

*A Plotnikof coho used for broodstock last fall in developing the summer coho run for Sawmill Cove Hatchery.*



## Inside

<u>Market Outlook</u>	<u>2</u>
<u>Hatchery Reports</u>	<u>3</u>
<u>2005 Returns</u>	<u>5</u>
<u>Field Reports</u>	<u>6</u>
<u>Chinook Programs</u>	<u>7</u>
<u>Board Member Profile</u>	<u>8</u>
<u>Jim Seeland Steps Down</u>	<u>8</u>

## Sawmill Cove Hatchery Closer to Reality

The possibility of NSRAA building a new coho hatchery at Sawmill Cove has become reality.

"We now know for certain that we have 2.5 million dollars for this project," said NSRAA operations manager Steve Reifenstuhl.

The Sustainable Salmon funds, appropriated in the 2005 federal omnibus budget bill, are committed to the National Marine Fisheries Service (NMFS) headquarters in Juneau. They have a contract with the Alaska Department of Fish & Game (ADF&G), which establishes the conduit for the money to pass from the federal to the state government.

"Then we can enter into a contract with Fish and Game, probably in August of this year, and then we can start getting reimbursed for the money we spend on the project," Reifenstuhl said.

"This is a great opportunity for NSRAA to diversify its production program," said NSRAA general manager Pete Esquiro. "The early coho program will also add to the economic viability of the early hatchery access chinook fisheries around Sitka, and will provide coho at a time when there aren't many on the fresh market."

NSRAA doesn't have to wait until August to get going on the project.

Coho stocks for the facility from Plotnikof Lake are already in development. Former Medvejie hatchery manager Jim Seeland has contracted with NSRAA to work on the permitting process and the facility's design. NSRAA staff have also done water sampling at the site to determine its suitability for rearing fish, and identified where Blue Lake water will be diverted from existing pipes at Sawmill

techniques we're interested in, mainly to do with recirculation of water in the rearing tanks, oxygenation of the water, and pipes that can be used for both water and fish with just the change of a valve. So we'll see if we want to implement those things into our design," Reifenstuhl said.

Water recirculation can make limited supplies of freshwater go farther, an important consider-

"So far what we've seen from the SeaReady process is a higher quality smolt," Reifenstuhl said. "It remains to be seen, but we'll likely use that technology at the new facility."

NSRAA is working quickly to obtain a permit to release another 130,000 Plotnikof coho smolt at Sawmill Cove next year, so the returning adults can be used for brood stock in 2007.

"We'll be taking another 200 pairs from Plotnikof this fall for incubation at Medvejie, and are currently holding 130,000 fry at Medvejie," Reifenstuhl said. "So if we can get our ducks in a row quickly enough, we can get the program going sooner."

The biggest design challenge so far for the new facility is the installation of the weir on Sawmill Creek. Pink and chum salmon will be going upstream to spawn at the same time that NSRAA will need to prevent its coho stocks from doing the same thing.

"It's a fairly large volume and volatile system, so it will be a challenge to get a well designed weir," Reifenstuhl said. "We'll probably have to sort them by the steepness of the ladder, so that only coho can get up the ladder."

***"The early coho program ... will provide coho at a time when there aren't many on the fresh market.."***

Cove and delivered to the hatchery.

"We'll make progress with the permit applications, and design and engineering, so that in August we'll have a solid plan to take to the engineers for a formal plan," Reifenstuhl said. "Then we can either go to bid or to a sole source contractor and start construction in early 2006."

Early this summer, NSRAA managers, along with Seeland, will visit a new hatchery facility under construction in Craig, Alaska.

"They're using some innova-

tion at Sawmill Cove because there will be a charge for water purchased from Blue Lake.

Even more important for freshwater savings is the possibility of implementing the SeaReady process (see story on chinook, p. 7) on coho stocks at Sawmill Cove. This process allows the coho to move to saltwater in the fall, much earlier than non-SeaReady coho that have to wait until the following spring. That will save a lot of fresh water use over the winter months.

