

HATCHERY NEWS



Armstrong-Keta, Inc.

Summer 2004

PRESIDENT'S REPORT

I would like briefly to introduce myself: I am Bart Watson, current board president of Armstrong-Keta, Inc. I first got involved with AKI in the early summer of 1981, when I arrived at Port Armstrong to join the crew installing the original water pipeline. I had just visited southern Baranof Island on a vacation trip from my home in Fairbanks, and I immediately knew I had to move to a place where I could find both mountains and the ocean together. My waterline job was on a lark—little did I suspect that I would end up devoting most of my life's work to helping the development of the Port Armstrong Hatchery.

AKI has tended to keep a low profile over the years. With its only hatchery in a remote location out of the limelight of population centers and urban politics, AKI's efforts have for the most part been directed internally. Our goal has been making the Port Armstrong Hatchery thrive on the basis of efficient production of salmon for release to the ocean, and making its operations self-supporting by the harvest of cost recovery fish that filter back through common property fisheries of the commercial fleets.

Of course AKI has been subject to the same financial pressures as the rest of the Alaskan salmon industry, as farmed fish competition and changing markets have relentlessly driven down the price of salmon over the past two decades. Our original business plan was based on pink salmon worth just about (after factoring in inflation) 9 times what it was this past summer. It goes without saying that we have had to make some major changes to our program to adapt over the years. From an initial permit of 11 million combined pink and chum eggs, the Port Armstrong Hatchery is today permitted for 85 million pink, 30 million summer chum, 2 million coho and 2 million chinook. Along the way there has been a lot of hard work by our staff on the facilities and on fish culture and a lot of salmon produced.

As AKI has grown, so has its significance to the Southeast Alaska fishing industry. It's no doubt past time for AKI to make a more concerted effort to inform fishermen impacted by our production what we have been doing and what we hope to accomplish. With that objective, we decided it would be useful to mail out a newsletter to the troll and seine permit holders in the region. We also recently commissioned a report from the McDowell Group summarizing the economic contributions of the Port Armstrong Hatchery over a recent five-year period.

That report is summarized in this newsletter. A complete copy is available from AKI on request.

AKI is similar to all other salmon hatcheries in Alaska in a multitude of ways, since all hatcheries are subject to the same stringent laws and restrictions that tightly regulate their form and operations. By state law, AKI is a non-profit corporation, with its revenues and assets carefully limited by the federal IRS. There are no "owners" of the corporation and no investors: the original start-up funds were loans from the state Division of Investments, paid down in annual increments from the hatchery's cost recovery proceeds. Its diversified board of directors all serve on a voluntary basis¹. Nearly every component of producing salmon is regulated by ADF&G permit, with review by both the state and the public and ultimate decision by the Commissioner. And like all the other PNP hatcheries, AKI's mission is to support the regional economy by producing more salmon for the fishing industry. Each hatchery in Alaska fills a unique niche in the mix of species, quantities and locations it serves, but we all share the same fundamental goals.

As the AKI McDowell study points out, the contributions of the Port Armstrong Hatchery to the fishing industry in Southeast Alaska have been significant. With a common property fishery ex-vessel value of \$2.4 million in just the five recent years covered by the report, approximately the same amount spent by the hatchery on its payroll, supplies and services and other operational costs, as well as a similar amount on capital construction, the economic impact on local communities has been noteworthy. Extrapolating over the life of the hatchery and applying a standard economic model to compute the impact on all sectors of the economy, the Port Armstrong Hatchery has generated approximately \$28 million in total economic output since its inception. Not only has the cost to fishermen been zero, but AKI fish have contributed over \$200,000 each to NSRAA (through the aquaculture tax) and to the state (through the raw fish tax). All in all a pretty good deal for the fishing fleet and local communities.

If there are any questions or issues that occur to you as you read this newsletter, please don't hesitate to give me a call. I would be happy to listen to your feedback and answer your questions any time. And best of luck this fishing season.

Bart Watson
President

¹ Current AKI board members are the following: Cory Gifford, Port Alexander troller; Eric Jordan, Sitka troller; Andy Kittams, Petersburg seiner; Roy Martin, Juneau retired NMFS researcher and director of Little Port Walter Hatchery; Peter Mooney, Port Alexander charter operator and ex-troller; Alan Otness, Petersburg seiner; Sam Rabung, DIPAC Gastineau Hatchery manager; Harold Thompson, Sitka tender captain and retired processor; and Bart Watson, Juneau AKI management.

