

Highlighting releases, returns, policy and legislation affecting the Southeast Alaska salmon fisheries

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A Mixed Season: NSRAA Chinook and Coho Return in Good Numbers, Chum Returns Drop to 20-Year Lows

A gillnetter works in one of the outer passes at Deep Inlet.



Inside

| | |
|------------------------------|---|
| <i>Hatchery Reports</i> | 2 |
| <i>General Manager Notes</i> | 2 |
| <i>Market Report</i> | 4 |
| <i>Grants Report</i> | 5 |
| <i>Board Member Profile</i> | 6 |
| <i>Deer Lake</i> | 6 |
| <i>Haines Projects</i> | 7 |
| <i>Salmon Lake</i> | 7 |
| <i>2011 Returns</i> | 8 |

Low Chum Returns Make For A Tough Year

When it's your job to produce fish, any setback affecting their survival – though inevitable – is a disappointment. But this year's low chum returns were disheartening for NSRAA staff and fishermen alike.

"We had the worst chum return ever, considering the number of fish released – at both Hidden Falls and Medvejie," says General Manager, Steve Reifentstahl. "We've had poor returns at one or the other, but never both on the same year."

The season actually started off well, with almost 50,000 Chinook returning to Medvejie and Hidden Falls, combined. The commercial value of NSRAA's Chinook returns was the second highest to date.

By contrast, the chum season opened modestly, with only 13,000 fish caught at Hidden Falls on opening day.

But the first opening can vary from 10,000 to 100,000 and is not always indicative of the season, Steve says. When numbers were still modest by the third opening, though, "some alarm bells were going off."

Douglas Island Pink and Chum, Inc. (DIPAC) returns usually come in at about the same time as NSRAA's. When their numbers were significantly stronger, Steve knew there could be a problem.

NSRAA cancelled the fourth opening and conducted cost recovery instead. But even those catches were poor.

"That's when I knew we were in trouble," Steve says.

NSRAA forecasts estimated 1.1 million chum returning this year, but, by now, Steve was worried there might not be enough fish to collect the 150,000 needed for broodstock.

Steve made the difficult decision to stop fishing of any kind – including cost recovery – and focus on broodstock collections instead.

"That's a real hardship," he says of having to close fishing.

Fortunately, most fishermen understand that broodstock collections are the number one priority for the perpetuity of NSRAA's programs.

Broodstock collection presented a new set of problems for NSRAA.

Usually the sex ratio favors females, but this year there were more males. Not only that, but fish were smaller and the fecundity (number of eggs per female) below normal.

"For the crew, it's really discouraging," says Scott Wagner, Operations Manager.

NSRAA re-opened cost recovery after finishing broodstock collection. It was a relatively small goal, but, still, cost recovery closed about \$200,000 short.

If only the poor returns was unique to Hidden Falls, but Medvejie was experiencing similar problems.

"I can remember thinking 'I can't believe this is happening here,

too,'" says Steve.

Broodstock collection was particularly difficult.

Normally the fish swim to Medvejie, but this year the staff had to capture 50,000 of the 60,000 broodstock fish and tow them back to Medvejie. Crews dragged gillnets up the stream to get every last fish possible.

Even though NSRAA purchased 4 million eggs from Port Armstrong for Hidden Falls, it was still 10 million short. Medvejie was short 4 million.

If there is a silver lining, it is this: The staff at Hidden Falls made an error when calculating its egg weights. While NSRAA believed it was short 16 million eggs, there were actually 8 percent more eggs than estimated. Once the miscalculation was discovered in late October, it made up that discrepancy.

Why so low?

Of course, one question still remains: Why were NSRAA's chum returns so low?

Because DIPAC and Port Armstrong both had strong returns this summer, Steve believes the problem is specific to NSRAA's near-shore environment.

"If it was the open ocean environment, theoretically, we would have seen the same returns," he says.

Steve and his staff believe the problem is likely humpback whales, which have been targeting NSRAA's releases at Deep Inlet and Hidden Falls for several years.

In an effort to minimize the whales' impact, NSRAA has implemented a three-pronged strategy: avoidance, deterrence and biological imperative.

To avoid whales that target fish released en masse, crews now use a trickle release method to lower the density of fry. If the whales won't leave the bay, crews will release the fry in open waters instead.

NSRAA can use underwater killer whale sounds to deter any whales present at release times.

And this spring, NSRAA began releasing the fry at a larger size.

Even if the fry are released in open water, their natural tendency is to swim to shore, Steve says, as he explains the biological imperative. The whales have been using the shoreline as a backstop to feed on the fry. But once fish reach 4 grams, they move to deeper water.

This year's fry won't return until 2013, at the earliest. So NSRAA will have to wait until 2014 to determine whether its new strategy is successful.

Of course, Steve and his staff hope it is.

General Manager's Notes

This is one year I hope not to repeat. The chum returns to Hidden Falls and Medvejie/Deep Inlet were at or below the statistical bottom of our preseason forecast. This is well known to anyone who fishes chum salmon. What may not be known is the extraordinary effort staff made to capture and collect the necessary broodstock.



