

# FISH RAP

Nonprofit Org  
U. S. Postage  
Paid  
Sitka Alaska  
Permit #38

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

Change Service Requested

Vol. 35 No. 2

December 2017

*NSRAA hopes to begin incubation at its newly acquired Gunnuk Creek Hatchery next fall.*



## Inside

<i>Hatchery Reports</i>	2
<i>General Manager Notes</i>	2
<i>Chinook Mass Marking</i>	4
<i>Board Member Profile</i>	5
<i>Crawfish Inlet Update</i>	6
<i>40th Anniversary</i>	7
<i>Staff Profile</i>	8

## Big Strides Made At Gunnuk Creek

NSRAA's purchase of the defunct and dilapidated Gunnuk Creek Hatchery was arguably the organization's riskiest and most intimidating project to date, but now that some of the initial work has been completed, the staff is feeling optimistic about its latest venture.

Site evaluations indicated the water system required a major overhaul and the buildings were mostly unusable, but what other problems would they encounter? "Keep in mind, nothing has happened there since 2014," explains NSRAA Operations Manager, Scott Wagner. "Going into it, we didn't know if we'd have major structural damage or other liabilities."

Gunnuk Creek Hatchery was previously owned and operated by Kake Nonprofit Fisheries Corporation. The organization filed bankruptcy and closed operations at the hatchery, on the northwest coast of Kupreanof Island, in the spring of 2014, after years of declining salmon returns.

Once the paperwork for the purchase and all necessary easements were completed, the real work began. First on the list was to drain the dam – the main water source for the hatchery – to check the intake structure for debris. Though this should be an annual maintenance procedure, Wagner says it appeared it had not been cleaned since the dam was built more than 10 years ago and it took a lot of work to clean it out.

It took another several weeks just to get the pipeline back in order. The plywood covering had decayed in places, trees had fallen across it, and sections of the pipeline were off the supports and in the creek bed.

"It took a long time, but we were able to get full flow for the facility," says Scott.

Once the water was flowing again, NSRAA staff and the maintenance crew turned their focus to the hatchery and residential buildings. They hauled away endless amounts of trash. They pressure washed and painted the building exteriors and gutted the moldy interiors of the residential buildings. They replaced roofs, pipes, the septic and water systems. They replaced transformers and cleaned up live electrical wires.

But despite the extent of damage and disrepair they found, and the scope of the work involved with refurbishing the defunct hatchery, Scott says the staff and board no longer feel intimidated by NSRAA's latest project. So much of the risk of this venture lay in the unknowns – what surprises might be uncovered once the purchase was final and this initial work began. NSRAA is now looking forward with less trepidation and more optimism when it comes to its latest and biggest project.

If the construction work continues on schedule, all the interior work should be complete and the residential quarters habitable in the first part of the new year. NSRAA plans to move broodstock from Hidden Falls to net pens in front of the Gunnuk Creek Hatchery in February, with staff on site to feed and rear the fish. Those fish will be released in the spring to return as broodstock in four years.

NSRAA is currently working on the final design for the hatchery, the incubation rooms and the water system. "Part of the whole hatchery design is taking into account the poor water quality," Scott explains.

The watershed at Gunnuk Creek was logged, making it more susceptible to sediment buildup and, without canopy cover, water temperatures that vary drastically. To combat those problems, NSRAA plans to install a recirculation system that includes a settling basin, two filters, ozone treatment to remove particulates, and a UV unit to kill pathogens. A recirculation tempering raceway will allow the staff to adjust the water temperature to prevent extremes.

Those designs should be finalized this winter and the work completed by late summer.

"The plan is to put 10 million eggs in the facility next fall," Scott says. This is only a portion of the 65 million chum allowed under NSRAA's permit for Gunnuk Creek. "The current thought is we may not have enough water to raise all those fish, so we're going to start small and work our way up."

If all goes well, Gunnuk Creek should be up to full chum production in five or six years.

While Scott and Mike Pountney, NSRAA Maintenance Manager, have overseen the construction work, Steven Reifenhuth, NSRAA General Manager, has spent the last six months working with the City of Kake, Kake Tribal Corporation and the Organized Village of Kake – entities that have struggled economically since the logging ended in the early 2000s. All parties are hopeful that NSRAA's efforts to revive the once struggling Gunnuk Creek Hatchery will have a positive effect on the community.

"Overall, it's been a good experience working in the community and the hatchery has come together better than I expected," Steve says. "We haven't had any insurmountable hurdles and we're working on getting into the facility by October 2018."

# Hatchery Reports



NSRAA purchased drones this summer to help assess broodstock numbers at Hidden Falls (pictured here) and Medvejie.

## Medvejie, Sawmill Creek Adjust Operations to Backup Hidden Falls

When Kathy Kyle reminisces about NSRAA's early days, she says this organization stands apart from the others because of its original vision to become more than just one big hatchery. The founders wanted to build hatcheries and boost salmon populations – and the corresponding catch – all around northern Southeast Alaska.

While today's program diversity has not exactly met the scope of that original vision (much of NSRAA's production is concentrated around Sitka and Baranof), that vision remains the key to its continued success.

NSRAA has four main facilities: Hidden Falls, Medvejie, Sawmill Creek and Gunnuk Creek. On paper, they are separate, but the success of one is often dependent upon another.

Sometimes it's a little like musical chairs. When one hatchery doesn't get enough fish for broodstock or enough eggs to meet its eggtake goals, another hatchery will pitch in. Or, like this season, one hatchery makes room to incubate eggs previously scheduled to be raised at another.

