Northern Southeast Regional Aquaculture Association

FISH RAP

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

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Southeast Cove returns will take some of the cost recovery burden off of Hidden Falls and Deep Inlet and provide additional chum troll opportunity beginning this summer.

Inside

First Big Chum Return Expected At Southeast Cove

It's been four years since NSRAA joined forces with KAKE Nonprofit Fisheries in a cooperative project to increase chum production at Gunnuk Creek Hatchery. A lot has happened in that time, but in simple terms, four years marks the first major return of the fish released the first season of the project.

Though some three-year-old chum returned to the release site last summer, this summer should be the first significant return to the site since NSRAA began contributing to the project, explains Scott Wagner, NSRAA Operations Manager. If forecasts are correct, approximately 167,000 fish will return to Southeast Cove this summer – representing an estimated $700,000 in revenue. Those forecasts should rise sharply over the next few years, reflecting the dramatic increase in production at Southeast Cove since NSRAA began working on the project.

NSRAA began the project, in 2012, in an effort to help Gunnuk Creek Hatchery, which was repeatedly unable to collect enough eggs to meet its permit. As part of the cooperative project, NSRAA was permitted for an additional 45 million chum eggs to be raised at NSRAA's Hidden Falls hatchery and released from Southeast Cove.

In 2014, KAKE Nonprofit filed bankruptcy, released the last remaining fry at Gunnuk Creek, shut down its operations and closed the hatchery's doors. Almost two years later, the dilapidated facility stands empty, its future uncertain.

As the closest aquaculture association, NSRAA was given first right of refusal to purchase and take over the failed hatchery. The prospect is daunting, as the facility has numerous problems that likely led to its failure. The estimated cost to upgrade and reconfigure the water and mechanical systems and the buildings to make the hatchery viable could easily cost the organization $2 million.

Steve admits the project would be the most challenging project in the history of the aquaculture association, but the potential benefit for commercial fishermen would make it worthwhile.

Because KAKE Nonprofit accrued nearly $22 million in debt during its operations at Gunnuk Creek, the State of Alaska took ownership of the property after the hatchery's failure. NSRAA made an offer to purchase it – one that Steve was led to believe would be accepted by the state – but it was refused.

NSRAA's staff and board continues to work toward the purchase of the facility and potential expansion of its chum enhancement programs there, but the representatives with the state have been tightlipped about their motives or strategy since rejecting NSRAA's offer, he says.

"They have been working behind closed doors," says Steve, who believes the property may be put to auction in the near future. "We still hope to be able to run that facility. It would be important to developing new programs."

Meanwhile, the staff at Hidden Falls works at full capacity to incubate the eggs and raise the fry for release at Southeast Cove. The hatchery suffered some unexpected losses this year, likely due to the overcrowded facility, but was able to transfer roughly 50 million fry to be released from the remote site – just short of full production at 55 million.

Overall, NSRAA's 4.0 chum program (fry raised to the larger size of 4 grams before being released) for Southeast Cove has done exceptionally well, says Steve. "This season's chum return at Southeast Cove is from a fairly small initial release, but if it performs anything like it did last year, we're on our way to a very successful program."

NSRAA FY17 Budget

Projected Income - FY17

Year	Income Source	Amount
2015	Enhancement tax	$1,615,190
Revenue - Fish sales / Assessment tax:		
2016	- Amount required from Chum	$3,046,041
2016	- Southeast Cove Chum	$700,000
2015	- Excess chum CR	$101
2015	- Southeast Cove Chum	$55,698
2015	- Chinook	$100,239
2015	- Coho	$570,420
2015	- Incidental species	$1,254
2015	- Roe	$58,202
2015	- Carcass	$108,905
Other Revenue / Funds from Reserves		
2015	Rental Income	$42,000
2015	Investment Earnings (net of fees)	$115,473
2016	NSE account (DIPAC)	$700,000
2016	From Unrestricted Reserves	$200,000
	Total	**$7,313,523**

Projected Expenses - FY17

Expense Source	Amount
Operational Budget	$6,915,523
Capital Budget	$198,000
4.0 Pens (Project not specified)	$200,000
Total	**$7,313,523**

General Manager's Notes

Alaska's Wild & Hatchery Salmon Research Program

The State of Alaska is conducting groundbreaking research, both with innovative genetic techniques (single nucleotide polymorphism) and in regard to the geographic scope in order to evaluate the interactions of wild and hatchery pink and chum salmon in southeast Alaska and Prince William Sound. This idea was initiated by several of the aquaculture associations and embraced by the commissioner of ADF&G in 2011. Beginning with the development of the research plan, this has been a full partnership with the department, which is now administered by ADF&G headquarters.

Why do this research? The fundamental answer is the enhancement program was implemented to supplement common property fisheries with the expectation it would not have deleterious effects on wild stocks. The integrity of wild stocks, sustainability, well-managed fisheries and biological escapement goals are the foundation upon which fishermen rely for their livelihood and their family's future. The State of Alaska designed the enhancement program in the early 1970's with statutes, regulations and policies predicated on these principles. Collectively, we learned from the missteps and mistakes of others. Examples of what hatcheries should not do, or be expected to mitigate, was clear at the outset.