WE EXIST FOR FISHERMEN

Our nonprofit corporate mission is to help support the economy of rural Southeast Alaska through environmentally sound and sustainable fisheries enhancement. While the regional aquaculture associations like NSRAA are charged with representing and balancing the interests of all salmon permit holders in their region, smaller hatcheries like Port Armstrong generally occupy more specialized niches.

Our natural constituency consists first and foremost of small fishing towns like Port Alexander, our immediate neighbor. Trolling is the traditional and most widespread form of economic activity in these towns, and support of trolling is a top priority of our hatchery. We are particularly interested in adding additional fishing opportunities for trollers when the value of their catch is chronically at the low end or below the targets set in the comprehensive salmon plan. We also strive to benefit the seiners, especially in nearby towns such as Petersburg, Kake and Sitka, and charter operators as well as the economy of the region as a whole, but not to the detriment of the local troll fleet.

Of course we also have to operate within the other constraints of our industry: legal and regulatory, environmental, political, and market. We also seek better markets with an eye toward what might benefit the fleet by helping open up new avenues to the customer. We are always looking for ways of supporting innovative processing and handling techniques that will boost the quality of Alaska salmon and its desirability to the end consumer. Since we want to focus our efforts on programs that will be especially beneficial to people living in rural communities, it is important that we get feedback from you and at the same time keep you up to speed on what we're doing. We can make better decisions on how to cope with all these issues when we keep a dialog going with our constituents.

One of our main priorities has for many years been to maximize our production of kings and cohos for the troll fleet. Our king production suffered a setback in 1991

when ADF&G requested that we switch to a different broodstock, in an effort to use hatcheries as a gene banks for some of the less abundant wild stocks. Over the next eight years ADF&G was unable to provide us with the replacement broodstock they had specified for us. We were finally given king eggs again



two summers ago from the Little Port Walter Hatchery. In the meantime, we kept our king rearing facilities at Port Armstrong in full use to increase coho production by an equivalent amount, in order to keep providing fish for the troll fleet. Thanks to a recent grant from the Southeast Sustainable Salmon Fund to add to our facilities, we now intend to increase our coho production to 2 million eggs incubated annually, even while continuing to build our king production (see the accompanying article).

Before they can be released into the wild, both cohos and kings need to be reared and fed in fresh water for an entire year after they come out of the incubators. That year of fresh water rearing requires large raceways, lots of water flow, great quantities of feed, and the labor to take care of them. It is impossible for the hatchery to cover all its operating costs and support itself with the cost recovery from just cohos and kings. Nearly all self-supporting hatcheries in Alaska therefore produce pinks or chums to pay the bills. Both these species are released to sea the same spring they emerge from the incubators, producing far greater quantities at much lower cost.

Port Armstrong has been self-supporting through its pink production, with the only hatchery pink run of any major size in Southeast Alaska (there are several much larger pink hatcheries in Prince William Sound and Kodiak). But the original hatchery concept during the first permitting of the site

was to produce chums. In fact, the "Keta" in the name Armstrong-Keta comes from the species name for chum salmon, *Onchorynchus keta*. Because southern Chatham in the vicinity of Port Alexander and Port Armstrong has traditionally been a troll area and has been closed to seining for many years, the hatchery originally selected a late fall chum run from Security Bay on Kuiu as its broodstock. The idea was to have the fish return after most of the trolling period was over, in order to avoid gear conflicts that would arise if net fisheries were held earlier and intercepted kings and cohos in lower Chatham.

Even that plan stirred up a lot of controversy in nearby Port Alexander, because many in the community felt that even the late chum run represented a breach of a promise the hatchery founders had made to avoid bringing the seine fleet back into their backyard. Trollers were leery that terminal net fishermen would press for permission to intercept them in a special harvest area that extended well out into Chatham, as it does at Hidden Falls. For that reason, in combination with the practical consideration that the returning chums

were of poor quality by the time they came into Port Armstrong, the hatchery abandoned the chums and switched to raising pinks for cost recovery. The pinks are still very bright and highly suitable for cost recovery harvest after they enter the bay at Port Armstrong.