In an attempt to boost sagging returns, NSRAA updated its permit to incubate 20 million of the eggs originally permitted for Hidden Falls at Medvejie instead. Though separated by miles and mountains and with no road between them, Medvejie and Hidden Falls often work cooperatively like this. NSRAA transfers about 24 million chum eggs each year from

*Medvejie Report - Continued on page 3*

## General Manager's Notes

Happy 40th Anniversary to salmon permit holders, board members past and present, and especially the visionaries from the mid-70s who labored long and hard to create NSRAA. According to Wikipedia, another way to refer to the 40th anniversary is as the quadragennial anniversary or ruby jubilee, but maybe a better name is Salmon Commemoration – the First 40 Years. Whatever you call it, a remarkable fact is two of the original signatories to the Articles of Incorporation, Eric Jordan, F/V I Gotta, and Jim Moore, F/V Aljac, are also current NSRAA board members.

Another marker for 2018 is that Kevin McDougall, F/V Quicksilver, who has served on the NSRAA board for over 20 years and as president since 2004, will not seek re-election. Kevin led NSRAA during one of our biggest challenges, the IRS royalty rights fight, and through our greatest growth period – Gunnuk Creek Hatchery, Thomas Bay, Crawfish Inlet, and the beginnings of Sawmill Creek expansion. During this period, NSRAA can be characterized as a combination of strong board leadership, dedicated professional staff, and a diversity of programs. These three pillars worked in sync and are fundamental to NSRAA's success and longevity. Thank you, Kevin.

George Eliason, F/V Tammy Lin, 2017 National Fishermen Highliner of the Year and 20-year veteran of the board is also retiring. George has deep roots in salmon enhancement as a troller, Seafood Producers Coop board member, and second-generation fisherman. George's father, the late-Senator Dick Eliason, helped shepherd through the legislation enabling the creation of regional associations and hatchery programs. Thank you, George. You will be missed.

Sure, these transitions mark time and can be poignant or nostalgic, but they also create opportunities for the next generation of fishermen to step into leadership roles at NSRAA and elsewhere. We already have 20- and 30-something fishermen on the board taking on greater responsibilities to assure our work and board culture continues for another 40 years.

Have a warm and Merry Christmas, Happy Holidays and New Year.



*Steve Reifentuhl*

## Northern Southeast Regional Aquaculture Association FISH RAP Vol. 35 No. 2 December 2017

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

### NSRAA

1308 Sawmill Creek Road

Sitka, Alaska 99835

Phone: (907) 747-6850

Fax: (907) 747-1470

E-mail: [firstname\\_lastname@nsraa.org](mailto:firstname_lastname@nsraa.org)

Web: [www.nsraa.org](http://www.nsraa.org)



General Manager  
President  
Vice President  
Secretary/Treasurer

Steve Reifentuhl  
Kevin McDougall  
Justin Peeler  
Deborah Lyons

Gillnet  
Seine  
Crew member

**Mailing List:** Fish Rap is mailed free to all limited entry salmon permit holders in the Southeast Alaska gillnet, seine, and power/hand troll fisheries. Fish Rap is published biannually.

**For a change of address notify:** Commercial Fisheries Entry Commission  
8800-109 Glacier Highway  
Juneau, Alaska 99801

Any interested party may also receive **Fish Rap** free of charge. Send your address to NSRAA.

Bert Bergman	Troll
Dalton Bergman	Gillnet
William Bergmann	Conservation
John Blankenship	Subsistence
George Eliason	Troll
Mike Forbush	Processor
Jeremy Jensen	Seine
Carl Johnson	Interested Person
Eric Jordan	Troll
Henrich Kadake, Sr.	Native Org.
Brian Massey	Sportfish
Charles McCullough	Seine
Tom Meiners	Seine
Dave Moore	Interested Person
James Moore	Rural Troll
Zachary Olson	Troll
Dan Pardee	Gillnet
William Prisciandaro	Gillnet
Lars Stangeland	Gillnet
Sven Stroosma	Seine
Kurt Wohlhueter	Municipality
Karl Wolfe	Interested Person

### FISH RAP STAFF:

Chip Blair - Editor [chip\\_blair@nsraa.org](mailto:chip_blair@nsraa.org)  
Lu Snyder - Writer [www.lusnyder.com](http://www.lusnyder.com)

©2017 NSRAA

**Medvejie Report (continued)**

Hidden Falls to Medvejie for release from Deep Inlet. This year, that transfer will include the extra 20 million, which is earmarked for release from Bear Cove.

But 20 million is no small number. How do they do it? Medvejie made room by moving 20 million of *its* eggs (a fall stock) to the nearby Sawmill Creek Hatchery. Sawmill Creek, in turn, must make the necessary adjustments to make room for that 20 million.

Just two years ago, the crew at Sawmill Creek updated the facility to increase its production to 30 million. This latest addition of 20 million required yet another round of modifications to the incubation room there, says Rebecca Olson, Sawmill Creek Hatchery Manager, including fourteen additional incubators, new pump for emergency water circulation and updated plumbing to increase the water flow.

The new Hidden Falls stock designated for release from Bear Cove will be divided into two groups: 12 million will be raised to a weight of 2 grams, and the remaining 8 million to 4 grams.

The stock from Hidden Falls generally return in July, while the Medvejie fall stock return in late August, which staff hope will provide adequate separation between the groups to manage the eggtakes accordingly, though it could become complicated in a few years, with the Chinook that return to Bear Cove, too.

The first group of adults from the Hidden Falls chum stock released from Bear Cove is scheduled to return as three-year-olds in 2020, though the first round of eggtakes will likely not occur until 2021.