This was no small task given the paltry return. Every female was critical. Several dedicated seiners caught and moved 70,000 chum to either Medvejie or Hidden Falls; this is twice the number we have ever transported before. The last few thousand fish scattered through Deep Inlet were caught by two hard-working and highly-skilled gillnet skippers. As the fish were extricated from the gillnet, the Medvejie & office crew conducted eggtakes right on the rear deck. Fish that eluded the boats were chased down in streams and estuary. When we couldn't get all the eggs on our own, we got 4 million eggs from Port Armstrong. Even so, it still looked grim as the last chum died at Medvejie in late September.

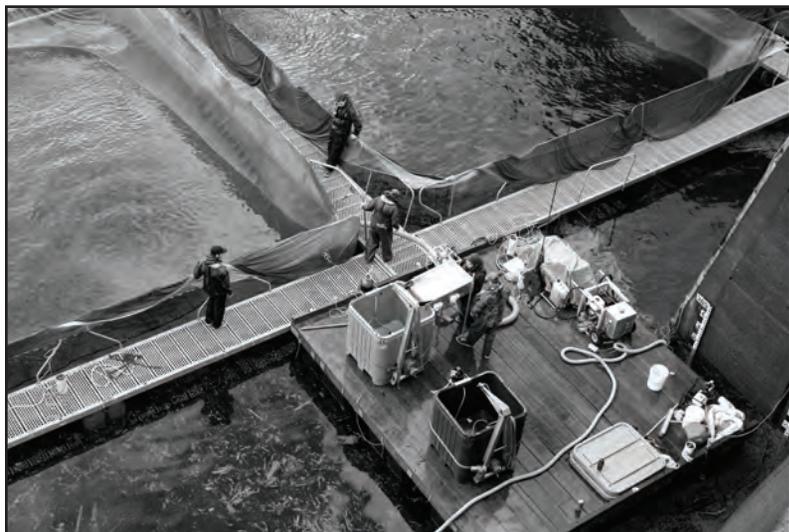
Not surprisingly, with so much bad luck, we didn't expect the gift we received in October as eggs were seeded into incubators; we discovered an additional 16 million due to an earlier fecundity estimate error. With ADF&G's support and quick response, we were able to move a portion of these eggs to Medvejie. These last eggs finally filled NSRAA's permitted capacity at both facilities – 176 million. This is 20 million more eggs than ever before, due to 2011 permit approvals for Hidden Falls and Medvejie. It took a supreme effort, so I'd like to thank fishermen for their support and congratulate staff on meeting the challenge.

NSRAA landed a couple fortuitous breaks, too. Good fish prices and low cost recovery requirements helped propel NSRAA to contributing 64 percent of the return to common property fisheries. Good returns of Chinook to Medvejie provided triple the value we expected. Our Hidden Falls and Mist Cove coho programs were also strong. A combination of higher coho and Chinook revenue, conservative fiscal management, and two legislative capital grants, means NSRAA will not need to dip into reserves.

Finally, I'd like to briefly mention how the NSRAA board and staff are addressing the downturn in chum marine survival. At the November board of directors meeting, I laid out a strategy with three tenets: avoidance, deterrence, and biological imperative. The accompanying front page story summarizes key points that are expected to mitigate chum predation.

Wishing you a Merry Christmas and Happy New Year.

Steve Reifentahl



The Medvejie crew makes preparations to move another group of Green Lake Chinook from the lake to the saltwater net pens in Bear Cove.

Hatchery Reports

Medvejie: A Busy, Satisfying Season

Fish rearing went well this year at Medvejie, despite winds and cold water conditions, and fish were released at their target size.

Chum

NSRAA released more than 60 million chum from Sitka Sound this spring. Their rearing went very well, considering the cold water temperatures. The water was so cold (an average of 5 degrees Celsius at Deep Inlet), in fact, that fish culturists were concerned the fish would not reach their target sizes.

Not only did the fish reach their target weight, however, there were also no health issues, such as Vibrio bacteria or the phytoplankton Chae-toceros, as there have been in past years.

Chum returns to Medvejie were late and slow this year and broodstock collection was difficult.

While the fish typically swim to the hatchery before being captured, this year crews had to collect six pens of broodstock at Deep Inlet and tow them back to Medvejie. Despite their efforts, the staff still fell short of their eggtake goal by 5 million. NSRAA made up for the shortfall by transferring eggs from Hidden Falls.

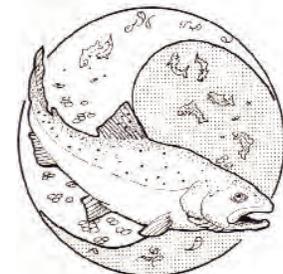
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*Medvejie Report (continued)***Chinook**

Chinook rearing at Green Lake was challenging this season. Lake levels were at an all-time low for most of the summer, complicating every aspect of rearing.

The eggs for the fish being reared were collected on three different dates, requiring that fish culturists keep the three groups separate and further complicating an already difficult rearing season.

Rearing of the “Fresh Water Over Wintering” (FWOW) Chinook went well, however. There were no health issues and the fish grew well despite the cold water.

Of the 600,000 FWOW fish, 300,000 are in saltwater at Medvejie to be released in the spring. The freshwater group will be moved to saltwater briefly before being released at another location.

NSRAA released almost 1.7 million Chinook – a combination of Year-0s and yearlings – from Medvejie this spring and has a combined 3.194 million rearing for release in 2012.

Coho

NSRAA is rearing 166,704 coho for the Sawmill Cove Hatchery. Rearing them has been rewarding. The fish have grown easily with low mortality rates. The brood year (BY) 09 coho were released in May at an average of 27.5 grams – the largest coho ever released from Medvejie.