A New Run at Port Armstrong

A couple of fundamental conditions have changed since then. First, the development of an Alaskan ikura industry means that the main value of chums is now in their high quality roe. There is a market for the flesh, but the eggs are still much more valuable than the rest of the chum, even though roe prices have fallen recently with stronger returns of the Japanese chum runs. This valuable roe means that there is no longer any need for terminal common property fisheries or cost recovery operations to move out into Chatham to get the chums when they are brighter. On the contrary, they are worth the most in the terminal area when their roe yield is the highest.

Second, in some recent years the higher value of chums in combination with the intense price pressure on kings and cohos from farmed salmon has made chums a relatively attractive target species for many trollers. Not every troller wants to target chums, but quite a few do and have. It's impossible to predict what will happen over the coming years with the relative prices of cohos and chums, but unfortunately the competition of farmed salmon is not likely to disappear. There is certainly a strong argument to be made that producing chums as well as cohos will give the troll fleet a lot more options to make a living in a tough economic environment.

In light of these developments, AKI applied in 2002 for a permit to produce 30 million summer chums at Port Armstrong. The run timing was selected to be early, returning in July when lower Chatham is still closed in order to let wild pink stocks achieve sufficient escapement, generally in mid to late August. The Regional Planning Team approved the chum permit on the grounds of providing both additional cost recover to the hatchery as well

as helping to correct the allocation imbalances that have kept the trollers below their designated dollar share of the fisheries. In the fall of 2002 and spring of 2003 we were awarded a pair of grants from the Southeast Sustainable Salmon Fund to put the chums into production. We have constructed a new incubation building and put it into use over the past winter to hold our increased production. Our first 15 million chum eggs are from the Hidden Falls summer chum stock, received last fall from both Hidden Falls Hatchery and Gunnuk Creek Hatchery.

Remote Release Special Harvest Area

AKI has been considering how to maximize the common property contribution of its chum run since it first applied for a summer chum permit three years ago. This consideration was central to the deliberations of the Regional Planning Team when they evaluated and ended up supporting the chum permit request. After weighing the options, AKI concluded that the best approach would be to release a major part of the chums in Port Lucy, in order to allow trollers to continue harvesting them when they return to the terminal area in that long, straight, deep inlet. The only seining that would be done would be as a mop-up at the release site inside Port Lucy, or similar seining within Port Armstrong, of chums the trollers were unable to take. AKI applied for a Special Harvest Area permit for Port Lucy in April of 2004.

A chum run would be of major benefit to the Port Armstrong Hatchery. Like all other players in the Alaska salmon industry, we are feeling a real financial squeeze from the low prices our cost recovery fish are bringing. We have been doing very well biologically over most of our history and have great fish culture practices in place. We have also been able to get relatively high prices for

our products, but prices have dropped so precipitously overall in the industry that our business plan simply doesn't work anymore. The production of 30 million chums should dramatically turn that around, more than doubling our cost recovery potential while increasing operating expenses by about 20 percent. We could try to achieve the same cost recovery goals by increasing our pink production instead, but that would bring no benefit to the troll fleet.

Another benefit of chums for the hatchery is that a new run represents diversification and therefore more options when prices and survival rates of various species rise and fall independently. The same can be said for the troll fleet: chums represent another option that can be turned to during periods when they flourish and other runs are depressed. One might well say that the future of the Port Armstrong



North Star Construction erected our new incubation building, funded by the chum Southeast Sustainable Salmon Fund (SSSF) grant.

Hatchery (along with all our coho and chinook production) depends on our developing this chum program to make ends meet.

The funds to produce the chums have come initially from the Southeast Sustainable Salmon Fund grant and will eventually come from our own cost recovery operations. Since the primary value of the chums is in their roe, we will be looking at ways to maximize that value by making the highest quality

We Exist for Fishermen *cont. on page 4*

roe possible. That could include having a processor make ikura in one of the buildings available at Port Armstrong, for example, or using a floating processor to do it on site, as we have sometimes done in the past with our pinks.