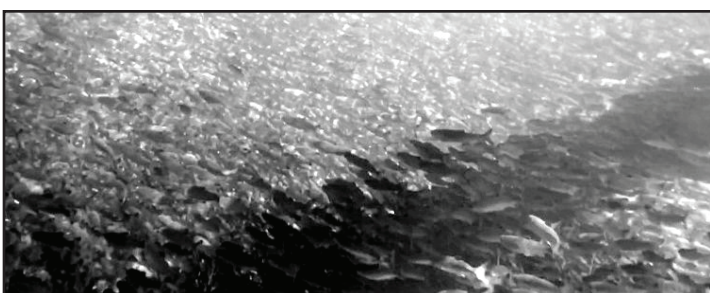
“We will begin to work through potential complications before the new broodstock begins to return in significant numbers,” says Adam Olson, Medvejie Hatchery Manager.

Meanwhile, the staff at Sawmill Creek continues to work toward full production. This was the first year that sufficient broodstock returned to meet the hatchery’s eggtake goal of 3.1 million coho eggs. The goal is to release 1.8 million coho smolt from Deep Inlet. The coho returned with a survival rate of more than 10 percent – compared to an average expected survival of 6 percent – which contributed to this season’s success.



*Above: Deer Lake crew hike in to open camp this spring.*

*Below: Thousands of coho smolts stage near the weir in the Deer Lake outlet stream on their way to sea.*



*Hidden Falls staff transfer chum fry from rearing pens onto a tender for transport across Chatham for release. Half of this year’s Hidden Falls release utilized this strategy in an attempt to reduce predation.*

## Hidden Falls: Cooperation Critical for Success

The staff at NSRAA is dedicated to producing salmon for the fleets, but as most of them will tell you, it’s more than just a job; it’s a mission. Hard work, long hours and cooperation add up to the best chance for success.

“We always focus on the fish and the changes to programs and techniques, but not necessarily the staff that implement it successfully,” points out Jon Pearce, Hidden Falls Hatchery Manager.

As with any job, the better the staff knows what they’re doing, the more efficient the process. The current team at Hidden Falls is made up of seasoned employees who have been working together for several years now.

“They put in long hours and work in adverse conditions, only thinking about the task at hand and how it can be done most successfully for the fish,” Jon says. When equipment breaks, as is inevitable, it can have a major impact on work efficiency, or – worse yet – threaten the health and survival of the fish. That’s when the maintenance team jumps in to save the day.

“They have played a critical role in the success of the hatchery in the last year,” he says. “Their energy and enthusiasm for the work they do is remarkable.”

This summer, Hidden Falls’ maintenance crew designed and fabricated a lower fish ladder for the weir that allowed returning broodstock to the climb the ladder during lower tide levels. Jon credits this latest addition to the weir for the hatchery’s ability to meet its chum eggtake goal – an intimidating all-time high of 190 million eggs.

The maintenance crew was also able to save the day when the conveyor belt broke down during the high stress, time-sensitive chum eggtake. (Each day, the conveyor belt transports approximately 10,000 fish carcasses from the eggtake area down to where they are loaded onto a tender for sale.)

“Sometimes it is the little things that make the difference between success and failure,” says Jon. “Thanks to the hard work of my staff, I have no doubt this coming season will be a success.”



*Sawmill Cove Hatchery.*

## Will Alaska be Forced to Mass Mark Its Chinook?

Although mass marking is a tool used in Washington and Oregon fisheries to identify hatchery-raised fish, it has only been evaluated for use in the Southeast Alaska troll fishery during 2016 and 2017. This could change, however, as some Alaska Department of Fish and Game (ADF&G) senior staff and members of the fishing industry negotiating team at the Pacific Salmon Treaty (PST) are on record supporting a proposal to make mass marking Chinook mandatory in Alaska.

The Alaska contingent of the PST has promoted using the concept as a tool within the treaty negotiations to shift harvests off of wild stocks, especially some that are listed under the Endangered Species Act (ESA),” explains Steve Reifentstahl, NSRAA General Manager. “The AK PST Commissioner Swanton is also running the mass marking and mark select fishery (MSF) technique up the flagpole to see if there is support for the technique in Alaska. So far, there is not.”

Mass marking can be used for both coho and Chinook, but the technique is being discussed specifically for Chinook. PST Chapter 3 regarding Chinook, paragraph 5, Section 3 on page 65 explains the relationship of the international agreement with fisheries managed by the State of Alaska.

*“(c) Mark-selective fisheries implemented by either Party that affect stocks subject to the Pacific Salmon Treaty will be sampled, monitored and reported in accordance with applicable protocols recommended by the Selective Fisheries Evaluation Committee and adopted by the Commission; and the SFEC will facilitate the annual exchange of information regarding the conduct of mark-selective fisheries, including estimates of catches of mass-marked hatchery Chinook;*

“There are so many difficulties and stock concerns with Chinook due to the fact that Southeast Alaskan waters are the rearing grounds for a complex array of Chinook stocks from Alaska, Canada and Washington, so there would be significant additional requirements to evaluate our releases and harvests,” Steve says.

Alaska’s Chinook production is relatively small, compared with that of Canada, Washington and Oregon. The Southeast hatcheries produce and release about 7-8 million Chinook smolts annually, as compared to approximately 200 million in releases from the Pacific Northwest including Canada.

Currently, Alaska hatcheries clip the adipose fins of 10 percent of Chinook smolts. A clipped adipose fin indicates not only that the fish is hatchery-raised, but also that it has a coded-wire-tag (CWT) in its nose. When an adult returns to a river, mixed stock fishery or hatchery, the Chinook are sampled. When viewed under a microscope, the CWT identifies a fish’s origin, brood year and other information. The CWT program was one of the first endeavors of scientists to learn about the abundance and distribution of the Chinook managed under the PST, and has been in place for over 30 years.