## General Manager's Notes:

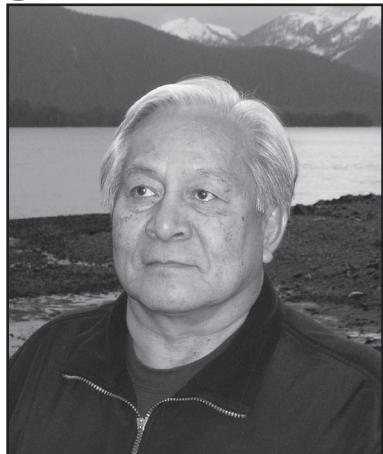
Change is once again coming to NSRAA. After nearly twenty years of employment at NSRAA Jim Seeland, manager of our Medvejie Hatchery has decided to retire and pursue other interests.

Through the years I have had the pleasure of watching Jim join the NSRAA team as an energetic, young biologist eager to try new ideas, yet somewhat cautious about whether or not he wanted to pursue a leadership role. After some urging, fortunately for us, Jim agreed to "give it a try."

Under his leadership, the Medvejie Hatchery has become one of the most diverse and productive salmon hatcheries in the country. In addition to its substantial production capability, Jim has cautiously, yet enthusiastically, welcomed the opportunities to try "new technology."

In that regard, Medvejie Hatchery has become Alaska's largest chinook producing hatchery. Some of you may remember that the original smolt production capability at Medvejie Hatchery was thought to be around 50,000 smolts. Under Jim's careful observation, Medvejie is producing around 3,000,000 chinook smolts annually.

We will not, however, be letting Jim get away from us completely. He will be working with Steve in the permitting, planning, and design of the new coho facility we plan to build at Sawmill Cove. So, when you see Jim, wish him well. He's done a great job.



Pete Esquiro

Fortunately, we have some people within NSRAA who are very capable of assuming the leadership roles. Lon Garrison (currently the manager at Hidden Falls Hatchery) will transfer to and become the Medvejie Hatchery manager. Scott Wagner (another seasoned NSRAA employee) will be moving to Hidden Falls as its manager. Both Lon and Scott are very well qualified and capable managers. We are looking forward to many more successful years.

As always, Steve Reifensuhl (our operations manager) has put together a very complete transition plan that will insure that there are no operational glitches in either of our hatchery programs.

If you find yourself near Hidden Falls, feel free to stop by and meet Scott, and if you are in Sitka stop and say hello to Lon and his crew at Medvejie. Both Scott and Lon would be happy to show you their facilities. Hope you have a safe and successful fishing season!

### Market Outlook cont.

mine the best means of effective bleeding, and to find niche users that would appreciate the quality of the fish and would not have a problem with some of the issues they carry due to being harvested in the terminal area, such as generally darker skin and some meat color blemishes, compared to ocean caught fish," said Norquest president John Garner. "Live-bled fish are the highest quality, but for some markets, skin and meat color is critical."

Garner was pleased with their success with chinook.

"We caught a rising tide in chinook values, and were able to achieve very good returns for these fish," Garner said.

Norquest has had a more difficult time selling the coho.

"It has been harder to convince users of the added benefit of live bled

coho compared to general net caught coho," Garner said. "Of course it all comes down to price, and we've elected to try to maintain a pricing structure above net coho values for these fish."

"All new programs take time, and in this case it will obviously take some patience and longer term work to get the real value out of the fish that we believe they deserve."

Garner looks forward to seeing the coho stocks that will be produced at NSRAA's new Sawmill Cove facility in the future. They intend to stick with their live-bled programs.

"We hope that the market continues to reward NSRAA, the fishermen, and us for the added effort and cost of this type of production," Garner said. "It is worth the investment in finding the right customers, to build on a long term program of sustained value for all."

## Market Outlook

The numbers are encouraging for salmon fishermen in Alaska this year, to put it mildly.

According to the Alaska Seafood Marketing Institute's March 2005 *Salmon Market Bulletin*, prices rose substantially for chinook and coho this past winter, and are slightly higher for sockeye and chum.