Some trollers have expressed fears that even after the Port Armstrong chum run is established at full strength, their attractiveness to the troll fleet will be limited by the lack of any local buyer that time of year. This is an issue that AKI can and intends to take an active role in solving, by requiring our cost recovery processor to operate a buying station during the troll season or by providing at the hatchery an ice machine, offloading facilities and transportation to a processor.

AKI has researched the question of whether chum production would impact the existing coho runs in the area. Some of the fisheries biologists involved at the National Marine Fisheries Service Little Port Walter research station, who are among the most knowledgeable anywhere on the issues of salmon ecology, responded concerning any interactions between hatchery chums and wild or hatchery coho. The scientists said they would anticipate no significant impacts of a chum run on the coho. The spatial and temporal separation of our chum release and coho outmigrations would make any competition for feed resources during the early growth stage minimal. Cohos, which are quite a bit larger when they enter the near-shore marine environment than the chums are, may at times be prone to eating the chums (and pinks), but not the other way around. Our chum production if anything could in theory give a boost to the cohos by providing them with another food resource.

The Port Armstrong hatchery will continue to raise its pinks at least until the chum run starts to return at full strength, which will be four years after the first full releases of 30 million fry. After that, the hatchery may choose to adjust the numbers of pinks produced, especially after the loans from the state are paid off. AKI will evaluate the situation at that point to determine what

will help the fleet the most. Because loan payments represent more than half our annual expenses (that is, significantly more than our annual operating costs), when they are paid off our cost recovery needs will drop dramatically. As a nonprofit, we have no motivation to produce more income than we need for operations plus a reasonable reserve against run failure.

Even though AKI was strongly encouraged by the RPT when they approved the new chum permit on the potential contributions of a chum run to the troll fishery and on the desirability of setting up a remote release special harvest area, this idea has not met with universal enthusiasm. Some trollers who fish heavily out of Port Alexander have expressed reservations based on the possibility that a terminal harvest area at Port Lucy might eventually expand out into the area where cohos and kings would be intercepted by the net fleets in significant numbers. AKI would like to go on record making it clear that it is unequivocally opposed to any expansion of a special harvest area into Chatham or into any area where wild stocks could be intercepted in significant numbers.

Besides, there are some good reasons such a development is unlikely to occur. The most important is that one of the fundamental principles of ADF&G management of salmon fisheries is to protect wild stocks. This means that ADF&G will consistently choose to manage for wild stocks rather than trying to maximize the harvest of any hatchery production. In lower Chatham Strait, the adequate escapement of wild pink runs determine the timing of seine openings in Chatham, and those goals are not met until mid August each year at the earliest, while the troll fishery is normally open in the area throughout the summer. Because the AKI summer

chum run will return a full month before the pinks, there is no way that ADF&G can open a chum special harvest area extending out into Chatham without violating this principle. Besides, ADF&G, like AKI, seeks to minimize the likelihood of any gear conflicts in the fisheries it establishes.



Port Armstrong's adult raceways, where mature adults of four pacific salmon species return home for spawning.

While ADF&G can establish a special harvest area for the hatchery, the ultimate authority for setting up any kind of terminal fisheries in an area that is normally closed for that gear type resides not with AKI or ADF&G but with the Board of Fish. That means that a common property seine or gillnet fishery in Port Lucy or another remote release site in the vicinity would have to come from a Board of Fish decision. Ultimately ADF&G has to do what the Board of Fish rules. This process can be political, of course, and this fact is what some trollers have identified as the reason they are opposed to the Port Lucy special harvest area for chums.

One alternative that a number of trollers have shown enthusiasm for is the establishment of an AKI remote release and special harvest area for cohos instead of chums. A site just to the south of Port Armstrong, in John Bay of Port Conclusion, offers what may be a preferable option to using Port Lucy. This site is well protected, is easily accessible from Port Armstrong, offers long troll drags, and should concentrate

Kings and Cohos at Port Armstrong

The Port Armstrong Hatchery started its king program with Unuk River stock in 1985 and kept its releases at an average of about 100,000 fish over the next several years due to limited rearing facilities. Then in 1991 ADF&G for rather obscure reasons required AKI to change its broodstock from Unuk River stock to King Salmon River stock. In order to comply, the hatchery released its last kings in 1991 while it waited for eggs from the new broodstock to become available from Little Port Walter, where the run was being developed. In 1993 AKI received a grant from the federal US/Canada mitigation funds to build out its water system and rearing space. At the same time AKI requested an increase in its king permit from .5 million to 2 million eggs, in anticipation of the new stock. The construction projects were successfully completed over the next couple of years, but unfortunately the King Salmon River stock turned out to be a poor performer in Chatham Strait, and not enough mature kings ever returned to Little Port Walter to make eggs available to Port Armstrong.