Mass marking was introduced in Washington so the fisheries there could differentiate between wild and hatchery-raised fish during harvest. While any fish caught with an adipose fin must be released, the prevailing theory there is that mass marking allows the harvesters to keep more fish. Fisheries in Washington and the Columbia River have been mass marking for about 20 years. Marking fish for harvest has complicated the effectiveness of the original CWT program.

Because MSF have been used on a trial basis in SE for two years, and because the concept of funding for these programs is provided through the Federal government, Alaskan fishermen are becoming concerned. It’s possible that, in the future, all coast-wide fisheries harvesting Chinook could be required to sort and keep only Chinook with their adipose fins missing. All others would be required to be released.

NSRAA Board members, Eric Jordan and Deborah Lyons both served terms on the State Board of Fisheries, and believe that mark selective fisheries cannot be implemented outside the normal State Board of Fisheries regulatory process. Whether the State of Alaska chooses to participate in these fisheries or can be required through Treaty obligation is unclear.

“Alaska fishermen, the NSRAA board and the Alaska Trollers Association are very much opposed to implementing such a program here – that’s the long and the short of it,” Steve explains. “Fishermen think selective fishing causes more harm than good, and Alaskan’s don’t want to lose any more harvest opportunity.” Implementing mark selective fisheries may require an additional cut to the all gear quota that can only be recovered by the harvest of marked fish.

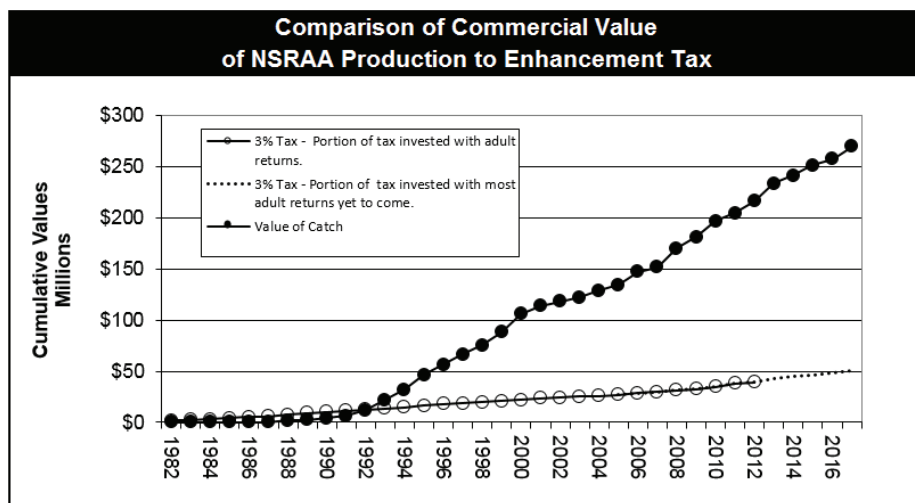
Since changing to abundance-based management in 1999, the Treaty framework establishes an annual quota allocation to Alaska. That quota has been reduced by 45-63 percent from the average Alaska Chinook harvest prior to the treaty. While Alaskan fishermen agree that some cut-backs are necessary for the protection and conservation of wild stocks, Canadian and other U.S. fisheries managers keep calling for further reductions to Alaskan harvests. They are ignoring the fact that the Treaty framework places the responsibility to achieve escapements on the terminal fisheries, because the Alaska reductions from the State’s historic harvest share satisfies Alaska’s obligation to the Treaty.

“Mass marking and mark selective fisheries are now a new, very expensive gimmick that attempts to address problems with escapements that are the result of poor management in Canada and Washington. That doesn’t sit well with Alaska fishermen,” Steve continues.

There is also the concern of high mortality rates among the Chinook caught and released. With the MSF technique, an individual Chinook could be caught and released more than once – if it even survives the first round. The Treaty requires that incidental mortality estimates be made and reported annually so that they can be deducted from run reconstructions. These additional mortalities can also be treated as harvest under the quota, further reducing the total Alaskan quota. Some studies indicate the mortality rates of Chinook after a single encounter could be as high as 25 percent.

Trollers on the NSRAA Board were also dissatisfied and concerned about allowing retention of marked king salmon during the directed coho fishery this past summer. While most trollers continued to target coho with changes to their gear and area, and only kept the occasional marked king salmon that they encountered, there were a few that thought it worthwhile to “sort through” king salmon in search of a hatchery fish rather than moving on to another area.

Fishermen are out there, explains NSRAA Board members Eric and Deborah, to make a living. A few justify sorting through these schools of



This chart compares enhancement tax received by NSRAA and the commercial value of NSRAA production. NSRAA has received \$51 million in tax; ex-vessel value of commercial catch is \$272 million.

*Continued on back page*

## Crawfish Inlet Sees Strong First Year Return

It's been just over two years since NSRAA released the first group of chum fry for its Crawfish Inlet project. If this season's return is any indication, the project is off to a strong start.

Approximately 184,000 Crawfish Inlet chum returned this season – more than five times the number forecasted. All told, these chum comprised 10 percent of the hatchery chum caught on the west side of Baranof Island, in the Sitka and Crawfish Inlet area.

"We're pretty excited," says NSRAA Data Analyst, Chip Blair. "It's a tremendous success for the first year of the project."

