations. Prince William Sound has several major pink hatcheries, but these are all substantially larger than the Port Armstrong Hatchery. What they lost in price per pound

they could make up for in their volume of production. Other smaller pink hatcheries, such as Tutka, simply decided the economics were not favorable enough to support their operations and closed their doors.

At AKI, we analyzed and debated the options before deciding that our production brought significant benefits to enough fishermen that it was important to stay in business. To do so successfully meant finding ways to both reduce expenses and produce fish more efficiently. We gradually expanded production to achieve economies of scale, and diversified from pinks by adding chum, chinook and a greatly expanded coho production. It's been tight for us the past several years, but we've hung in there long enough to see the markets begin to



Port Armstrong Hatchery

improve, initially for cohos and chinooks but also now in the flesh markets for chums and pinks. The board of AKI decided it was an opportune time to take the next step forward by hiring new experienced managers for the administrative office, as well as investing in beefing up the systems that serve as AKI's institutional memory.

At the beginning of 2005, we recruited two highly experienced and competent individuals to manage the organization.

Sam Rabung, the new operations manager, brings with him many years' experience working at and managing hatcheries all over Alaska. Most recently, he was hatchery manager at DIPAC's Macaulay Salmon Hatchery for 8 years and im-

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2006 Port Armstrong Hatchery Production

The Port Armstrong Hatchery has had a very successful spring rearing season this year. Although the spring was cold and somewhat later than normal, the hatchery staff managed to attain our fish production goals and the condition of the outgoing fish was much improved over the last couple of years. The pink and chum fry grew to especially impressive weights by the time their release dates rolled around, which should enhance their marine survivals.

Hatchery Manager Ben Contag is very pleased with this year's releases and has high hopes for strong returns from them. He attributes much of the success this year to the hard work of the dedicated staff at the Port Armstrong Hatchery. They are an outstanding group who take a lot of pride in the fish that they produce.

This spring the hatchery released approximately 78 million pink salmon along

with 3.88 million summer chum salmon, the third consecutive release of this new Port Armstrong run. And this year AKI re-

leased the most cohos (over 2.6 million) and the most chinooks (273,000) in its history.

Brood Year	Species	Release Date	Number Released	Avg. Size (g) at Release
2005	Pink	5/27/06	59,834,978	0.92
		6/1/06	18,337,310	1.76
		Total	78,172,288	1.12
2005	Chum	5/15/06	1,770,390	3.86
		6/1/06	2,110,821	2.93
		Total	3,881,211	3.35
2004	Chinook	5/5/06	273,788	42.0
2004	Coho	6/8/06	2,616,063	19.34
Total fry & smolts released in 2006			84,943,350	

Projected Returns in 2006 from Port Armstrong Hatchery production

Accurately predicting returning numbers of salmon is not truly possible. There are countless unknown or unquantifiable factors that affect the survival of the released fish, so many that sometimes the predictions are closer to an informed guess than an accurate forecast. However, for purposes of planning our harvests and egg takes and informing the fleet of potential

fishing opportunities, we must attempt a prediction based on the information available.

Probably the simplest method for established runs is to use its historical averages and trends, or in the case of newly established runs, the return data of the donor populations. In the case of hatchery releases, the fish production staff can

measure several factors that are known to affect marine survivals and can be used to help predict the return strength, such as quantity, condition and size of the fish at release and timing of the release. These rough numbers are then fine-tuned using additional information such as observations of predator populations and activity as well as plankton (food) abundance. In addition, there seems to be a sibling relationship for species with overlapping year classes (chinook, chum, sockeye) that can be taken into account. With the species that return after just one year at sea, the cohos often will reflect what the earlier pinks of that year did.

Looking back on past forecasts shows that sometimes they are fairly accurate and sometimes they are not very close at all. Keeping that uncertainty in mind, to the left is a table showing this year's forecast for returns from the Port Armstrong Hatchery production. By November it will be clear just how accurate it was.

Species	Estimated Return	Estimated CP Harvest	Estimated Cost Rec.	Estimated Brood Stock
Pink	2,315,207	787,170	1,278,037	250,000
Coho	122,848	61,424	58,424	3,000
Chinook	1,536	768	0	768
Chum1	8,043	2,654	0	5,389
Total	2,447,634	852,017	1,336,460	259,157

1—AKI restarted the chum program with an eggtake in 2003; the first returns are expected in 2006.