Rather than let its new rearing capacity languish unused, AKI then embarked on an expansion of its coho program to make use of the rearing facilities. Both king and coho normally need to be reared in fresh water raceways for an extra year after they hatch, unlike pink and chum that go out to sea in the spring after the eggs hatch. AKI requested an increase in its coho permit and has been permitted to raise 2 million each of cohos and kings since 1994. The



Port Armstrong's southern Chatham Strait location is ideal for king and coho production.

hatchery gradually boosted its coho egg takes and has in most years incubated between 1.5 and 1.9 million coho eggs. When it eventually became obvious that the King Salmon River stock never would become available, AKI was finally granted a permit to restart its Unuk River king run, taking eggs once again from Little Port Walter. Port Armstrong is now in its third year of production of the new run, having released its first batch of king smolts last summer. Production will be limited by the constraints on getting eggs from Little Port Walter until mature females begin to return to Port Armstrong in significant numbers a couple of years from now.

Even though the US/Canada funds were originally intended to boost king production, when faced with the

unexpected lack of king eggs from ADF&G, AKI still wanted to direct as much benefit as possible from the grant program to the target troll fleet. Making the shift in emphasis to cohos more palatable to most trollers was the fact that the Alaska king quota suffered repeated reductions during the 1990's. ADF&G experimented with hatchery-focused king openings in several areas of Southeast Alaska, but the percentage of wild fish which counted against the quota was generally higher than hoped for. In retrospect, the Port Armstrong coho production probably provided greater economic benefits to the troll fleet than king production would have if the break in king broodstock had never taken place.

Kings & Cohos at Port Armstrong *cont. on page 8*

We Exist for Fishermen *cont. from page 4*

the returning cohos nicely with an abundant source of fresh water. Trollers would have abundant opportunity to target the cohos, which tend to stay bright and firm for a long time in the terminal area, and intercept a very high percentage. Any remaining cohos could be mopped up by an AKI contracted seiner without significant impact on wild fish, because of the late September timing. AKI would accomplish its goals of promoting greater cost recovery on

its production and help supporting the troll fisheries, while the chums would still be available for troll interception as they return through Chatham Strait if released from Port Armstrong.

The effort to achieve greater common property contribution via a chum remote release is only a good idea if the fishermen are in favor of it. If it creates more problems or more controversy than it's worth, it may be more beneficial to look at the alternatives. If AKI can

accomplish a better contribution via cohos and pay the bills for the coho program through cost recovery on pinks and chums, then perhaps the new chum program will have accomplished its purpose as well as if the chums were being intercepted directly. In any case, AKI is willing to do whatever the fishermen decide is most beneficial to them. After all, helping the fishing fleets is the reason for our existence.

Economic Impact of Port Armstrong Hatchery

In order to determine what kind of economic impact the Port Armstrong Hatchery has had on the local economies, AKI followed the lead of several other hatcheries and engaged the McDowell Group to research and report on this issue. Some excerpts from their report are presented below.

salmon harvest was valued at slightly over \$50 million and hatchery salmon contributed 22 percent of the harvest, an estimated \$11.2 million in ex-vessel value. Fishermen paid a 3 percent aquaculture assessment on the value of common property harvest, approximately \$1.2 million. For every

Estimated ex-vessel value was \$1.6 million.

“Between 1998 and 2002, AKI contributed over 183,000 coho to common-property fisheries, valued at \$800,000. Commercial trollers were the main beneficiary of AKI coho production, taking over 160,000 (89 percent). Seiners took 15,000 Port Armstrong coho and sport fishermen caught about 6,200.”



Fry released from these net pens make a significant contribution to northern SE Alaska salmon fisheries.