Of the coho currently at Medvejie, 50,000 will be released from there for broodstock and the remainder will be released from Deep Inlet.

Pinks

NSRAA released 300,000 pink salmon this spring for stream mitigation. The staff collected 378,000 pink eggs this fall and allowed 200 pairs to spawn in the North Fork stream.

Facility

It has been an extremely busy and productive year at Medvejie, as the staff updated infrastructure to increase Chinook rearing at Green Lake and expand its chum production at Bear Cove by 10 million.

Other maintenance projects completed include the installation of an on-demand water heater and insulation of the battery storage area on the Deep Inlet barge, power upgrades to the dock, and the installation of a 2,000-gallon fuel tank for the backup generator.

“All the staff and personnel at Medvejie continue to be very innovative and talented in dealing with all the changes of our programs,” says Bill Coltharp, Hatchery Manager. “I commend all of them for thinking ahead and outside the box.”

Hidden Falls: A Good Season For Fish Size

It was a good year for fish culturists at Hidden Falls. The fish reached all size goals before their release this spring and the current brood year of coho and Chinook are above historical averages.

Chum

Brood year (BY) 10 was another successful rearing season for the Kasnyku and Takatz programs. Though the crew was forced to release one pen early, due to the bacteria vibrio, the BY10 fry were the largest Late-Large fry ever released from Hidden Falls.

All regular releases also exceeded their average release size. NSRAA released more than 76 million fry from Kasnyku and Takatz, combined.

It was a challenging year for eggtakes, however.

The poor chum returns meant staff had to put in significantly more effort than normal to collect eggs. It took crews 34 days (compared with the average of 22) to collect eggs – and even then it was not enough.

NSRAA purchased 4 million eggs from Port Armstrong to help the discrepancy, but was still 10 million short. Fortunately, the original egg-take number was underestimated by 8 percent and Hidden Falls ended the season with its full quota of eggs.



Equipment upgrades at Hidden Falls. A new drop-bow Workskiff and Caterpillar Telehandler forklift add a lot of versatility to operations at the hatchery.

Chinook

NSRAA is rearing 713,000 Chinook in saltwater this winter. The fish reached the target saltwater entry size easily, which promises higher over-winter survival rate and an increased size in the spring.

Crews released 600,000 BY09 in May. The fish weighed an average of 53.2 grams – the second largest Chinook release size ever at Hidden Falls.

The staff collected 925,000 Chinook eggs for NSRAA’s Hidden Falls program and another 975,000 for Crystal Lake Hatchery.

Coho

NSRAA is rearing just under 3 million coho in fresh and salt water. The fish are in excellent health and the largest in the history of the program, promising good overwinter survival.

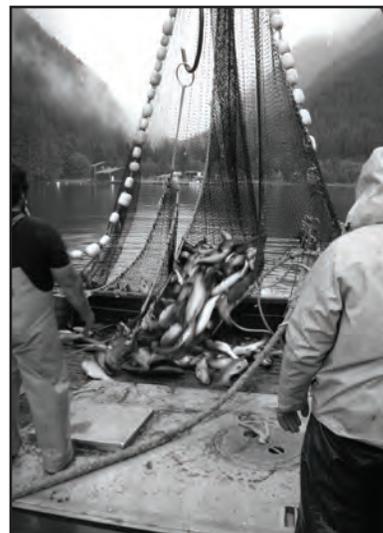
Crews released over 3.1 million coho from Hidden Falls this spring – the largest coho release on record. The fish were an average of 21.7 grams. (NSRAA data indicates that smolts released over 20 grams have a 5 percent higher survival rate than those released under 20 grams.)

Site projects

The maintenance staff has been busy with numerous projects this summer.

In addition to everyday maintenance, the staff has also made significant improvements to the infrastructure at Hidden Falls, including a thorough inspection and cleaning of the hydro, replacement of the incinerator, upgraded lights and the installation of a heated recirculation system in the coho/Chinook incubation room.

“All staff, fish culturists and maintenance alike, have done a terrific job of improving upon Hidden Falls programs and facilities,” says Adam Olson, Hatchery Manager. “They should be praised for their dedication and willingness to go the extra mile to continue the success of all the Hidden Falls’ programs.”



Medvejie: Cost recovery Chinook come on board a seiner in June; Ritch Phillips prepares lunch at the annual Medvejie Salmon Bake.



NSRAA continues to explore the possibility of an enhancement project in the Pelican area.

Pelican, Excursion Inlet Among Options For New Facility

NSRAA continues to investigate the potential to expand its programs with a new enhancement facility away from Sitka Sound – possibly in Pelican or Excursion Inlet.

In the spring, the NSRAA board created a facilities committee to explore potential locations for a new enhancement project and directed Steve Reifenhohl, NSRAA General Manager, to investigate the feasibility of beginning a new facility in Pelican or Excursion Inlet.

Both sites have potential, says Steve, and each has unique challenges.

NSRAA has considered starting an enhancement project in Pelican before, but discussions never progressed until recently.

In August, Steve and NSRAA Operations Manager, Scott Wagner, traveled to Pelican and Excursion Inlet to assess the potential for a new facility and determine public support.

The community support in Pelican was encouraging, they said. There are two possible sites in Pelican, but there is limited flat, dry land and few sheltered locations for net pens.