Port Armstrong Chum Program Update

Armstrong-Keta, Inc. is in the process of establishing a summer chum program at the Port Armstrong Hatchery. Beginning in 2002, AKI received SSSF grants to develop the program. AKI has obtained the eggs to establish the new run at Port Armstrong from NSRAA's Hidden Falls Hatchery and Kake's Gunnuk Creek Hatchery, both of which have the same stock. With a permit for 30 million green eggs, the Port Armstrong Hatchery should provide approximately 540,000 returning adult chum annually at full and stable production levels. The adults are expected to return with similar timing to the Hidden Falls Hatchery chums, approximately from mid June to mid July. The program has had a slow start due to lack of surplus broodstock at the two donor hatcheries, with the Port Armstrong Hatchery releasing approximately 13.4 million chums in 2004, 0.5 million in 2005, and 3.8 million in 2006. AKI anticipates being able to take approximately 3 million green eggs this summer from its own three-year olds returning to the hatchery from the first release in 2004. These brood year 2006 Port Armstrong eggs, along with any eggs received from the Gunnuk Creek Hatchery and/or the Hidden Falls Hatchery, will be incubated, reared and released as fry at the Port Armstrong Hatchery in the spring of 2007. See table 1.

The purpose of the chum program at the Port Armstrong hatchery is:

- diversification of AKI's cost recovery for operational costs and debt repayment,
- funding for increased coho and chinook production, and
- contribution of chums to the fleet.

Since lower Chatham Strait is closed to the Seine fleet prior to August for pink salmon management, AKI is seeking a remote release site for a portion of the chum production in order to increase its contribution to the Seine fleet. The original plan called for the establishment of a remote release site at Port Lucy for approximately two thirds of these fish. Port Lucy was initially identified as a desirable site due to its proximity to the hatchery and its suitability for Troll fleet interception. However, in extensive discussions with local trollers, it became apparent that the potential for creating gear conflicts in an

area with very little current conflict was too great, and AKI abandoned its effort to permit the site. At present, the only permitted release site is Port Armstrong.

Over the past year and a half, AKI has had conversations with members of the community of Port Alexander, NSRAA, ADF&G, Gunnuk Creek Hatchery, Alaska Trollers Association, and other interested Fishermen exploring possible release sites. Formal requests for input into finding a release site have been sent to Alaska Trollers Association and posted on the SEAFA web site. Some potential release locations that have been discussed include Takatz Bay, Southeast Cove, and the South Arm of Port Malmsbury. AKI will continue investigating potential sites with the intent of providing increased contribution to the common property fisheries without creating any new gear conflicts.



Harvesting pink salmon at the hatchery.

Total return by Brood Year							
Brood year	Release year	Number Released	3% Return as 3 yr old	65% Return as 4 yr old	31% Return as 5 yr old	1% Return as 6 yr old	Total Return
2003	2004	13,405,549	5,347	115,852	55,253	1,782	178,234
2004	2005	574,948	345	7,474	3,565	115	11,499
2005	2006	3,881,211	2,280	49,400	23,560	760	76,000
2006	2007	5,000,000	3,000	65,000	31,000	1,000	100,000
2007	2008	27,000,000	16,200	351,000	167,400	5,400	540,000
2008	2009	27,000,000	16,200	351,000	167,400	5,400	540,000
2010	2011	27,000,000	16,200	351,000	167,400	5,400	540,000
2011	2012	27,000,000	16,200	351,000	167,400	5,400	540,000

Table 2

Total number per Return Year

Return Year	Return as 3 yr old	Return as 4 yr old	Return as 5 yr old	Return as 6 yr old	Total Return
2006	5,347				5,347
2007	345	115,852			116,197
2008	2,280	7,474	55,253		65,007
2009	3,000	49,400	3,565	1,782	57,747
2010	16,200	65,000	23,560	115	104,875
2011	16,200	351,000	31,000	760	398,960
2012	16,200	351,000	167,400	1,000	535,600
2013	16,200	351,000	167,400	5,400	540,000
2014	16,200	351,000	167,400	5,400	540,000

Port Armstrong SSSF Grant Status Report

As Armstrong-Keta, Inc. draws close to completing its expansion projects funded by the Southeast Sustainable Salmon Fund, it is an appropriate time to report to the fishing community what we have accomplished so far.