In early 2012, a science panel consisting of geneticists from NMFS (National Marine Fisheries Services) and ADF&G, contract biometricians, and fishery scientists from ADF&G, NMFS (retired), the University of Alaska, and two career biologists from aquaculture associations spent the year establishing the research questions/hypotheses, sample design and robust statistical methods. A request for proposals was issued that same year so the summer field season could be used to fine tune field sampling protocols. Three hypotheses emerged: 1) what is the genetic stock composition of pink and chum salmon in each region? 2) determine stray rates of hatchery and wild, what is geographic and annual variation? 3) what is impact on fitness or reproductive success comparing wild/wild crosses with the possible combinations of wild and hatchery crosses?

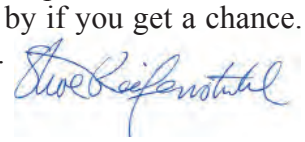
Samples have been collected, and in some cases analyzed, to answer questions 1 & 2. The proportion of hatchery chum strays spawning in wild streams for Southeast in aggregate ranges from 5 percent (2014) to 9 percent (2015); while in 2013 the proportion was 7 percent. The genetic analysis to determine stock similarity/disparity is ongoing with results expected to be published in 2017.

The critical question of fitness or relative reproductive success will require considerably more money and time – two full life cycles of pink salmon (6 years) and chum salmon (11 years). This brings me to the topic of funding.

The total bill for the research is expected to be $16 million, and that does not include the in-kind support of $350,000 that ADF&G provides annually. Legislative grants and DIPAC (Douglas Island Pink and Chum) covered much of the costs in the initial years but, as you know, that will not continue. A consortium of processors was the first to step forward with an annual contribution of $500,000 beginning in 2013. The finance committee of the science panel recognized the monetary pinch in early 2014 and put together a strategy to request funding from the aquaculture associations with an aggregate annual contribution of $350,000. The seven major Alaska associations committed to this level of funding through the completion of the research in 2023. Translation: fishermen are paying for the research with revenue primarily generated by cost recovery.

Answering these research questions is important to all Alaskans, but especially to the fishing industry. Results have implications in sustainability labelling, markets, and the price of salmon. Closer to home, we understand why Alaska is the gold standard for salmon – they are managed for sustainability utilizing abundance-based management, escapement priority, and preservation of pristine habitat. Our future depends on it.

Have a great fishing season, and please stop by if you get a chance. We at NSRAA will continue to work hard for you.



Medvejie: Can Technology Curb Mortalities?

After several years of struggling with chum mortalities during incubation at Medvejie, NSRAA is turning to technology to solve the problem.

To some extent, mortalities are unavoidable when rearing fish. Whether in the wild or raised at a hatchery, there will be fish that die at every stage of development. It's expected. It only becomes problematic when large numbers die as the result of problems such as viruses or bacterial or fungal infections.

For the past few years, too many of the chum fry raised in one of Medvejie's incubation rooms have died, presumably the result of bacterial and fungal infections or their secondary effects. Losses vary from year to year – with a high of 14 percent in 2015 – and represent a major loss in future returns.

Dedicated to finding a solution to the problem, Medevejie's staff researched technological solutions that could mitigate the losses. At its March meeting, the board approved the purchase and installation of an inline ultraviolet (UV) disinfection unit to treat the incoming water before it enters the incubators.

The disinfection unit uses UV light to deactivate bacteria and fungus and should disinfect the water supply as long as staff can maintain the necessary dose. Unlike other disinfectant systems which destroy the bacteria and fungus, this system merely alters the DNA structure to prevent the bacteria or fungus from reproducing at a level to cause an infection.

This summer, Medvejie staff will purchase, install and begin using the UV system on one of two separate water lines supplying the problematic incubation room. This testing period will allow NSRAA staff to accurately measure the effects and success before committing to the cost of an UV disinfection unit for the second line and, potentially, for other

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Hatchery Reports, cont. from page 2

incubation rooms at the facility.

Staff should have results early next winter. If the system prevents the fatalities it has experienced recently, staff will seek funding for a second unit next year. The project approved for funding this fiscal year includes the necessary electrical upgrades to accommodate future UV unit expansion.

"We are excited at the potential to solve a challenging and difficult problem," says Adam Olson, Medvejie manager. "Incubation work has been daunting and overwhelming at times. If we are successful, this will allow us to focus more time and attention during the overwinter incubation period to improving all of Medvejie's programs."

Fish Mortality Reduced At Hidden Falls

With the Hidden Falls Hatchery filled to capacity, staff has struggled with rising mortality rates during the rearing process – especially among chum fry in net pens – so this year's lower mortality was a welcome success.

"We've had an excellent rearing season this spring," says Jon Pearce, Hatchery Manager.

As NSRAA works to enhance production for the fleets, its hatcheries often take the brunt. In the past five years, for example, Hidden Falls has upped the number of eggs it incubates, from 125 million to 180 million, in its efforts to increase production for commercial fishermen.

A dramatic increase in production can leave the staff scrambling to make room. They must be quick on their feet to rearrange the rooms, redesign this, retrofit that. For the most part, it works well. But sometimes, as in recent years, it's not good enough. The fish succumb to a virus or bacterial infection, perhaps, and the mortality rates rise.

With increased mortality over the past few years, ranging from 15 to 28 percent between the Hidden Falls hatchery and its rearing pens at Takatz, the staff has worked to attack the problem from every imaginable angle. They've reviewed rearing procedures to see what they could change or improve. They've fed the fish different types and different sizes of food. They've added an extra net switch during the rearing process to avoid a buildup of algae and waste.