Headed and gutted (H&G) chinook saw a 36 percent increase in wholesale price per pound from 2003 values, from \$2.08 to \$2.82 per pound. H&G coho wholesale prices increased 24 percent, from \$1.60 to \$1.99 per pound.

Sales volume and wholesale prices of frozen chinook and coho fillets made huge gains this past season. In 2004, 635,000 pounds of frozen chinook fillets sold, up from only 277,000 pounds in 2003. The price went up a whopping 49 percent, to \$4.86 per pound from \$3.26 per pound.

Coho's sales volume was up slightly, with a price increase of

36 percent. Sockeye's sales volume doubled, with a more modest price increase of 10 percent.

The Salmon Market Bulletin notes that ex-vessel prices for Alaska king salmon are the highest they've been since 1992, and that the 2004 Alaska king harvest was at a 20-year-high.

Norquest Seafoods of Seattle has committed to selling Alaska chinook

*ex-vessel prices for Alaska king salmon are the highest they've been since 1992*

and coho fillets, and continues to be optimistic about markets for this product. Norquest bought NSRAA chinook from Medvejie and NSRAA coho from Hidden Falls and Mist Cove,

and processed and sold them as live-bled frozen fillets and H&G product.

Their primary markets were to smokers, who put their own label on the package, and also domestic grocery stores. A small amount was sold to restaurants.

"The live-bled coho and chinook programs were relatively new this year. We set out on a strategy to deter-

*cont. below left*

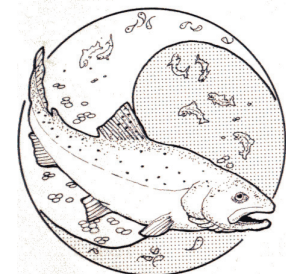
### Northern Southeast Regional Aquaculture Association

# FISH RAP

Vol. 23 No. 1  
May 2005

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: nsraa@nsraa.org  
Web: www.nsraa.org



General Manager  
President  
Vice President  
Secretary/Treasurer

Pete Esquiro  
Kevin McDougall  
Chuck Olson  
Deborah Lyons

Gillnet  
Seine  
Crewmember

**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 bi-annually.

**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.

Alan Anderson	Troll
Cheyne Blough	Gillnet
Marlene Campbell	Municipality
George Eliason	Troll
Richard Eliason, Jr.	Gillnet
Bob Ellis	Conservation
George Esquiro	Seine
Tim Grussendorf	Gillnet
Carl Johnson	Processor
Mo Johnson	Seine
Paul Johnson	Interested Person
Tim June	Interested Person
John Littlefield	Subsistence
Brian Massey	Sportfish
Jack Lorrigan	Native Org.
Lucas McConnell	Troll
Bill Niebuhr	Troll
Bill Paden	Troll
Bryon Pfundt	Seine
Mike Saunders	Gillnet
Andrew Marrese	Seine
Arthur Cleveland	Priv. Aquaculture

©2001 NSRAA

FISH RAP STAFF:  
Scott Wagner - Editor  
Carol Spurling, Writer-www.plumassignment.net

## Hatchery Reports

### Hidden Falls

Hidden Falls hatchery used its new incubation building and round ponds for the first time this past winter, and all worked well, reported hatchery manager Lon Garrison.

"There are a few bugs to work out but the 380,000 brood year (BY) 03 coho we reared in the new ponds did extremely well," Garrison said. "They continued to grow over the winter and we attribute that to the fact that they probably got more light overall and for longer periods than their cohorts out front in the old round ponds."

Hatchery staff continue to address maintenance issues.

"We discovered another leak in the penstock serving the hydropower turbine, but made it through the winter without any major calamity," Garrison said. The hatchery's main piping from the main valve gallery controlling the penstocks to the hydropower building, and from there to the hatchery will be replaced in June.

Incubation of the BY04 chum started off "shaky," with higher than normal egg mortality into December, but extra effort throughout the winter to keep the incubators clean paid off.