If it weren't for otolith marking, a method of using different water temperatures to create distinctive structural marks (similar to tree rings) on the otoliths of fish during incubation as a means to identify the brood year, rearing methods and other information about the fish, NSRAA wouldn't have a way to measure – nor reason to celebrate – the success of its new program.

NSRAA staff began sampling chum as trollers began to catch fish, in what Chip refers to as the outer troll area, in an effort to determine the ratio of hatchery-raised versus wild fish returning to Deep Inlet.

"We were surprised that 10-11 percent of those were Crawfish Inlet chum," says Chip. Week after week, the sampling results were the same: approximately 10 percent were Crawfish Inlet three-year-olds.

As the fish moved through to West Crawfish Inlet, sampling in the traditional seining fishery indicated a whopping 85 percent of the catch there was Crawfish chum. The three-year-olds were also among the catch in other areas, including outside the Terminal Harvest Area (THA) in traditional seine catches north of the Sitka Airport.

"Not all the fish went back to the THA as we expected," he explains. "Some either got pulled in and were caught with the Deep Inlet fish, or, perhaps, they were attracted back to Sawmill Creek Hatchery, where they were incubated."

(The chum are incubated at Sawmill Creek and then transferred to net pens at Crawfish Inlet for remote release.)

The annual marine survival rate for NSRAA fish released from Medvejie and Deep Inlet has averaged between 2-3 percent. This season's Crawfish Inlet return registered between 5-6 percent. NSRAA won't know the final marine survival of this 2014 brood year until the next three season's returns are tallied, but Chip is optimistic.

"We wouldn't have known much of this had it not been for the otolith sampling program," he says. "We would have thought it was only cost-recovery fish coming back. It's a lot to sort out, but otolith sampling gives us a lot of information to measure the success and/or failures of various rearing strategies."

NSRAA released the Crawfish chum at 4 grams – double the weight of most fry at the time of release. Chip believes this likely contributed to the group's high marine survival (that, and there hasn't been time for predators to become habituated to the release site) but it's possible that larger release size also contributed to this year's successful return.

"If the fish grew faster, and a higher percentage came back as three-year-olds, that would bring the estimate for marine survival down," he explains. It's a guessing game, really, but Chip has taken a conservative

approach as he forecasts the returns for next season: nearly 600,000 brood year 2014 (BY14), plus about 90,000 three-year-olds from BY15, for a total forecast of 680,000 Crawfish chum in 2018.

NSRAA is hoping the Crawfish Inlet and Southeast Cove projects will be an opportunity to mitigate the allocation imbalance for trollers. For the next two seasons, Crawfish Inlet is marked only for trollers and NSRAA's cost-recovery operations.

"It's encouraging that a number of these fish are being intercepted in that outer troll area already, but I think it's going to be key for the trollers to find areas closer to Crawfish Inlet," Chip says.

This season's larger than expected Crawfish return "didn't seem to help the trollers in Crawfish Inlet as much as was hoped because the chum were too deep and not biting," explains NSRAA General Manager, Steve Reifentstahl. "However, 17,000 of the 146,000 chum caught by trollers in Sitka Sound were Crawfish chum."

While the NSRAA board and staff are hopeful Crawfish and Southeast Cove will help alleviate the trollers' allocation imbalance, Reifentstahl says it's unlikely it will solve the problem.

"It will take an additional \$4- to \$5-million in catch value to solve the imbalance," he explains. "Harvest efficiency of troll vs. net groups is one reality that makes it a difficult problem to solve. Even if you had no fishing at Crawfish Inlet except chum, the trollers wouldn't be able to catch all the fish before they strayed or turned dark."

"In 2020, there might be another gear group down there, but we're taking the Crawfish Inlet program a step at a time," says Chip. "It's definitely off to a good start."

Indeed, with nearly 600,000 (or, if this year's marine survival is any indication, more) chum returning to Crawfish Inlet next season, it can't help but boost the troll catch.

"I think most fishermen don't realize that the Deep Inlet return was perhaps 5 percent larger because the Crawfish Inlet fish were in there," Chip points out. "That was a bonus to all gear groups."



General Manager Steve Reifentstahl watches chum trollers fishing on Deep Inlet and Crawfish Inlet chum in outer Sitka Sound.

### NSRAA Contribution to Southeast Alaska Commercial Fisheries

Number of Fish : 2016 - 2017

	Gillnet		Seine		Troll		All Gear	
	2016	2017	2016	2017	2016	2017	2016	2017
<b>Chinook</b>	2,501	1,607	1,441	934	5,307	2,256	9,249	4,797
<b>Chum</b>	458,545	364,846	705,057	1,206,111	28,272	145,083	1,191,874	1,716,040
<b>Coho</b>	1,362	3,948	3,043	20,418	38,528	127,347	42,933	151,713
<b>All</b>	462,000	370,000	710,000	1,227,000	72,000	275,000	1,244,000	1,873,000

## NSRAA Board Member Charlie McCullough: At-Large Seine



*Charlie McCullough, NSRAA Seine representative.*

For Charlie McCullough, fishing was almost a rite of passage, but it wasn't necessarily what he wanted to do when he grew up. Yet, fishing eventually drew him back and now it is his life.

Charlie has fished with all the gear groups. His dad was a gillnetter. Though only a young boy at the time, Charlie would crew with his dad when he could. His father died when Charlie was 10. It was a few years before Charlie returned to fishing. He started crewing for a troller at the age of 13. It was the first of many summers he spent working away from his home in Petersburg – much of the time in Sitka, but there was also a long lining trip off the coast of Yakutat.

After a few years, Charlie began drift gillnetting for sockeye at Bristol Bay, north of the Aleutian Islands – one of largest sockeye runs in the world.