It seems to be working; this year's chum mortality dropped to 7 percent – the lowest rate in the past three years and more than half what it was one year. The warmer winter temperatures this year also seem to have helped fish health.

"We had excellent growing conditions and we released really healthy salmon this year," Jon says. "We feel really good about it."

The fish grew so well, in fact, some were released as early as April, several weeks earlier than normal. Most of the fish grew beyond their targeted weights before release. For Hidden Falls 4.0 group (chum reared for release at 4.0 grams rather than the traditional 2.0 grams) this was especially encouraging.

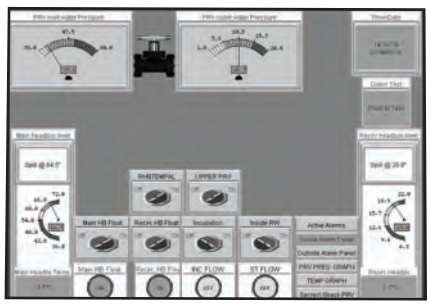
Overall, the staff is optimistic, says Jon. "We changed a few things and it seems to be working well. We still think we can get the morality lower. We're thinking positively for next year and looking at what worked, what we should do differently. We're progressing in the right direction right now."

The American Patriot tows net pens in late January for spring rearing in Deep Inlet.

Keystone Construction employees work on the Hidden Falls weir this spring. Upgrades to the weir will improve broodstock mangement at the hatchery.

Sawmill Creek Beefs Up Security

When a hatchery like Sawmill Creek works to increase security, it's not for fear of someone breaking and entering. But added security might mean the difference between life and death for the fish.



Sawmill Creek's PLC display

The staff at Sawmill Creek has upgraded the facility for added security and monitoring in an effort to prevent problems and avoid mortality among the fish in its care. It has purchased a new generator and load bank to keep systems running during a loss of power and a new PLC (programmable logic controller) and webcam to track water pressure and levels.

A loss of power could have a number of negative effects at a hatchery. Even during a brief loss of power, water recirculating in the facility would come to a standstill. In the coho incubation room, water is recirculated to speed up egg development, but it is also used for otolith marking – a technique used by enhancement facilities to identify where or how hatchery fish were raised and where they were released.

A power loss during otolith marking can alter the marking so it is no longer recognizable or useful when the fish returns and NSRAA collects and compares data. A loss of power can also cause a rapid temperature change in the water, which could lead to mortalities.

NSRAA added a new PLC where the water is directed from the Blue Lake Penstock to the hatchery. This allows the hatchery staff to monitor inlet and outlet pressures through the pressure-reducing valve (PRV) without having to check it manually. A webcam monitors the water level at the wetwall (the hatchery's holding tank).

Both the PLC and the webcam will save the staff valuable time they can use to focus toward the fish they rear.

NSRAA has also budgeted for new electronic controls for the hatchery's PRV pilot system, says Rebecca Olson, Hatchery Manager. This will allow the PRV pilot system to automatically respond to an increase or decrease of water within the hatchery without having to adjust the pilot system manually.

Together, these additions add up to more efficient operations and – most importantly – less chance for harm to the fish NSRAA is rearing for release for the fleets.

Board Member Profile: Justin Peeler

NSRAA is always on the lookout for potential new enhancement projects and latest on the list – aside from its efforts to take over the failed Gunnuk Creek Hatchery – is to mitigate recent return losses to Hidden Falls by finding new remote release sites.

Board member, Justin Peeler, accompanied NSRAA Operations Manager, Scott Wagner, to Thomas Bay, northeast of Petersburg, for an initial evaluation of a potential remote net pen site. The lifelong seiner helped NSRAA staff review an agreement with Alaska Department of Fish & Game (ADF&G) for a baseline fishing survey for Thomas.

"He's an active and engaged board member," Scott says. "He's interested in doing what he can to improve the fisheries."

"I think it's very important, as a fishing industry, to represent ourselves and help to maintain the health and proper management of our resources, so we can make a living and the next generation can, too," says Justin, who was elected to the NSRAA board in November 2013.

The 37-year-old, his twin brother and their older sister (three of seven children) grew up splitting their time between their mother, in the Seattle area, and their father, a commercial fisherman in Petersburg.

"We spent our summers in Alaska with our dad from the time I was five," he says.

Fishing was a family business in the Peeler family. As a kid, being on the boat was more fun than work, but by the time they were 12, the kids were considered part of the crew and expected to work.

"I liked the hard work," he says. "I liked the satisfaction and the reward that came from that work. I still do. I think commercial fishing challenges you on all your senses, your mind and your body. You've got to be able to put all those things together and see the catch as a reward. It's rewarding and challenging. I like that."