Excursion Inlet, on the north side of Icy Strait and due east of Glacier Bay National Park, was developed in the late 1800s by a cannery and was later a World War II base. Most of the buildings have since been removed and it is now owned and operated by Ocean Beauty Seafood.

“All the easy sites for development are already taken,” Steve says. “Finding a site that doesn’t have conflicts with wildstocks or existing fishery management is confounding.”

Other undeveloped sites that meet the management criteria are expensive to develop and/or present land management conflicts with wilderness areas and Land Use Designation II (roadless areas managed to keep their wildland character), he says.

“We are looking for places with power, flat land and a constituency that wants us there,” Steve says, adding that some new hydroplant sites, in Takatz, Thomas Bay and possible Sealaska Corp land selections, are also under consideration.

Market Report: AK Salmon In Demand

After several years of strong salmon prices, should Alaska brace itself for a fall? Prices may weaken a bit, but the experts we interviewed don’t expect a significant change any time soon.

A combination of factors has led to the recent robust prices of Alaska salmon flesh, explains John Garner, Vice President of Trident Seafoods. That includes the improved quality of Alaskan fish, a growing awareness among consumers and the problems with Chilean farmed salmon.

“Markets are so fluid and dynamic, but I think people are asking for Alaska (salmon) and they’re willing to pay the extra price,” says Laine Welch, fish journalist.

Laine credits much of the recent stability and strength of Alaska salmon prices to successful marketing. She points to a recent headline in Yahoo! News as an example: The article “5 Fish You Should Never Eat” warned its readers against eating Atlantic salmon – wild or farmed – and advised they “opt for wild Alaskan salmon” instead.

“That’s so exciting to see,” Laine says. “How much more mainstream can you get than a Yahoo! headline with a mass audience? I’ve been tracking this stuff for almost 25 years and I’ve never seen such an awareness among consumers.”

“I think it’s a good time to be an Alaskan fisherman,” she adds. “I don’t see that changing.”

Which is not to say prices might not decline a little – they’re just unlikely to drop substantially.

“Probably the biggest caution is the Chilean farmed fish coming back on line,” Laine says. “Chile has proven to be (Alaska’s) number one competitor.”

Chilean salmon is expected to return to full production by 2013, after being devastated by the ISA (infectious salmon anemia) virus several years ago.

But in the time that Chile has been working to restore its product, the consumption of salmon has risen.

“There has been a dramatic increase in salmon – and seafood consumption in general – in some emerging nations, including Brazil, India, Russia and China,” says John. “It has created opportunities to sell in more places than we had four or five years ago.”

The increased consumption in Brazil, in particular, might lessen the impact of Chilean salmon on Alaskan salmon prices as more farmed salmon goes to Brazil, says Ken Talley, Editor of Seafood Trend Newsletter in Seattle.

He agrees that the return of Chilean salmon to U.S. markets could affect Alaska salmon prices, but cautions that the economy also plays a key role.

“As the recession continues to move along, a lot of people are moving over to chicken, for example, because it’s so much cheaper than seafood,” says Ken.

Or they’re choosing chum or pink, instead of sockeye.

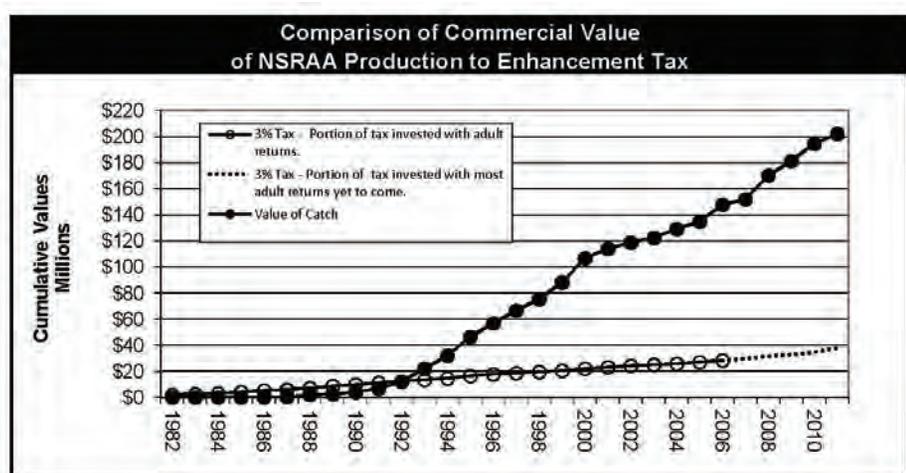
“Consumers want affordable, convenient food,” Laine says. “One thing that’s really encouraging is the increasing amount of filets being produced by Alaska processors. If you can’t afford your white tablecloth Chinook, you can afford to feed your family these pink and chum salmon filets, instead.”

But “farmed salmon is an important mix in the equation and we can’t forget it,” Ken says. “If it continues to be plentiful and prices remain attractive, consumers are going to be pulled that way and that will pull Alaskan prices down.”

“With respect to next year, supply is the first thing you have to talk about,” adds John. “That’s unpredictable at this point.”

If 2012 production levels are similar to 2011, that may cause some softening of prices, he says. If there is a shortage, however, it could create more competition and keep prices up.

“The forecasts are always wrong,” John says. “The question is: By how much?”