“That’s a real short, fast, intense fishery,” he says. “It’s a pretty exciting fishery as a young guy. There’s a lot of action. Everything’s really fast-paced. It’s an adventure.”

At first, fishing was a job – albeit an adventurous one – and then it was a means to pay for college. When Charlie graduated from Southern Oregon University in Ashland, with a geology degree, he thought he’d pursue a career in that field. But as he took a year off to travel around the

West, he realized how much he truly enjoyed to fish and that he’d never be happy with a traditional 40-hour-per-week job.

“I wasn’t hearing any reports from people I went to school with that made me consider changing my mind,” he says. “That’s the point when I got serious about buying an operation.”

Even after more than two decades fishing, Charlie still loves it.

“It’s an exciting business that keeps you on your toes,” he says. “You either love that aspect of it or hate it. You’re constantly maintaining all the systems on the boat. You have to be a jack-of-all-trades. You’re constantly learning how to do new things.”

These days, one of the new things Charlie is learning is the politics of salmon fishing. For a long time, he felt he didn’t have enough experience to contribute to the political conversation, but he was asked to take over as a seine representative on NSRAA’s board after Dean Haltiner stepped down.

“I realized I could help and give back to the industry a little bit,” he says. “Somebody needs to be paying attention to what is going on, or someone else is going to make the decisions for you.”

At 34, Charlie is among the younger board members. The initiation to the political side of salmon has been, at times, overwhelming.

“It takes a while to wrap your head around the acronyms, the context, the history of the operations, and the management – especially, a concept like allocation imbalance,” he says. “It’s a complex issue. Like a lot of legislation, it’s innately flawed in certain aspects, but it’s hard to have something that’s perfect. There’s really no such thing as a perfect system. It’s really easy to come into the board with some negative ideas about what’s been happening, until you see how things are actually going and you see that people are legitimately trying to make things better.”

Being on the board has helped Charlie gain a better understanding of the science behind the management of both hatchery-raised and wild salmon, and the economic opportunities hatcheries provide.

“I didn’t have a full understanding of the magnitude of the benefits that hatcheries provide us,” he says. “It’s a large percentage of our fleet’s economic value, year-to-year. Especially on the years when the wild fish really don’t come back, the hatcheries really help keep us afloat.”

These days, he feels grateful to be a part of the process.

“NSRAA is a really well-run organization and the staff there is really incredible,” Charlie says. “It’s really invaluable for the organization to have the board of directors be largely made up of the people they are trying to help.”



*A Bear Cove drone shot shows the barge and net pen storage site at Medvejie Hatchery.*



*Schuyler Mace with a nice coho at Salmon Lake. NSRAA continues to conduct a population study at the lake.*

## NSRAA Celebrates 40 Years Of Vision, Hard Work & Success

When the initial concept of aquaculture associations was first tossed around, in the mid-1970s, Jim Moore and his wife envisioned it as their opportunity to run a ma and pa hatchery.

“We thought, ‘Oh cool – a private nonprofit! We could have a hatchery in some remote back bay and run it ourselves...’” he says, reminiscing.

When it became clear the state would only allow two aquaculture associations in Southeast Alaska – one in the northern region and one in the south – Jim was among the small group of fishermen that gathered in Sitka to discuss the possibility of launching an aquaculture association. Eric Jordan and Kathy Kyle were there, too.

“It seemed like a pretty far-fetched idea, to be able to actually put such a thing together,” says Kathy, who was 30 at the time. “One of the things that seemed the most far-fetched was that all three gear groups could work together.”

By 1977, what began as a Chicagof-Baranof Aquaculture Association had morphed into a fledgling NSRAA. Kathy’s late husband, Dexter (aka, the Godfather), led the group and eventually became NSRAA’s first board president. In order to create a revenue stream, the group had to organize an election and the fishermen had to vote to tax themselves 3 percent.

“At that time, the group that was most opposed was the gillnetters,” Eric explains. “They weren’t so sure the aquaculture tax would benefit them. That was the big hurdle to overcome.”

“It was initially a hostile environment,” agrees Jim, who, with Eric, led a community meeting with gillnetters in Haines, the group that voiced the most opposition to the idea. “I have to say that the atmosphere was one of great suspicion (but) we were able to quell some angst about this ‘Communist’ organization.” He laughs.

Keep in mind, in the mid-70s, wild salmon runs across Alaska were at an all time low. Marine survival rates were terrible. It took two votes, but the fishermen passed the tax, despite their economic struggle at the time.

“It’s amazing to me that they took that risk and put their faith in it,” says NSRAA General Manager, Steve Reifentstahl, “and it wasn’t until the late 1980s/1990 that they started getting a return on their investment.”

“I’ll never forget sitting around the table when some of the guys realized they were going to be retired by the time their investments really paid off – that they were really investing in a future generation,” says Eric. “Not one of them backed away from it. Of course, now, when you look at the return on investment, it’s one of the best deals any fishing group ever made.”



NSRAA staff move chum fry from net pens to a tender for transport before release. NSRAA released 214 million chum in 2017 — and almost 4.2 billion over forty years.

Steve, who first began working with NSRAA in 1979, compares the newly formed aquaculture association with a start-up company: long, long hours with few benefits (and sometimes no money for paychecks), but a dedicated board and staff that believed in a common mission.

Though that early vision didn’t quite pan out as expected, the founders agree it’s been an overwhelming success.

“We thought we’d build more hatcheries around the region,” Eric says, and both Jim and Kathy agree.

“The original vision was to put more fish in the water in a lot of different places...it ended up for various reasons not being as feasible as putting a lot of fish in a few places,” Kathy says.