NSRAA Board member, Justin Peeler

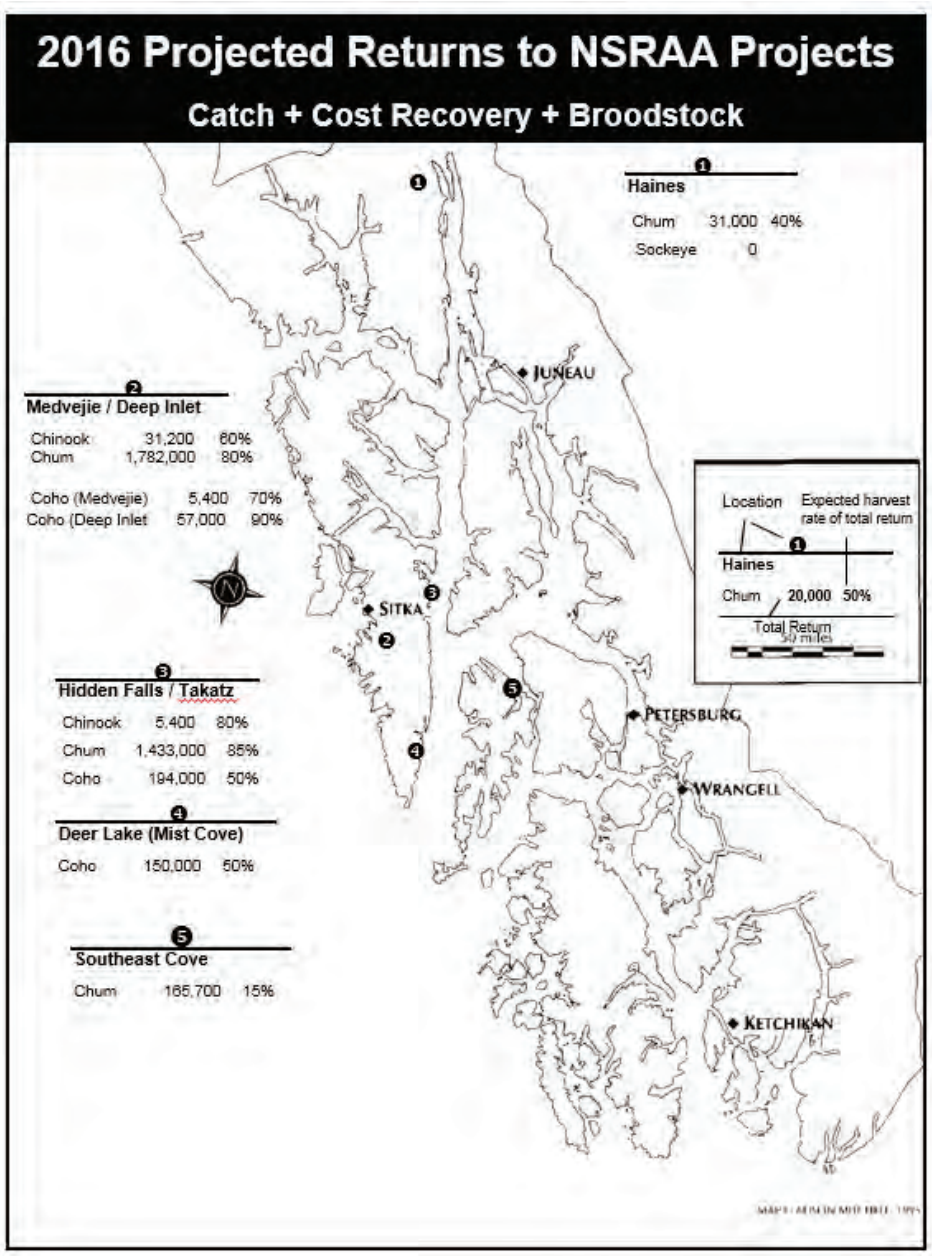
Justin has been fishing full-time since he was 20. He operates the boat he grew up on, but he and his crew don't stop with salmon.

"My family has always been diverse," he says. "If we're not salmon seining, we're longlining or crab fishing or fishing for squid or other fisheries."

Keeping the catch diverse makes good business sense but it also means free time can be hard to come by. When he's not on the boat, Justin is the "typical Alaskan" – he likes to hike, hunt, fish, and prefers to be outdoors. In addition to serving on the NSRAA board, Justin also serves as an alternate on the Regional Planning Team.

"I enjoy being politically active in the fisheries," he says. "As a fishermen, the thing that concerns me the most is the politics of fisheries and how they're managed. We need to make sure everybody has equal rights to these fish, that they're managed correctly and that they continue to survive and grow strong for the next generation."

"It's always good to have new board members, especially one representing the younger generations," says NSRAA General Manager, Steve Reifenstuhl. "Justin has interest in expanding NSRAA programs for all the fishermen."



Deep Inlet 2016 Schedule

May 29-June 18: Chinook management with 4:2 days gillnet to seine.

- Seine – Sun /Wed
- Gillnet – Mon/Tue/Thur/Fri
- Troll - Sat

June 19-July 23: Chum management with 3:3 days gillnet to seine.

- Seine – Sun /Thur /Fri
- Gillnet – Mon /Tue /Wed
- Troll – Sat

July 24-end of season: Chum management with 4:2 days gillnet to seine.

- Seine – Sun /Wed
- Gillnet – Mon/Tue/Thur/Fri
- Troll – Sat

Market Report:
Key Factors Lead to Cautious Optimism

Climbing salmon prices took a sharp downturn the past several years due to a number of factors, including the strong U.S. dollar, the Russian embargo and two record-breaking Alaska salmon harvests (in 2013 and 2015), but it looks like prices for wild Alaska salmon may strengthen this season.

While supply, currency and trade restrictions have been key factors depressing salmon prices recently, these same factors may serve to improve prices this season, according to the Alaska Salmon Harvest Summary and Forecast Analysis by the McDowell Group.