Grants Cover Shortfall, Maintenance & Expansion

Grant money is integral to expanding NSRAA's programs. But this year, some of that money had the added benefit of covering a budget shortfall.

This year's chum returns were the worst on record at NSRAA. The organization struggled to collect enough fish to meet broodstock needs and fell short \$250,000 in its cost recovery operations.

"Representatives Bill Thomas and Bert Stedman were responsible for a \$700,000 legislative grant that really helped out this year with capital needs," says Steve Reifenhuth, NSRAA General Manager.

Among other things, that grant covered \$250,000 of capital costs that would have otherwise come from NSRAA's capital budget, which was "a particularly big help" this year, says Steve.

The \$250,000 saved from the capital budget can now cover the shortfall from cost recovery, lessening the impact of this year's poor chum returns on the future needs of the organization.

In fiscal years 2011 and 2012, NSRAA received a total of almost \$3 million in grants – money that is invaluable for capital projects and program expansion.

"Much of our expansion over the years has been from grants," says Scott Wagner, NSRAA Operations Manager.

Approximately \$475,000 was in Alaska Department of Fish & Game (ADF&G) grants and almost \$2.5 million in Alaska State Legislature grants.

The ADF&G monies (Treaty Mitigation Funds) allowed NSRAA to purchase new pens, nets and feed floats for Deer Lake and Green Lake, and upgrade the dock power and lights at Medvejie.

The State Legislature grants, which were designed for private facilities, like NSRAA, that were originally state facilities, went toward expansion of NSRAA's chum and coho programs and deferred maintenance projects.

In the spring, NSRAA was approved to collect an additional 20 mil-

lion chum eggs, combined, at Hidden Falls and Medvejie, nearly doubling Medvejie's current Bear Cove site releases alone.

This summer, NSRAA reduced its Chinook production and used the money saved to increase its coho production by 500,000 annually.

"These grants have been a mechanism to leverage what we do well, in terms of production of adult salmon to fishermen," Steve says. "It allows us to leverage a lot more production that we couldn't otherwise do without the grants."

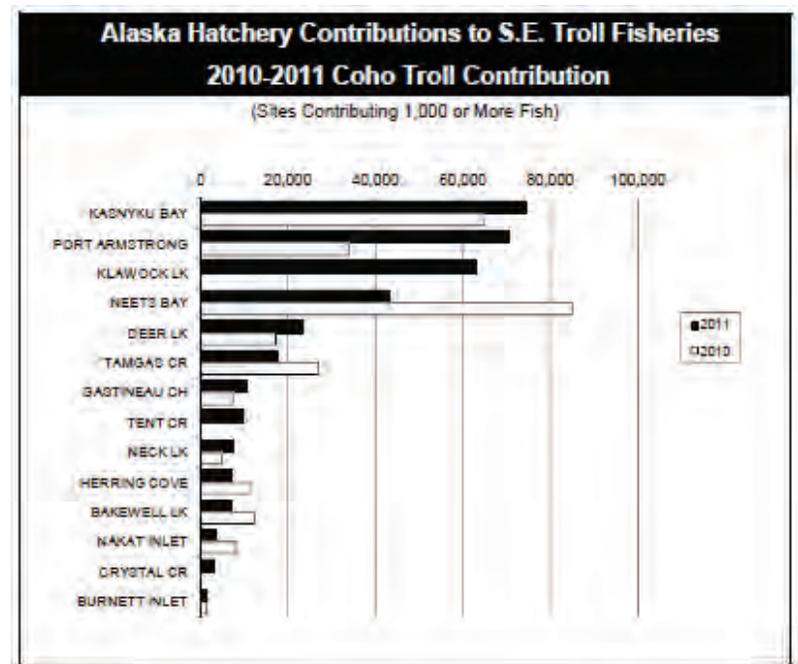
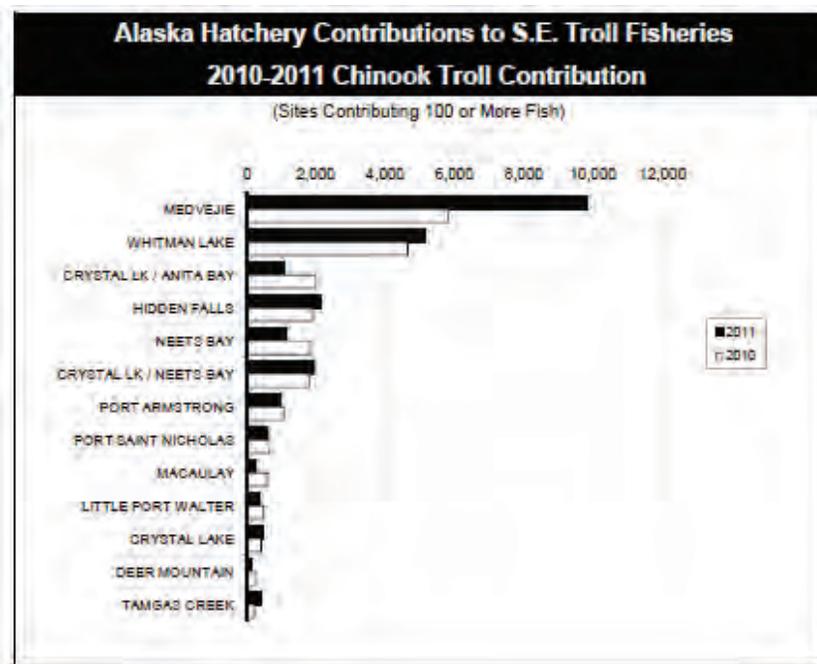
The deferred maintenance grants, which expire in 2015 and 2016, will be used for upcoming projects at Hidden Falls. On the list is the replacement of the hatchery's pier and electrical upgrades.