“I had no idea it would develop this way,” Jim says. “Being a fisherman, benefitting from such a significant boost in opportunity, it’s really, really awesome. I’m not at all unhappy with how it’s developed, that’s for sure.”

Kathy remembers when the comprehensive plan was being developed and the fishermen said they wanted to set the goals for the fish produced at historic levels. “The Alaska Department of Fish and Game (ADF&G) said ‘Oh, no way. It will never be that good again.’ I think that’s been proven wrong. In the good years, we have more than done that.”

According to NSRAA Data Analyst, Chip Blair, NSRAA didn’t reach full production until 1992, after it had taken over the operation of Hidden Falls Hatchery from the state. The number of fish NSRAA contributed to the fleets averaged about 300,000 annually during those start-up years and then soared to an average of 4.8 million from 1993 – 2000. Since then, NSRAA’s returns have suffered from low marine survival and have dropped to an annual return of 2.1 million fish, but fish prices have increased enough to offset the drop in numbers.

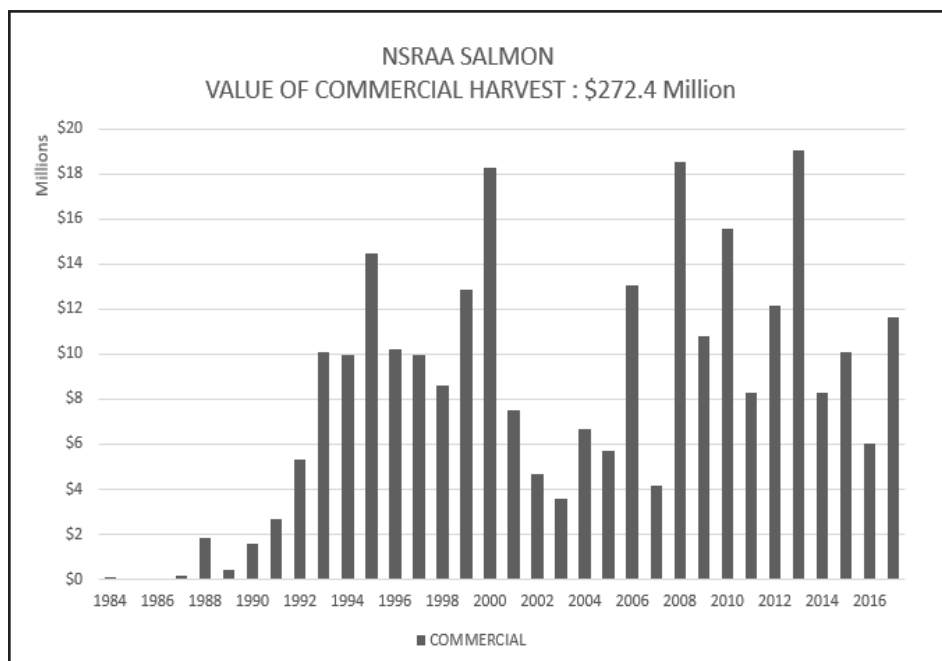
“Our history has been an average common property contribution of about \$10 million annually,” Steve says. “We’re hoping, with the recent expansion (the purchase of Gunnuk Creek Hatchery in 2017 and the latest remote release projects in Crawfish Inlet, Southeast Cove and Thomas Bay), to push that to \$20 million annually.”

Steve believes NSRAA’s dedicated board and staff are the key to the organization’s success. Eric agrees, crediting Steve, in turn, for the recent jump in production. Steve took over as NSRAA’s General Manager in 2010 and has been aggressive in NSRAA’s efforts to expand production away from Sitka.

Despite a long history of squabbling, fishermen from all gear groups have come together to ensure NSRAA is managed, and its salmon produced, responsibly.

“When it comes to opportunities to invest in and produce salmon, we’re all in this together,” Eric says. “It’s an amazing success story, even though the vision of a lot of hatcheries around the region has never panned out.”

“I think it’s far surpassed its goals,” Jim agrees. “Maybe there were people with a lot of vision that foresaw something like this, but I wasn’t one of them.”



Harvest Value History: NSRAA commercial value is estimated at \$272 million. Adding an additional \$77 million in cost recovery value brings the total ex-vessel value of NSRAA salmon to \$350 million.

## Employee Profile: Adam Olson



Adam Olson with his wife Rebecca and son Carter.

When Adam Olson first came to Alaska, it was merely to put a check mark on a list of places he wanted to see. Been there, done that. He didn't envision building a life here. Yet more than a decade later, he has worked his way up the ranks at NSRAA.

"I never really knew what I wanted to do when I grew up," says Adam, who was raised near Portland, Maine. "Growing up on the water, I spent a lot of time fishing. I kind of always knew fishing – in some capacity – was what I was working toward."

After earning a biology degree at Roger Williams University in Rhode Island, Adam worked a paid internship at a small research hatchery in West Virginia, but he didn't love the work. He returned to Maine and worked construction while he searched for another job. When he came across a posting for a seasonal position with NSRAA, his interest was not necessarily on the position or the job experience, he admits.

"I didn't think I wanted to work at a hatchery," Adam says. "Back then, I was straight up addicted to fishing – it was all I ever wanted to do."

In Maine, fishing is not a winter activity, unless you ice fish. So when Adam arrived in Alaska in February and discovered he could fish any day, every day, "it was like a revelation." He fished whenever he could. But as much as he enjoyed that first season in Alaska, when he left, it was not with an overwhelming urge to return.