"The same thing that's exciting about seafood is the same thing that drives people away," says Tyson Fick of Alaska Seafood Marketing Institute (ASMI). "It's constantly changing in dynamic and different markets every day, and different fishing conditions every day. It's all fluid. It changes on a daily and, certainly, yearly basis."

> *"Generally, things are shoring up and there's excitement going into the season"*
>
> - Tyson Fick, ASMI

According to Laine Welch's May report in Seafoodnews.com, this season's lower salmon supplies should boost global prices – good news for both wild and farmed salmon.

This is an off-year for pinks and both Alaska's and Russia's wild returns are forecast to be lower, but the biggest cause for this year's decreased global salmon supply may come from the crisis in Chile – Alaska's biggest competitor in the global salmon market.

An unprecedented algal bloom has spread down the coast line of southern Chile, wreaking havoc on salmon populations, aquatic life and the seafood industry there, leading to an economic crisis and massive protests among fishermen.

Though red tides are a naturally-occurring phenomenon, Chilean fishermen and coastal communities blame the destructive scale of this one on the country's farmed salmon industry which allegedly dumped tons of dead salmon into the ocean after a separate algal bloom had already killed millions of salmon. According to Chile's National Fisheries and Aquaculture Service, 38 salmon farms had been affected and nearly 24 million fish killed – enough to fill 14 Olympic-sized swimming pools.

Chile is one of the world's largest salmon producers and this environmental catastrophe will drastically affect its supply this year and into next. News reports indicate that prices have already skyrocketed in Japan, the largest consumer of Chilean coho, and that Chilean salmon prices had increased 25 percent – to nearly $5 a pound – since December.

Commercial salmon farms in Norway have also suffered severe losses this year – to sea lice –and forecasts are down for wild salmon all along the West Coast south of Alaska, says Tyson. "That's unfortunate there, but good for us."

The strength of the dollar also has a major impact on the value of salmon products.

"A stronger U.S. dollar is bad for seafood processors that rely on export markets for most of their sales," explains Stephanie Warpinski, an economist with the McDowell Group. "A stronger dollar makes Alaskan exports more expensive from a foreign buyer's perspective and makes imported seafood less expensive in the domestic market."

Though domestic consumers represent the largest market for Alaska salmon products, export markets, together, account for nearly three-quarters of first wholesale sales. Exports have suffered with the strong dollar.

This year, the dollar remains strong but has a slightly weaker exchange rate with other key currencies than it did last year, which help the export market, Stephanie says.

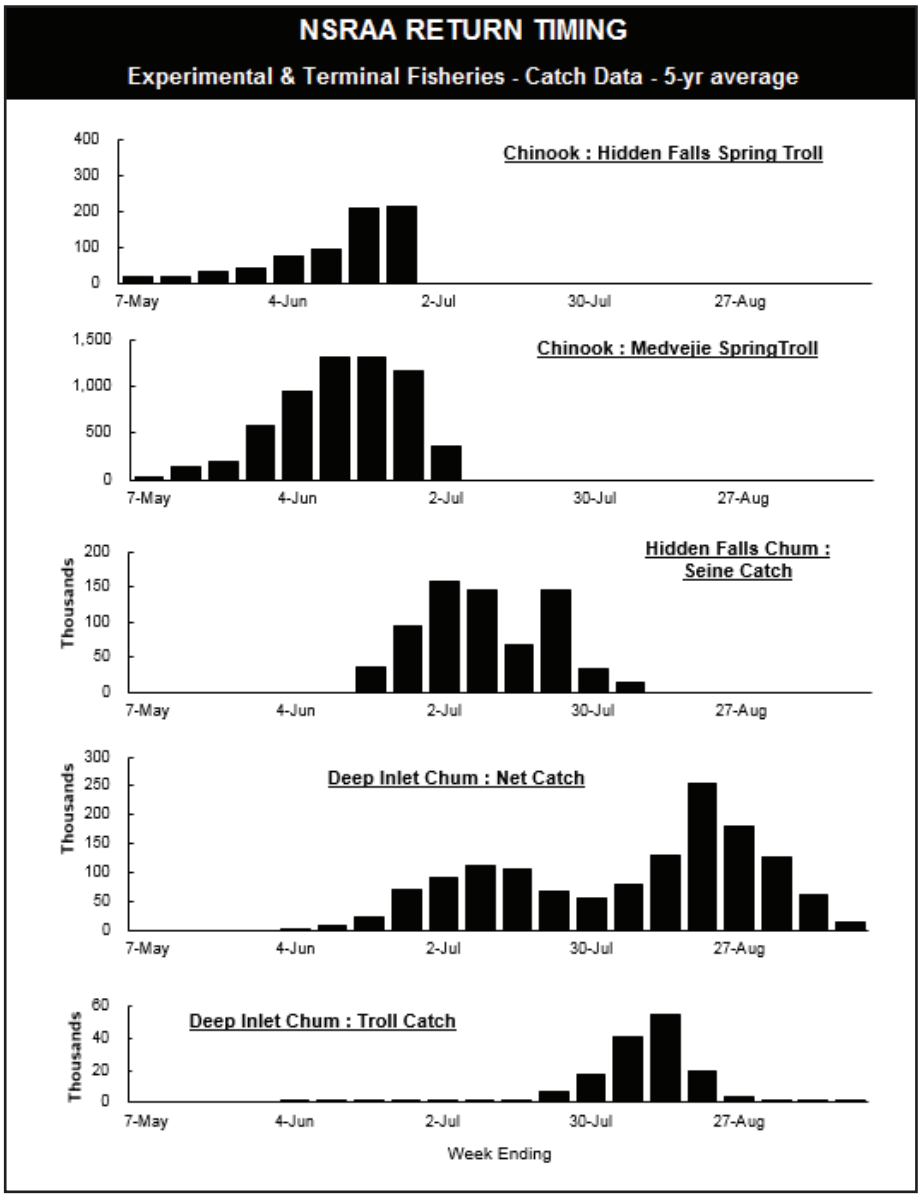
A failure of farmed and wild salmon fisheries in Japan has led to a surge in demand for Alaska sockeyes and exports to Japan in the last quarter of 2015 had increased more than three times over the previous year, according to Seafood.com. Sales are expected to remain high.