The SSSF consists of money appropriated by congress at Sen. Stevens' initiative to help restructure the salmon industry in Southeast Alaska and meet the challenge of farmed salmon competition. The money was passed through the State of Alaska for distribution to whatever worthy projects the state selected. In the spring of 2002, ADF&G convened a stakeholders' panel, composed of representatives from various segments of the salmon industry (including fishermen, processors, hatchery operators and others) to recommend how to allocate the SSSF funds.

In that first round of funding, the state followed the panel's recommendations and awarded grants to several salmon enhancement and marketing projects in Southeast Alaska, among them two projects at Port Armstrong. One project was to initiate a summer chum run at the Port Armstrong Hatchery, which at that time was producing only cohos, chinooks and pinks. The second project was to expand Port Armstrong coho production by upgrading the water system and related facilities. The facility improvements funded



Smiling fish culturist Jake Martinez keeps a close eye on the fry. The new building can be seen behind him.

by both these projects are now complete and AKI is well on its way to meeting the ultimate production goals of the projects.

The chum project is described in more detail in the accompanying article, "2006 Chum Update." The goal of the project is to establish a new chum run that will add an estimated 540,000 returning adult chums to Southeast waters each summer, via the incubation, rearing and release of chums from 30 million eggs taken at Port Armstrong annually. To accomplish this expansion, AKI was awarded SSSF chum grants totaling \$1,456,311 distributed over a three-year period beginning in late 2002. The grants funded construction of a new incubation building and associated incubators to handle the expanded production, along with saltwater net pens for

short-term rearing the fish before their release to the wild. All the funded facilities have now been completed, and the hatchery has already used them to release chums for three years. As the Port Armstrong Hatchery awaits its first returning adult chums this summer, AKI hopes to acquire enough eggs from these returns and from other donor hatcheries to reach full production of 30 million eggs.

The stated objective of the coho project was to boost production from 1.5 million coho eggs annually to 2.0 million. Beginning in April of 2003, AKI received a three-year \$634,500 SSSF grant to put this increase into place. At the core of this expansion are several new components

SSSF Grant Status *cont. on page 6*

mediately before that hatchery manager at the Neets Bay Hatchery. He joined the AKI board of directors a few years ago, in which role he was a valuable contributor, but resigned in order to avoid any conflict of interest in assuming his new job as operations manager. His extensive experience in fish culture and hatchery management, along with his personal integrity and his passion for enhancing the unique qualities of the Alaska way of life, make him a great fit for his position at AKI. The following introduction is in Sams words:

I first met Bart Watson, and AKI, in 1990. Through the years we seemed to cross paths occasionally and I maintained an interest in AKI. In 2002, Bart asked for my input on the design of the new incubation building. In 2003, at Bart's invitation, I joined the AKI Board of Directors. In 2004, while assisting in the applicant review for the AKI Operations Manager/Business Manager positions, Bart convinced me to apply, and so here I am.

The reason that I have made a career of salmon aquaculture is because I believe in the mission, or role, of hatcheries in Alaska. That is to help to sustain an industry, economy, and a lifestyle by providing reliable and stable harvestable returns. I believe it is incumbent upon hatcheries in Alaska to provide salmon to the public in as efficient and natural a way as possible. This is done by developing our own technology and techniques as well as adapting methods proven in other areas of aquaculture, while always keeping in mind that our fish remain wild and so our methods must mimic nature as much as possible.

AKI appeals to me specifically because it is a small company. Each person plays an important role and individually affects the outcome of each endeavour. Also, because it is a small company, there is a very wide variety of tasks and challenges as each person tends to fill many roles. Another attribute of AKI is that it has a more unique constituent group than many of the other hatchery organizations, primarily due to the lo-



Coho smolt

cation of its hatchery on southern Baranof Island. The nearby community of Port Alexander has a number of trollers whose livelihood is directly affected by AKI's programs. Getting to know these individuals and seeing first hand how the Port Armstrong Hatchery impacts the community helps to motivate AKI staff.