The state completed an inspection of Hidden Falls in October to determine what repairs and updates are necessary and to estimate their cost. NSRAA is waiting for the state's assessment before proceeding.

"It's a huge benefit to get this grant specifically for maintenance," Steve says. "That allows us to use our other money for production and the fishermen's benefit – and that's what we're all about."



New Wavemaster coho rearing pens at Deer Lake were paid for largely with grant monies.



| NSRAA Contribution to Southeast Alaska Commercial Fisheries Number of Fish : 2010 - 2011 | | | | | | | | |
|---|---------|---------|---------|-----------|---------|---------|-----------|-----------|
| | Gillnet | | Seine | | Troll | | All Gear | |
| | 2011 | 2010 | 2011 | 2010 | 2011 | 2010 | 2011 | 2010 |
| Chinook | 8,679 | 4,876 | 6,316 | 6,113 | 11,978 | 7,687 | 26,973 | 18,676 |
| Chum | 534,793 | 534,937 | 296,241 | 1,469,262 | 43,795 | 102,094 | 874,829 | 2,106,293 |
| Coho | 1,510 | 1,496 | 47,680 | 4,276 | 98,021 | 82,454 | 147,211 | 88,226 |
| Sockeye | - | - | - | - | - | - | - | - |
| All | 545,000 | 541,000 | 350,000 | 1,480,000 | 154,000 | 192,000 | 1,049,000 | 2,213,000 |

Board Member Profile: John Barry



If there is one thing that makes John Barry unique among his fellow NSRAA board members, it's that he lives in Arizona.

It's not that John is retired. He is only 40 and still fishes – for salmon, herring, crab, halibut and black cod – six months of the year.

John and his family moved to Buckeye, Arizona two years ago, in search of some sun and warmth.

His new suburban, desert home is a stark contrast to the mountainous, coastal town of Hoonah, where he grew up.

John's dad runs the fish plant in Hoonah and John began working on trollers at a "very young age."

"It's all I ever wanted to do," John says of fishing. He grew up long lining and trolling.

Even though John knew he wanted to be a fisherman, he went to college for a few years. He didn't graduate, but his time at college was

fruitful for two reasons: it was there he met his wife, Holly, and a friend who talked John into trying seining.

Holly and John have been married 18 years now, and have three daughters, ages 14, 11 and 4.

And once John tried seining, he was hooked.

"It's more fun to catch fish by the thousands, as opposed to one at a time," he says, laughing.

He began fishing full-time in 1993, when he was 22, and bought his boat, The Pillar Bay, in 1997.

John and his family lived in Sitka for 10 years before moving to Arizona in 2009. He was nominated to the NSRAA board in 2008 and holds one of NSRAA's five At-Large Seine seats.

"It's fun to be part of the process of making decisions that affect your gear group," John says of the rewards of serving on the board.

But as much as he enjoys making decisions that benefit his gear group, the challenge, John says, is to put NSRAA's needs before those of any gear group – even his own.

"NSRAA's a fantastic organization," he says. "They're always willing to look outside the box and do things differently to make things easier or more efficient for the fleet."

If it weren't for NSRAA, John says, fishing in Southeast Alaska would be a very different experience.

"NSRAA increases the gross stocks of all fishermen in Southeast Alaska, both by directly providing fish and by allowing more area to be open, spreading out the fleets," he says. "NSRAA has given a very large percentage of the fish they raise back to fishermen and are continually looking for ways to produce more for fishermen."

John serves on a number of boards in addition to NSRAA, including Southeast Alaska Seine Association, Southeast Herring Conservation Alliance, Southeast Revitalization, Southeast Crab Task Force and Silver Bay Seafoods.

Deer Lake: Emigration Low, Smolts Large

After a promising spring, smolt emigration from Deer Lake was surprisingly low this year. But the smolts' large size and overall vibrant condition promised good marine survival.

Strong adult returns this fall helped end the season on a good note.

Overwintering

It's been a learning process since NSRAA began overwintering fingerlings in Deer Lake six years ago. While it has been successful some years, the past few years have been challenging, with fish escaping the net pens.

After updating winter procedures to prevent fish escaping, it seemed like smolt emigration was sure to go smoothly this year. And when the crew uncovered the net pens this spring, the fish were in good condition.

So it was a shock when the crew counted the fish and discovered there were substantially less fish in the pen than expected – far fewer, even, than could be explained with a high error in the mortality estimates.

The conclusion? Cannibalism.

While cannibalism may have existed in the net pens in the past, it certainly didn't dramatically affect numbers.

Project Leader, Carrington Gorman, and his staff believe cannibalism was the result of the increased density of fish in the pens. Due to a higher number of fish, the staff had increased the density from 3 – 6 kilograms up to 8 kg per cubic meter.

NSRAA has again updated its procedures to prevent a recurrence.

This time, the crew will release about 1.6 million of the fingerlings directly into the lake and another 200,000 before the lake freezes. Some

of the lowest mortality rates in the past have been years when fish were free in the lake.