The favorable exchange rate between the dollar and the yen also looks promising for Alaska's ikura market.

According to Tyson, sales were strong at this year's annual European Seafood Exposition at Brussels in April, including sales for the roe market in Ukraine, a large customer whose currency was devalued drastically after the Russian's invaded Crimea.

"Generally, things are shoring up and there's excitement going into the season," he says. "We're cautiously optimistic and things are looking good that when the fish show up we'll have strong markets and good demand."

NSRAA staff and Reiver crew offload Chinook smolts into net pens for rearing at Halibut Point.



NSRAA Project Updates

Deer Lake: Warm Winters, Hungry Fish

Depending on your perspective, the unseasonably warm winters of late may be bad or they may be good. For NSRAA, the warming trend has resulted in longer seasons and higher vigilance to raise healthy coho at Deer Lake.

"It's a pretty drastic difference from traditional weather patterns," says Woody Cyr, Project Manager. Where once the Deer Lake crew would find at least two and up to 14-feet of snow when it returned to camp in March, this year the ground there was bare, the only snow high above on surrounding peaks.

This winter marks the third consecutive year Deer Lake did not ice over and the shortest period on record for the lake's turnover, he says. Turnover occurs at 4 degrees Celsius (approximately 39 degrees Fahrenheit), when the surface temperature has cooled enough to match the temperature and density of the water below. At this point, the water mixes, carrying nutrients from the bottom throughout the water column. As the temperature of the surface layer dips below 4 degrees Celsius, its density drops and, typically, it would freeze.

For cold-water fish like salmon, the recent warm winters of means elevated activity levels, raised metabolism and a higher than normal demand for food and nutrients. This means heightened vigilance during the winter and a longer season for the crew as it cares for the coho fry overwintering at Deer Lake.

NSRAA is able to store a limited amount of food for the fish at Deer Lake, which – during warmer winters like this one – may dictate smaller rations.

"If your resources are limited, you have to make hard decisions," Woody says.

Throughout the history of the project, Deer Lake coho released at a weight of 17 grams or more have fared well in the ocean. Typically, a larger size is optimal and NSRAA aims to release the fry at 25 grams. But this year, Woody decided it was best to keep them smaller and he lowered his aim to an average release weight of 20 grams.

"I didn't know if I was going to have to feed 2.4 million or 1.2 million fish until mid-May," he says. "If I have double the fish and the same amount of fish food, that means everybody gets half rations. If you're trying to feed a big, fat fish half rations, he's going to lose weight. If you feed a smaller fish half rations, he's not going to lose as much weight and he's going to have an easier time keeping that weight on."

By the first week of May, the fry were healthy and already beginning to emigrate to saltwater – two weeks ahead of expectations. The fish migrate by pipe from the lake to holding nets in saltwater where they are held for a few days to ensure osmoregulation before being released to saltwater.

Southeast Cove chum rearing, 2016. About 50 million chum fry were reared at the site this spring. See article on page 1.

NSRAA 2016 Return Projections

Site	Projected Return	Range Low	Range High	Commercial	Sport	Cost Recovery	Brood Stock	2015 Return	2015 Forecast
Chum									
Hidden Falls	1,433,000	694,000	2,178,000	1,243,000	-	-	190,000	292,355	1,031,000
*Medvejie/Deep Inlet**	1,782,000	892,000	2,664,000	1,472,000	-	220,000	90,000	2,443,167	1,336,000
Southeast Cove	165,700	82,800	248,500	25,000	-	140,700	-	13,428	4,800
Haines Projects	31,000	15,500	46,500	12,400	-	-	-	33,800	33,800
	3,411,700	1,684,300	5,137,000	2,752,400	-	360,700	280,000	**2,782,750**	**2,405,600**
Chinook									
Hidden Falls	5,400	800	10,500	3,150	250	-	2,000	2,581	5,400
Medvejie	31,200	10,200	32,400	16,848	1,560	8,792	4,000	27,178	27,500
	36,600	11,000	42,900	19,998	1,810	8,792	6,000	**29,759**	**32,900**
Coho *Marine Survival:*	*6%*	*4%*	*10%*						
Hidden Falls	194,000	129,500	323,700	73,300	4,000	106,700	10,000	45,455	187,000
Deer Lake	150,000	99,900	249,800	80,500	2,000	67,500	-	143,216	145,000
Banner Lake	5,000	3,000	7,600	4,500	500	-	-	496	3,000
Medvejie	5,000	3,100	7,800	3,300	500	-	2,720	3,945	4,000
Deep Inlet	57,000	38,000	94,900	51,300	5,700	-	-	10,409	18,000
	411,000	273,500	683,800	212,900	12,700	174,200	12,720	**203,521**	**357,000**
ALL SPECIES TOTALS:	**3,859,300**	1,968,800	5,863,700	**2,985,298**	**14,510**	**543,692**	**298,720**	**3,016,030**	**2,795,500**

* Cooperative Project with SJH

NOTE: Projections for Medvejie/Deep Inlet are for total returns (NSRAA + SJH fish).