It is my goal to help AKI continue to improve its contribution by being responsive to the desires and needs of the fleet and by continually improving its fish culture techniques, while helping to keep it financially viable and successful as a self supporting business.

Carlos Massad complements Sam in the administrative office as AKI's new business manager. He has also dedicated his professional life to salmon culture, but most of his experience has been in Chile. Born in the U.S. to Chilean parents who were then studying at the University of Chicago, Carlos came back to the U.S. to attend college and to work on various aquaculture projects. He has a bachelor's degree in Biology and two master's degrees, in Ichthyology and Marine Resources Management. He has worked in salmon hatcheries in both the U.S. and Chile for the past 20 years, where he has been responsible for the production, management and sales of three international companies. While working there he made many personal contacts and established markets for turbot, salmon and abalone in Japan, Europe and the U.S. Along the way, he founded several

companies, all of which were eventually bought out by larger corporations as the Chilean industry underwent massive consolidation in the face of stronger competition and lower prices.

Although highly successful in his aquaculture career in Chile, Carlos found working in an industry dominated by large international companies to be less satisfying. The consolidation of the aquaculture industry has caused the creation of huge international companies where individuals lose their significance and become just a number in the corporate accounts. To most of these companies the only thing that really matters is the market share and bottom line, and many of the human values are lost in the shuffle.

He ran across AKI's recruiting advertisement on the American Fisheries Society Jobs Bulletin and was intrigued enough to come to Alaska to investigate further. His business acumen and marketing experience, combined with his background in salmon culture, were a great fit for AKI. The small size of the organization afforded him an opportunity to make a real contribution to an industry undergoing a transformation, where quality of the product is increasingly essential to compete with farmed salmon. He is also dedicated to helping maintain the Alaskan fisherman's lifestyle, since he personally identifies with the advantages of working independently in a small business where quality of life is paramount. He firmly believes that Alaska, and AKI in particular,

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of the hatchery water system, including double and triple pass capability and supersaturated oxygen injection. Complementing the water system upgrades, the hatchery also added new rearing net pens, incubators, a stream weir for broodstock collection, an additional hydropower generator, and a feed barge. The upshot of all these improvements, as the finishing touches are now being put on the water system upgrades, is that the Port Armstrong Hatchery is significantly surpassing its stated objective. Instead of just 2.0 million coho eggs, the hatchery will be taking up to 3.0 million coho eggs each fall and thereby producing an estimated 200,000 to 270,000 adult cohos for Southeast Alaska each summer, doubling our previous production. The first return from the increased releases will arrive in 2007.

sit in a very advantageous position in the salmon industry and can tap into niche markets where high quality wild salmon can out-compete farmed salmon any day.

At this point both Sam and Carlos have been in the saddle at AKI for over a year, long enough to settle into their positions and prove that their great resumes are backed up by solid performances. Armstrong-Keta has taken a huge step forward in its evolution into a stable, efficient, financially secure salmon hatchery. With our internal house in good order, we have rededicated ourselves to establishing good communications with the fishermen and processors, and to our mission of supporting the commercial fishing lifestyle in Southeast Alaska.

Bart Watson
President

AKI STAFF MEMBERS

Sam Rabung
Operations Manager

Carlos Massad
Business Manager

Ben Contag
Hatchery Manager

Justin Rose
Assistant Hatchery Manager

Jon Thorington
Maintenance Manager

Ken Merrill
Maintenance Engineer

Jake Martinez
Fish Culturist II

Gary Johnson
Fish Culturist I

Doug Smathers
Fish Culturist I

Sitka troller
Howard Pendell
Port Alexander Charter Operator & Ex-troller
Peter Mooney
Petersburg seiner
Alan Onness
Port Alexander troller
Cory Gifford
Petersburg seiner
Andy Kitams
of Little Port Water Research Facility
Roy Martin, Secretary
Juneau, Retired NIMFS Researcher & Director
Sitka tender
Harold Thompson, Treasurer
Hatchery Manager
Jim Seeland, Vice-President
Sitka Aquaculture Consultant and retired
Juneau
Bart Watson, President

AKI BOARD MEMBERS