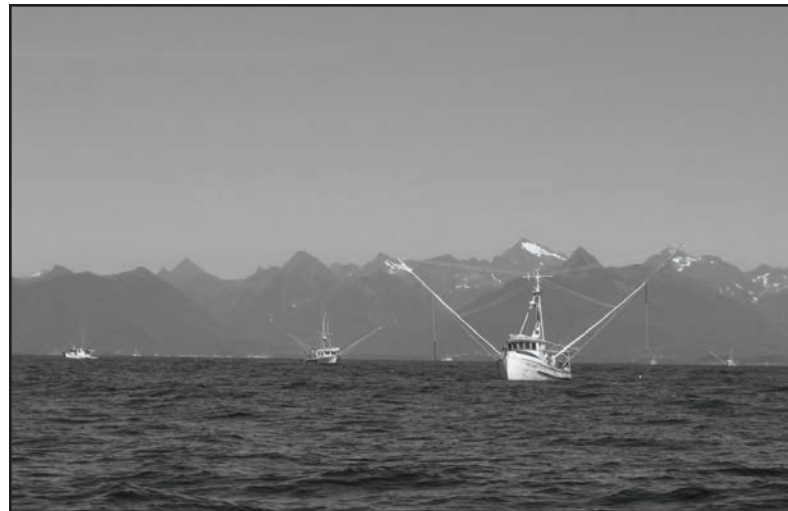
That season ended in late November, with long, cold hours working around the clock picking 45 million chum eggs. "You're spending a lot of time, wet cold and in the dark. It was a miserable way to end the season."

Adam returned to Maine and did what he knew best: construction. "That didn't really seem any better: working outside in the snow, freezing," he admits, laughing. When a fish culturist position came open at NSRAA, he applied and got the job. That was in 2006. He's been here ever since.

In little more than a decade, Adam has moved from fish culturist, to assistant manager and then manager at Hidden Falls, and then over to the Sitka side, as the assistant manager and now manager at Medveje Hatchery. In that time, Adam also met and married his wife, Rebecca, who worked with him at Hidden Falls. Their son, Carter, is almost three years old.

"At first, this was just a job; you feed these things and let them go and you're happy to collect a paycheck," Adam explains. "It's more than that now, seeing these programs change and these fish coming back. I'm always impressed by the perseverance of both the fish we raise and the people that raise them. In our company, everybody is willing to put in way more effort than is typical in a common workplace. We put in a lot of time, and there's more heart in what we do than just going to work and getting a paycheck. For the people that work in this field, it's not just a job. We're stewards."

What was once a job for Adam has turned into more than a career – it's a way of life.



The troll fleet works near Sitka. Mass marking would have a large impact on Chinook fisheries.

## Chinook Mass Marking

(Cont. from page 4)

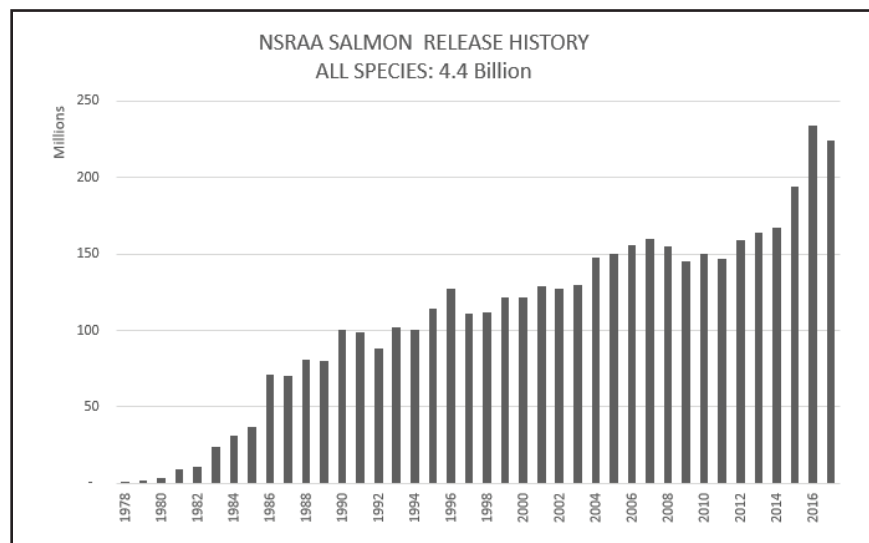
wild fish because it is legal in this type of fishery. The price differential between coho as a target species at \$1.70/lb. and a \$6/lb. King salmon is an obvious motivator for this behavior.

Steve is concerned that the proposed mass marking will have yet another potential impact on the health of hatchery-raised Chinook. The proposed mass marking will result in a higher mortality rate among hatchery-raised Chinook, due to the increased handling of the smolts. "Chinook are hard to raise in captivity," he explains. "When young, they are delicate."

In addition, because double-index CWT would also have to be applied, mass-marking would also require substantial and costly infrastructure and staffing – an estimated \$150,000 per year in operational costs alone. Processors on the NSRAA Board expressed concern about increased costs from having to keep all salmon heads and the possibility that their products could no longer be sold as *Wild*.

NSRAA's Executive Committee met at the end of October to discuss the proposed mass marking and then the full NSRAA Board and staff composed a Board Resolution at its November meeting. The Board requested that Steve meet with the Treaty Commissioner to discuss their concerns.

"This is a really big issue with fishermen and the aquaculture association," Steve says. "We are concerned that an agreement at the PST could force us to implement programs that are bad for fish and fishermen. We made our concerns known; that was the purpose of me traveling to Juneau for the meeting. My assessment is that Commissioner Swanton heard me, but whether he is going to change direction? I have my doubts."



Forty years of NSRAA releases: 4.4 billion salmon released.