NOTE: Chum cost recovery numbers have not yet been determined; Deep Inlet is an initial estimate.

Southeast Cove assumes 85% cost recovery and 15% troll.

NSRAA, Gear Groups Aim To Resolve Allocation Connundrum

The allocation of enhanced fish has been a point of contention among the three gear groups for decades. Emotions reached a head at last year's Board of Fish (BOF) meeting, when a group of trollers presented Proposal 176 – a recommendation that the BOF direct the Northern Regional Planning Teams, NSRAA and Douglas Island Pink and Chum (DIPAC) to develop a new plan to resolve the allocation inequities.

After much testimony and deliberation, the BOF voted unanimously against the proposal, based in a large part due to the opposition voiced at that meeting, but NSRAA's board, DIPAC, Southern Southeast Regional Aquaculture Association (SSRAA) and fishermen groups are working to ensure the problem doesn't rise to that level again.

"It's been well over 20 years and this problem has been exceedingly difficult to resolve," says Steve Reifenstuhl, NSRAA General Manager. "It's a difficult and contentious issue. But we – fishermen and the aquaculture boards – would like to keep the argument and the resolution of this issue at the aquaculture boards and joint regional planning team level rather than fight it out at the BOF."

> *"It's a difficult and contentious issue. But we – fishermen and the aquaculture boards – would like to keep the argument and the resolution of this issue at the aquaculture boards and joint regional planning team level rather than fight it out at the BOF."*
>
> - Steve Reifenstuhl

The allocation percentages outlined in the 1994 regulation were written in an attempt to ensure each gear group receives its fair share of fish each year and trollers have consistently been below their allotted portion since the regulation was adopted. (The seine group is also slightly out of its range, while the gillnetters are above their range.) But it's not for lack of effort.

NSRAA, SSRAA and DIPAC have added and continue to add numerous new enhancement programs over the years specifically to improve the troll imbalance. The production of salmon in the Southeast has increased almost five-fold as a result, benefitting all gear groups. If you look at the overall catch, Alaska's enhancement program has been a screaming success.

Still, the trollers are lagging.

"This pie and the proportions is what the program's success is judged on," Steve says, referring to the allocations from the 1994 regulation. "So even though we've grown the pie almost five times the size since then, and everybody has benefitted, the trollers haven't benefitted as much. Even though the trollers have caught many, many more millions of dollars in fish, their share is still not as much as it should be."

For its part, NSRAA continues to work to develop enhancement programs that will benefit the troll fleets and boost those sagging numbers. Meanwhile, the NSRAA board and staff want the reassurance that the allocation conundrum won't return to the BOF's table.

"The (enhancement) program has had great value," says Steve, "We are building new programs and attempting to address the allocation imbalance."

Steve has worked with fishermen groups to draft a resolution they hope all three gear groups will agree to, one that acknowledges the work accomplished over the past two decades by organizations and hatchery operators such as NSRAA, their continued efforts to develop new programs to address the imbalance, and a request that the BOF take no action to change the Southeast Alaska Enhanced Salmon Allocation Plan that was approved in 1994.

"Keeping the debate and resolution in the family is a safer avenue," he says. "The fishermen know the issues and how to produce fish for common property benefit. The BOF has far too many proposals on their plate to be able to understand the nuances of Southeast allocation. Besides, if you open up a regulation for change at the BOF, you never know what the outcome might be."

DIPAC Contributes To Fisheries Now And In The Future

For the fourth year in a row, NSRAA is able to reduce its closures for cost recovery (CR) operations, thanks to a financial contribution from Douglas Island Pink and Chum (DIPAC). Though this year's total of $700,000 is not enough to completely eliminate CR closures at NSRAA's Deep Inlet, it will significantly shorten the time NSRAA will close the area from fisheries.

Since making its last debt payment in December 2012, DIPAC must now funnel any excess funds (beyond those needed for its operational and capital funds) to the common property fisheries. The organization adopted a three-priority policy to help determine how to distribute the funds, explains Eric Prestegard, DIPAC Executive Director.

First priority is to put the money toward cost recovery buyback, where it would provide the quickest return for fishermen. This financial contribution, like those made to NSRAA over the past several years, allows the receiving aquaculture association to reduce or eliminate its cost recovery operations and provide longer openings for commercial fishermen.

DIPAC also makes contributions with more delayed benefits. For example, it might contribute funds to another aquaculture association to purchase net pens at a new release site as investment toward future fish production. Or it can make a contribution toward research and education that would benefit fisheries far into the future.

"Hopefully, that's creating the fishery scientists of tomorrow, so we'll have good people managing our fisheries into the future," Eric says.

The total annual return from DIPAC to these various programs varies from year to year, depending on the organization's budget needs, reserve fund requirements and the total received for its cost recovery that year. In the past four years, DIPAC has invested $13.4 million in the fisheries by these methods, $6.7 million of that total to NSRAA for cost recovery buyback.