A total of 43.9 million Hidden Falls chum were ponded into ponding raceways instead of directly to the saltwater net pens, resulting in far fewer mortalities than in the past.

A total of 45.5 million chum were ponded at Takatz Bay, after being transported with very low mortalities on the F/V Heron from the hatchery to the bay.

Garrison believes that chum rearing at both sites may have had their best start ever.

"Water temperatures are slightly warmer than normal, and the fish came out of incubation

healthy and happy," Garrison said.

BY03 coho are doing very well, as mentioned above, and as a consequence are being moved to saltwater netpens a little earlier than usual.

"In all, a total of 2.2 million coho smolts should be released in late May or early June," Garrison said.

BY04 coho were ponded in late April, with production increasing to 3 million fish.

Hatchery staff will also be rearing 600,000 fry for the Deer Lake project, scheduled for transport to the lake in mid June.

They also hope to experiment with the SeaReady program on some fall entry coho during the upcoming season. (For information on SeaReady program, see story on chinook, page 7.)

*"the coho we reared in the new ponds did extremely well," Garrison said.*

Hidden Falls has implemented several changes in its chinook program this past season, with the goal of reducing stress for the fish.

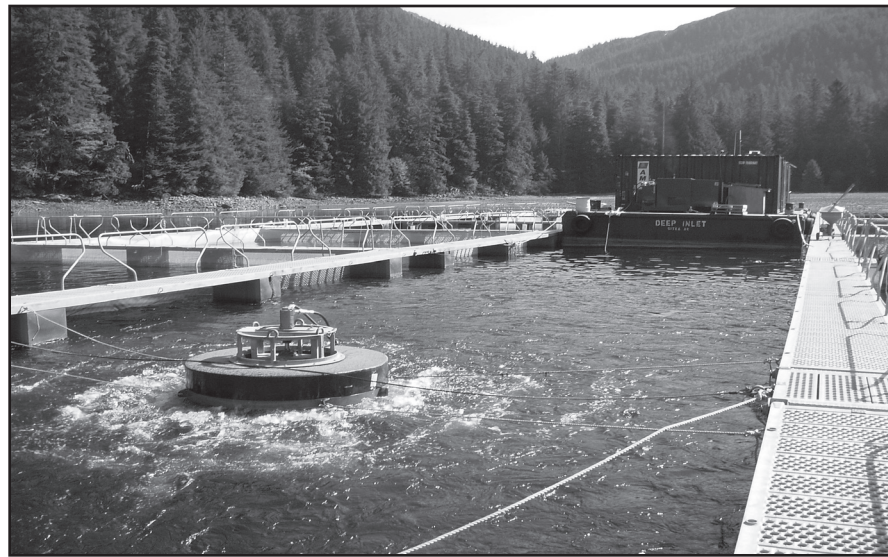
"We made some improvements to our freshwater lensing system, graded the BY03 chinook into 'smalls' and 'larges, vaccinated for Vibrio, and kept salinities consistent," Garrison said.

Approximately 1.5 million chinook smolts will be released in mid-June.

BY04 chinook were ponded in late February into the new round ponds, a new system for the hatchery. Mortalities were fairly high, as about 150,000 chinook "dog-piled" and suffocated, but staff learned a lot about chinook behavior from the experience.

"After speaking with other facilities that use round ponds at ponding we think we have some solutions and will implement those next time," Garrison said. "The 1.05 million fry that we currently have are doing fine now.

*Sitka Fire Department representative, Tristen Twohig, presents Hidden Falls Staff Lon Garrison, Ben Contag and Ken Merrill with their new AED provided to NSRAA free of charge thanks to a City of Sitka grant.*



*Deep Inlet's new hydraulic upwelling pump helps to maintain water conditions for the site's chum fry.*

### Medvejie

"It was a very peaceful winter, with water temperatures remaining moderate, fish culture issues minimal, and snow accumulations a very pleasant non-existent, from a snow shoveler's viewpoint," said Jim Seeland, in his last report as Medvejie hatchery manager.