By way of background, McDowell had this to say about southeast hatcheries in general:

“Today, Alaska salmon runs remain at near-record levels, but the economic landscape of the industry has changed. Economic attrition has thinned the ranks of active salmon fishermen, from 10,200 Alaska salmon permits fished in 1992 to just 6,600 in 2002. The remaining operators have become more efficient and competitive to combat declining prices. Salmon fishermen in many regions of the state (particularly in Southeast Alaska) now catch volumes of fish that were unheard of in the 1970s and 1980s. The state’s hatcheries play an essential role in providing that volume. Alaska hatcheries released nearly 1.5 billion salmon fry in 2002 and over 49 million “enhanced” salmon returned as adults in 2002.

“Salmon hatcheries represent an outstanding value for Southeast Alaska permit holders. In 2002, the Southeast

dollar they paid in enhancement tax in 2002, Southeast permit holders earned nearly \$10 from enhanced salmon.”

And on AKI in specific:

“The Port Armstrong Hatchery receives no revenue from the 3 percent salmon enhancement tax paid by commercial salmon permit holders in Southeast Alaska. The hatchery’s contribution to commercial and sport fisheries of the area accrue at no cost to permit holders.

“Despite receiving no revenue from the Southeast region salmon enhancement tax, AKI makes a substantial contribution to common property salmon fisheries. In the five years between 1998 and 2002, AKI provided an estimated \$2.4 million in ex-vessel value to common property fisheries in the region, at no cost to permit holders.

“Between 1998 and 2002, AKI contributed 3.6 million pink salmon to the common-property seine fishery.

McDowell summarizes their report on AKI as follows:

“The operations of the Port Armstrong hatchery provide substantial economic benefits to the common property salmon fisheries of Southeast Alaska, at no cost to salmon permit holders.

“Armstrong-Keta, Inc has expanded production at the Port Armstrong hatchery. By 2009 (five years from this writing), annual contribution to the common property fisheries is projected at \$1.4 million in ex-vessel value, nearly triple the hatchery’s existing annual contribution to common property.

“AKI has significantly improved the financial footing of the Port Armstrong Hatchery in the last two years. The hatchery’s debt was refinanced at a very favorable rate in 2003. Capital cost of the production-capacity expansion was funded entirely by grants, resulting in greater contribution to common property, with no additional debt or debt service for the hatchery.

“Economic benefits of the Port Armstrong hatchery extend beyond the ex-vessel value, direct spending and payroll of AKI employees detailed in this study. Operations of the hatchery produce secondary economic activity in local economies of the region, particularly in Sitka, Petersburg, Kake and Port Alexander.

“Port Armstrong Hatchery makes an important economic contribution to the individuals, businesses and communities of Central Southeast Alaska. The hatchery generates direct employment, produces income for

fishermen and carries a wide variety of economic activity into nearby communities.”

Regarding Port Armstrong’s coho production, McDowell reports,

“ Commercial trollers accounted for 89 percent of the common property harvest and seiners accounted for eight percent, about 15,000 fish. Sport fishermen caught about 6,200 AKI coho, mostly in 2001 and 2002. The sport harvest is associated with recent growth in charter and lodge operations in Port Alexander.

“ The U.S. salmon market is the second-largest in the world and is growing rapidly. The market is supplied primarily by exports, and salmon fillets comprise virtually all the growth in U.S. salmon imports. Troll-caught coho is a good candidate for fillet production, as troll-fleet chilling and handling practices virtually eliminate bruising and minimize product gaping associated with fish passing through rigor at warm temperature. (See Port Armstrong Contribution to Common-Property Coho Harvest chart)

“ The market outlook for king salmon is far more positive than the ex-vessel price would indicate. Harvest timing plays a major role in keeping summer king salmon values low at this time. The traditional July 1 opening date comes shortly after the harvest peak in the Western states, when U.S. market supply of fresh wild kings is at its highest. The July 2003 price for troll-caught Alaska kings was less than \$1 per pound.

“ When the domestic market is not oversupplied with Pacific Northwest fish, fresh kings from Alaska bring an excellent price. The winter troll fishery opens in October when there is no other significant supply of fresh wild salmon. In 2003, October prices for troll kings started at \$3 per pound and by December had exceeded \$5 per pound. This pricing is consistent with patterns from the 2002 winter troll fishery.