"When we receive this money, it goes right into reducing our demand for cost recovery, so there's more fishing time," says Steve Reifenstuhl, NSRAA General Manager. "Basically, it's translated to fishermen in equal value each year. It's a tremendous benefit to commercial fishermen to get these awards."

Other recipients include Southern Southeast Regional Aquaculture Association (SSRAA), the Sitka Sound Science Center and the University of Alaska at Fairbanks. DIPAC has also contributed monies toward the U.S. Forest Service, the Pacific Salmon Treaty and $2 million toward a $16 million Alaska Department of Fish and Game (ADF&G) study that strives to measure the impact of straying hatchery-raised pink and chum salmon on wild populations in Southeast Alaska and Prince William Sound.

"The first priority is to get it back to the fishermen, as soon as possible, through cost recovery buyback," Eric explains. "The bulk of it has gone to NSRAA and SSRAA."

Chip Blair: NSRAA Data Guru

NSRAA's Data Analyst Chip Blair

When Chip Blair began working with NSRAA some thirty years ago, it was just a fledgling organization. His position and duties have evolved – from temp worker to data guru – as the organization has grown.

"NSRAA was quite small when I started in 1985," he explains. Back then, Chip was one of a staff of maybe 15 people. That year, NSRAA released a record-breaking 6 million chum from Medvejie and Deep Inlet – nearly three times its release from the previous year, but only a fraction of the 230 million fish NSRAA releases annually today.

The Medvejie Hatchery and the Coho Lake Rearing program were the association's main projects, yet they bore no resemblance to what you see today. Medvejie's small facility was cobbled together. Hatchery staff lived in shacks made of plywood and visqueen or – if they were lucky – a trailer.

Even remote work was vastly different. Staff worked and camped in total isolation, with little to no contact with the outside world for weeks at a time. There were no computers, Internet or cell phones to help communicate or to record and track data.

"Technology has changed a lot in every aspect of our organization," Chip says. The fisheries – from the boat to the processors to fishery management – have also have benefitted from major advances in that time. "Few could have predicted the way things have evolved – and continue to evolve."

Originally from Twinsburg, Ohio (trivia fact: the town was named after twin brothers who married twin sisters and is the gathering place of the annual festival, Twin Days) where he grew up on a horse farm, you might say Chip stumbled onto his career in fisheries. When he earned a degree in natural resources management at Ohio State University, Chip envisioned a future in farming or something similar.

"I never dreamed I'd end up as a fishery person," he says. But when his wife, Amy, accepted a summer position with the U.S. Forest Service in Alaska, Chip went along. Like so many others, the couple fell in love with Alaska and its lifestyle. They made Sitka their home and raised their two children, Emily and Ian, there.

Chip is equally at home at NSRAA after all these years. He knows the programs intimately and has been there to witness each evolution, from the first office computer to the construction of a new hatchery to the introduction of new programs. But what Chip knows best is data.

"What I like about it is you can see trends and make decisions based on empirical data," he explains. "It's something that comes natural to me. I like working on complex issues and problems. Data is a way to relate."

Self-taught, Chip is NSRAA's computer and data guru. He can tell you how many and what kind of salmon NSRAA has released each year, the total catch for each gear group, how different rearing techniques affected the salmon's ocean survival and much more.

"If you don't have solid data to evaluate what's happened, you're just shooting in the dark," Chip says.

But this data guru doesn't hole up in his office. Though data analysis is the focus of Chip's position in the winter, he wears a variety of hats in the summer. In June, for example, you might find him fishing in the early morning and sampling fish that afternoon. The next day, he might be on the water coordinating cost recovery or harvesting excess Chinook, and then off to the processor to collect data. He works with NSRAA staff, fishermen and processors. That's what he loves about his work at NSRAA.

"I'm involved in so many different projects and work with so many different people," he says. "There's never a day that's the same. There's always something new going on. It's been quite a journey to watch NSRAA grow from producing 6 million fry and smolt to the 230 million we rear and release today."

Congratulations to the 2016 NSRAA Scholarship recipients!

Bernadette Franulovich

James Morland / Hannah Pfundt

NSRAA Board Welcomes New Members

The NSRAA Board of Directors welcomed two new members this spring. Bert Bergman and William (Will) Prisciandaro were both elected to their seats during the November election and began their term at the meeting this March.

Bert, 45, replaces Ritchie Davis as an at-large troll representative. Originally from Edna Bay on Kosciusko Island, outside of Craig, Bert has lived in Sitka for more than 20 years. He bought his first boat and began fishing when he was 17. Also on the board of the Seafood Producers Cooperative in Sitka, Bert says he ran for the NSRAA's board because he wanted to help solve the troll fleet's allocation inequities. It's a long-term problem that begins with correcting some of NSRAA's low return rates, he says. "It's hard to balance your allocation if fish don't come back at very good levels."

Originally from Peru, New York, Will, 35, applied for an internship with the Alaska Department of Fish & Game (ADF&G) while studying marine biology at the Florida Institute of Technology. The internship, based in Haines, was funded by NSRAA and was a cooperative tagging program between ADF&G and NSRAA. As Will says, he's made the full circle, from marine biology to commercial fishing and now into fish politics. (Will, a gillnetter, also serves on the board of United Southeast Alaska Gillnetters Association.) His decision to run for the board was in part motivated by the desire to help his fleet, Will says, but also "to help fisheries as a whole."

Fish Culturist Elizabeth Yebba cleans raceways at Hidden Falls.