"The hatchery experienced some losses in the chum incubators but staff was able to keep this in check with their diligence. Chinook saltwater overwintering has gone well. No brown bears swam out and ripped gaping holes in the nets this year, for which we are grateful."

Medvejie stock chum were incubated in the hatchery's original chum building this past winter, with 28.3 million put outdoors in February.

Hidden Falls stock chum were incubated in the new chum building. 23.6 million were ponded and transported to Deep Inlet. 5 million of the Medvejie chum and 6 million of the Hidden Falls chum were otolith marked for a late/large chum trial.

"Late/large is a rearing and release strategy that holds onto the fish for an additional 3 to 4 weeks which grows them to nearly double the size of their counterparts," Seeland explained. "It has been shown to dramatically increase marine survival in various locations throughout the state, and if successful, the increased number of returns would more than offset the additional feed costs incurred."

Staff will continue to evaluate this experimental program until they've gathered four or five years worth of adult return information.

Chum transfers to Deep Inlet went well, moved in the F/V Heron in February. Most chum were released in late April, with the late/large component scheduled for release in mid-May.

870,000 BY03 Green Lake

yearlings are scheduled for release in May, already having reached release size in early April.

"We needed to wait for ocean conditions to improve and are sticking with a May release which seems to give us good marine survival," Seeland said. "Besides being big, they are also very aggressive feeders which will serve them well in the wild."

670,000 BY03 Medvejie yearlings will also be released. Five of the nine netpens went through the "SeaReady" process. (See chinook story, page 7.)

"The result so far is that they're more than double the size of their untreated counterparts and exhibit a much more aggressive feed response," Seeland said.

900,000 chinook are in the "zero check" program, which means they do not overwinter at the hatchery, and will be released this summer.

Medvejie currently has 135,000 Plotnikof coho fry, which will be the foundation of the new Sawmill Cove project. Staff will return to Plotnikof Lake this fall to collect more wild stock.

28,000 Kadashan River fry are on site for a joint venture project with the United States Forest Service (USFS). Medvejie will rear the fry to 1 gram, and the USFS will helicopter transport them back to their natal stream in June.

"We've been developing a good working relationship with the Sheldon Jackson College hatchery, and are currently rearing 4 million chum fry at Deep Inlet for them," Seeland said. "This will increase adult returns to the area for the commercial fishery, and also generate revenues for the college."

Maintenance work is ongoing at the hatchery, with both residences scheduled for improvements this season.

## New Board Members

The new board members at this spring's board meeting, Arthur Cleveland and Bud Marrese, bring differing levels of commercial fishing experience to the table, but equal amounts of enthusiasm.

Arthur Cleveland moved to Sitka in August of 2004 to become the new president of Sheldon Jackson College. His background is in environmental science, and Cleveland most recently served for a number of years as the dean of the College of Science at Columbus State University in Georgia.

Cleveland is a scientist but is new to aquaculture and the commercial fishing industry. He joined the NSRAA board, taking the private aquaculture seat, with the encouragement of NSRAA general manager Pete Esquiro. NSRAA has frequently cooperated on projects with the Sheldon Jackson hatchery program.

Cleveland originally applied for a job at Sheldon Jackson eleven years ago, but the process was derailed when the president at that time died.

"It was the hatchery that originally interested me in Sheldon Jackson," Cleveland said. "It feels like destiny that we finally arrived here. My wife and I are thrilled."

At the spring board meeting in March he spent most of his time "making lists of questions to ask our hatchery manager."

"The basic thing I know is that I love halibut and salmon. I've started getting around the state a little bit to educate myself about the issues," Cleveland said.

Bud Marrese lives in Seattle but salmon fishes mainly in Southeast Alaska on his boat, the F/V *Lake Bay*. He also participates in the Sitka herring fishery.