“ Any hatchery production that can enhance common-property harvest of king salmon in the off-peak months would provide a substantial benefit to the troll fleet. The benefits will be particularly significant if the fish can

(PNP) salmon hatchery operations in Alaska, including:

- Northern Southeast Regional Aquaculture Association (NSRAA)
- Southern Southeast Regional Aquaculture Association (SSRAA)
- Douglas Island Pink and Chum (DIPAC)
- Prince William Sound Aquaculture Corporation (PWSAC)

“ To estimate the economic impacts of these hatchery organizations, McDowell Group utilized IMPLAN, a modeling tool that measures changes in local economic activity. The IMPLAN model examines the economic relationships among businesses and between businesses and consumers. The model estimates total economic output in a specific region, which reflects the entire supply chain of transactions to harvest or process fish. For example, harvesting of fish will require purchase of a vessel, fuel, food, gear and other goods and services.

“ The IMPLAN model estimates the total set of such transactions, and therefore, one dollar of input often results in more than one dollar of output, because the dollar circulates through many sectors of the economy. McDowell Group used the IMPLAN model to measure the direct and indirect impacts of hatchery operations and hatchery-related harvest.

“ Total Economic Output of hatcheries in Southeast Alaska is comprised of economic activity associated with:

- Commercial harvest
- Seafood processing
- Sport Harvest
- PNP hatchery operations

“ Ex-vessel value (value of salmon purchased from fishermen) is only one aspect of the total economic output of Southeast Alaska salmon hatcheries.

“ McDowell Group conducted a summary study of PNP hatchery impacts in Southeast Alaska, measuring economic impacts resulting from the 2000 salmon season. The ex-vessel value of PNP-produced salmon in the region was estimated at \$32 million and total

Port Armstrong Contribution to Common-Property Coho Harvest

Year	AKI Contribution to CP Harvest	AKI Actual Fish Size, lbs.	Region Avg. Price/lb	AKI Contribution to CP Value
1998	18,312	7.9	\$0.60	\$ 87,194
1999	12,186	6.0	0.94	68,179
2000	7,151	7.1	0.70	35,310
2001	84,483	7.5	0.63	398,916
2002	61,431	8.4	0.42	216,135
1998-2002 Total	183,563	—	—	805,735
1998-2002 Avg.	36,713	7.4	0.66	161,147

On king salmon, McDowell had the following comments,

“ A self-sustaining run of all-age-class king salmon at the Port Armstrong Hatchery is not expected until 2009. However, there will be significant numbers of AKI king salmon in the area starting in 2005. It is not yet clear what the potential contribution to common-property fisheries will be.

be caught during the winter season when ex-vessel value commonly exceeds \$50 per fish.”

The McDowell Group explains their methodology in the following cover letter:

“ McDowell Group conducted a series of studies in 2001 examining the economic impacts of Private Non-Profit

Kings & Cohos at Port Armstrong
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Once returns of adult kings to Port Armstrong provide sufficient eggs to expand the king program, AKI will evaluate the benefits of king versus coho production to decide what mix will provide the greatest benefits to the fishermen, particularly the trollers. We will seek input and remain open to the preferences of the fishermen on



this issue. We are also optimistic that we may end up having our cake and eating it too with full production of both species, in light of new techniques that are being developed for accelerated maturation of smolts. Increased use of saltwater netpens for overwintering can dramatically expand rearing space and water availability. And a zero-check king program, in which growth of the kings is accelerated by environmental factors such as warmer water, lights in the net pens and salts added to the feed, could lead over the next few years to a major expansion of Port Armstrong's king production, greatly exceeding the original goals of the US/Canada grant.

Economic Impact of Port Armstrong Hatchery
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economic output at \$171 million. The percentage relationship between ex-vessel value and total economic impact was approximately 19 percent.

“The Port Armstrong Hatchery, operated by Armstrong Keta Inc (AKI) contributed an average \$2.4 million in ex-vessel value to common-property fisheries during 1998-2002. **Assuming economic output of Armstrong Keta Inc (AKI) is consistent with other hatchery organizations in Southeast Alaska, the Total Economic Output of Armstrong Keta, Inc would be \$12.6 million.**”



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Port Alexander troller

Eric Jordan

Sitka troller

Andy Kittams

Petersburg seiner

Roy Martin

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Peter Mooney

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Alan Otness

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Harold Thompson

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