Instead of releasing near 1.5 million fish into Mist Cove as expected, the crew released approximately 647,000. While the number released was disappointing, these fish – at an average of 22.3 grams – were the largest Age-1 coho ever released from Deer Lake.

Summer and fall rearing

A mild winter, warm temperatures and moderate rainfall combined this year to create perfect rearing conditions at Deer Lake.

The fry transferred from Hidden Falls this spring grew easily to their target weight of 18 grams. NSRAA is holding approximately 1.98 million fry in Deer Lake. About 200,000 of those will be held in net pens over the winter.

Adult returns

The brood year (BY) 08 smolts released this spring, were among the best groups of fish released from Deer Lake in years. Almost 75,000 fish returned this year, representing a strong marine survival of about 7.2 percent.

Commercial fleets caught about 26,000 of the BY08 fish, for a value of \$170,000, and NSRAA collected 48,739 fish during cost recovery, for a value of \$356,000.

"It was a very good rearing season," says Carrington. "The fish grew well and we got a lot of important work done that should make dealing with issues that have been a challenge in the past easier."

Haines' Chum Projects: A Surprisingly Successful Year

Survival was high at Haines chum incubation sites and returns were strong to the Klehini and Chilkat Rivers this season – a welcome change after NSRAA has struggled with various problems there over the past few years.

Incubation box survivals

Incubation boxes at Herman Creek channel and the 17-mile site produced 3.4 million emergent chum fry, representing a 93.5 percent survival rate.

By contrast, last year, the survival rate at the 31-mile site was a disappointing 76 percent, due to water flow interruptions to the incubation boxes there. And the prior year, NSRAA lost all its eggs at the 17-mile when the intake water flow stopped.

The fry produced at the incubation boxes this year could produce as many as 34,000 returning adult chums – the highest returns yet since the Haines incubation box project began in 1989.

Returns & eggtakes

Chum returns to the Klehini River and Herman creek channels were also surprisingly strong, compared to recent years.

Last year's returns there were among the lowest in recent history. They were so weak, in fact, NSRAA was unable to seed the 31-mile site.

Fortunately, there were no such problems this year. Staff completed spawning in record time and was able to collect the full complement of eggs to stock the incubation boxes at Herman Creek and 31-mile.

Eggtakes for the 17-mile site on the Chilkat River also went extremely well. Though some adults returned to the 17-mile site, most of the broodstock for that box were collected from the main stem of the Chilkat River.

Spawning channels

Approximately 11,150 chum returned to the spawning channels on the Chilkat and Klehini Rivers this year – the most seen in many years.

NSRAA uses weirs to limit escapement into the channels and collect broodstock for the incubation boxes. NSRAA manages escapement to prevent the superimposition of redds, which can compromise the survival of fertilized chum eggs in the same area.

In October, State Representative Bill Thomas visited Haines and met with fishermen, community members and Alaska Department of Fish and Game staff to discuss the feasibility and cost of constructing additional spawning channels in the Chilkat Valley.

NSRAA will work with the ADF&G to facilitate this project, if funding is available.



Beach seining for chum broodstock on the Chilkat River near Haines.



The Salmon Lake weir saw a lot of high water this year.

Salmon Lake: Last Year For Broodstock

This fall was NSRAA's third and final year collecting broodstock from Salmon Lake for its Sawmill Cove Hatchery, which is scheduled to open next year.

NSRAA manages the Salmon Lake Weir as part of an agreement with the Alaska Department of Fish & Game (ADF&G) under the Sawmill Cove Hatchery's Basic Management Plan. The objective is to monitor for hatchery-produced coho and estimate the number of wild fish returning to the lake each year.

Broodstock

In 2009, NSRAA began collecting broodstock for Sawmill Cove from Salmon Lake after the Regional Planning Team approved its request to switch its broodstock source from Plotnikof Lake.

Plotnikof Lake was the original source for broodstock, but an unacceptably high percentage of the fish collected there tested positive for bacterial kidney disease – a disease that occurs naturally in the wild but can be devastating in a hatchery.

NSRAA was approved to use Salmon Lake as its source for broodstock for three years, until the first adults return to spawn in 2012.

Broodstock collection was a challenge this year, due to the numerous high water events. A total of 85 pairs (an estimated 275,000) eggs were spawned this year. NSRAA's permit stipulates a maximum of 130 pairs for broodstock collection.

Weir operations

Weir operations, however, did not go quite as smoothly. Heavy rains this summer caused fairly severe flooding that submerged portions of the weir and cause some minor damage. Many fish were able to pass through the weir undetected, due to the high waters.

The crew counted only 569 coho at the weir and had to use the mark-recapture method instead.

The mark-recapture method is standard practice in Southeast Alaska and some form of it is used on every major ADF&G weir project in the region. NSRAA conducts recapture events weekly or biweekly, depending on water levels.

During mark-recapturing, the crew looks for coho with adipose fin clips, indicating they are from a hatchery. All fish with an adipose fin are subsequently sampled for a coded-wire-tag.

According to NSRAA estimates, approximately 1,500 coho returned to Salmon Lake this year – a total similar to that of the past two years. No hatchery fish were found.

Though coho interception at the weir was low, the crew counted 27,000 pink salmon – the most pink on record there since NSRAA began managing the weir five years ago. This could indicate a high pink return in 2013, depending on their stream hatch, incubation and marine survivals.