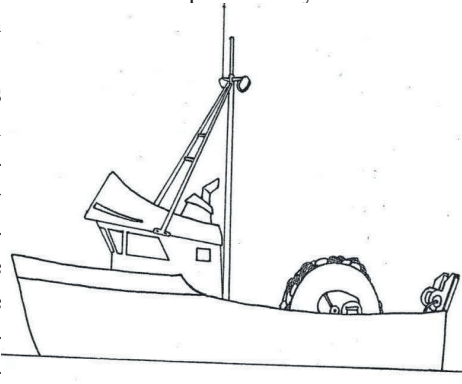
Marrese is originally from Pennsylvania, but lived in Ketchikan for

"quite a while" in the 1970s and 1980s.

He participated in cost recovery harvests for Southern Southeast Regional Aquaculture Association (SSRAA) in 1985 and 1986, so he's familiar with the challenges faced by an organization like NSRAA. He holds NSRAA's seiner-at-large seat.

Marrese said he feels fortunate to have joined the group.

"I really support the board process and hope I can contribute to it," Marrese said. "This is a highly successful operation and I'm interested in learning more, representing my gear group properly, and helping formulate policy for the future."



## Deep Inlet Update

NSRAA staff continues to examine ways to provide increased opportunity and greater flexibility for Sitka area chum cost recovery fishing.

"Our goal is to reduce conflicts with commercial fishing by completing the cost recovery harvest in as timely and efficient manner as possible," said NSRAA data analyst and cost recovery harvest manager Chip Blair.

Closing Deep Inlet for periods of time to allow a build-up of fish for cost recovery is one method NSRAA has employed to reach its goals in the past two years. It's worked well, and will most likely be used again. But Blair is hopeful about another idea in development.

This past winter NSRAA staff worked together with the Chum Trollers Association worked together to draw up a proposal for the Board of Fisheries (BOF), that if passed, will expand areas for cost recovery fishing, and modify the time period that the outer Eastern Channel area is protected for the troll fleet.

"We feel there is some hope of allowing some cost recovery effort in the troll area during the protected time period without greatly impacting the troll fishery," Blair said.

After much discussion and data analysis, three modifications were agreed upon:

- A new area for cost recovery was drawn up, allowing fishing near Makhnati Rock, inside Black Rock, in Western Channel, and in Middle Channel.

- The western line of the Deep Inlet SHA was modified to allow some expanded area for cost recovery. Both area changes would be in effect for the entire season.

- The troll period would begin two days earlier (on July 22) and end one day sooner (the day before the end of the coho closure).

NSRAA board members as a group further modified the plan by expanding the western line of the SHA. In its final form the plan was endorsed by a near-unanimous 22-1 vote.

"While the agreement didn't gain as much as the staff had hoped, it will add some increased opportunity."

*cont. page 5*

## Frequently Asked Questions Are programs Cost Efficient?

"NSRAA analyzes the cost to benefit ratio of all its programs, from chum spawning channel programs, to chum remote release programs, to chinook programs, and we do it company-wide," says operations manager Steve Reifentstahl.

There's more than one way to run a cost:benefit analysis, so NSRAA does it in two ways.

The more complex method is to consider the cost of production for each program. That includes whatever it takes to produce the fish: fish food, personnel, administrative overhead, facilities and equipment.

On the benefit side is the dollar value of the adult return, including the common property fishery and NSRAA's cost recovery operations.

"One thing we never include in this category, however, is the value of the contribution NSRAA fish make to sport fishermen, since they're not the ones paying for the programs," Reifentstahl said. "So our cost:benefit figures are a minimum, and designed to show the commercial fishermen what they've gotten for their money."

Figured in this way, it's easy to see that the net pen rearing of chum is the most cost effective program, generally running between 6 and 8 to 1 for benefits to cost. Deep Inlet programs are 9.5 to 1, and Hidden Falls is just a little less than that.

Next in cost efficiency are the Hidden Falls coho programs, at 5 or 6 to 1.

"Such a large program has good economy of scale, and marine survival is around fourteen percent on coho at Hidden Falls," Reifentstahl said. "The combination of those two things has made it a very cost effective program."