2011 Returns Hit Highs, Lows

NSRAA's salmon returns were a mixed bag this year – hitting record highs and lows – and underscoring the importance of diversity in the organization's programs.

Chinook

The season started out well with Chinook returns that exceeded forecasts at both Hidden Falls and Medvejie.

Approximately 40,000 Chinook (116 percent of forecast) returned to Medvejie, with a record catch of 7,500 for gillnetters. The 11,300 fish that returned to Hidden Falls exceeded forecasts for there by 58 percent.

The commercial value of NSRAA's Chinook returns was the second highest to date, says Steve Reifentuhl, NSRAA General Manager.

Coho

Coho also saw strong returns this season.

About 254,000 fish returned to Hidden Falls, representing an impressive 10 percent survival rate – the best seen at NSRAA in recent years.

The seine fleets caught a record 45,500 fish. The troll harvest of 74,500 fish represented about 6 percent of the 2011 Southeast Alaska troll harvest and the highest of all troll contributions from a hatchery program.

Deer Lake coho returns showed improved survival, at 7.4 percent, with a return of 79,000 fish. Trollers caught 23,500 coho from Deer Lake, which ranked fifth among Southeast enhancement programs.

Chum

Unfortunately, NSRAA returns hit all-time lows with chums this season.

Chum numbers at both Hidden Falls and Medvejie were close to 30 percent of forecasts and the worst in 20 years.

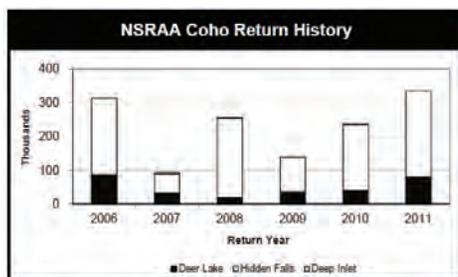
NSRAA was forced to shorten the fishing season at both sites to ensure there would be enough fish for broodstock. Broodstock collection was long and arduous for staff. Fortunately, NSRAA was able to collect enough eggs to meet its goals.

No one knows for sure what caused this year's poor chum returns.

Steve believes it is likely the result of humpback whales targeting releases the past few years.

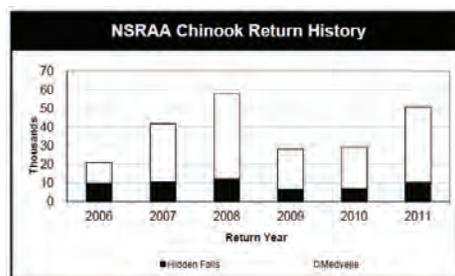
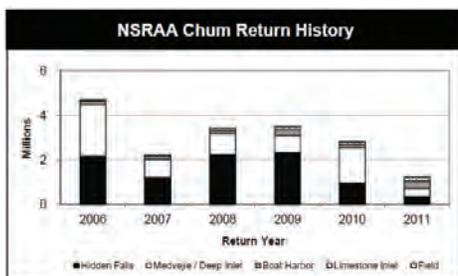
NSRAA Data Analyst, Chip Blair, points out that those brood years (2007 and 2008) were reared in exceptionally cold waters, which slowed their growth and required later release dates and may have, in turn, affected their chance of survival.

Though NSRAA's total contribution of 1.1 million fish was the lowest in 20 years, strong salmon prices kept the overall value of that contribution from hitting bottom. The value of NSRAA's return this year – \$7.9 million – ranks number 13 in 20 years. Not good, but fortunately, not the worst either.



Diversity Helps:

Despite hatchery chum returns at a 20-year low, NSRAA still contributed \$7.9 million to SE fisheries.



Out of the weather. A new shelter provides some comfort for coded-wire-tagging at Deer Lake on a stormy day.

2011 Brings Many Changes Among Staff

There were many changes among NSRAA's staff this year – most of them during the busy summer months.

Scott Wagner was promoted to Operations Manager after Lon Garrison left NSRAA for a position with the Sitka Sound Science Center. Scott was previously the Hatchery Manager at Hidden Falls. In his nearly 20 years with NSRAA, Scott has worked at every NSRAA project, including Deer Lake and Haines.

Adam Olson, who worked as Hidden Falls Assistant Manager with Scott, was promoted to Hatchery Manager. Dan Demers is his new Assistant Manager.

Dan worked as a seasonal employee in 1997 and as a fish culturist from 1999 to 2000 before leaving for an Assistant Manager position at an Atlantic salmon hatchery. He has been Maintenance Engineer at Hidden Falls since returning to NSRAA in 2009.

NSRAA hired Asa Barlow in October to replace Dan as Hidden Falls' Maintenance Engineer.

Josh Homer left NSRAA in October, after 11 years with the organization, to work for the Entiat National Fish Hatchery in Washington. He was the Project Leader for Deer Lake and Salmon Lake.

Carrington Gorman, who worked as a fish tech with Josh at Deer Lake, was promoted to Project Leader. Jeff Serio is now Project Leader at Salmon Lake. Both Carrington and Jeff have been with NSRAA since 2010.

"This all happened in about two months," says Scott Wagner. "All these position changes happened fairly rapidly, so I think it makes everything more challenging, but the staff adjusted and it didn't cause any problems."



Subsistence fishing? A bear snags a coho in the Hidden Falls outlet stream.