Least cost effective of the hatchery programs are the chinook projects. Field projects fare the worst and are the hardest to analyze.

"Chinook programs barely come out at 2 to 1 benefits to cost," Reifentstahl said. "And the field projects just don't have any economy of scale, and since we don't do net pen rearing it's harder to determine the actual numbers of fish involved. But at least there's not a large facilities overhead with those kinds of programs."

The Deep Inlet chum fishery is NSRAA's bread and butter, as NSRAA actively manages the chum fishery for its cost recovery needs. In that sense, chum programs underwrite the chinook programs.

A simpler way of looking at the cost efficiency of NSRAA's programs is to compare the total amount of money that fishermen have paid in 3 percent tax over the years, to the total value of the fish NSRAA has contributed to the common property fishery.

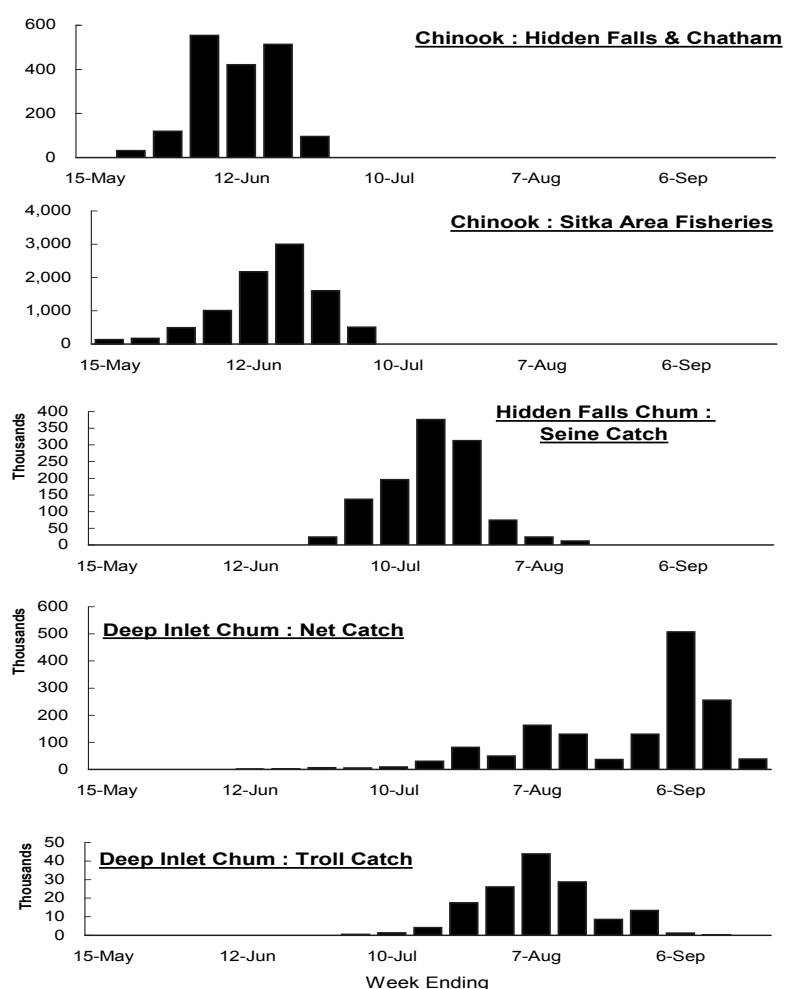
"Over the years, since the 1970s, the fishermen have paid in approximately 25 million dollars," Reifentstahl said. "And the value of our contribution to the fishery is around 130 million dollars, a 5.5 to 1 benefit to cost ratio."

NSRAA updates its cost:benefit analyses every couple of years, allowing the board of directors to evaluate which programs are performing the best.

"It gives them the means to size up programs in a very mathematical way, to say, maybe in times of financial stress we could cut money here, out of this program which doesn't have a high benefit to cost ratio," Reifentstahl said.

### NSRAA RETURN TIMING

#### Experimental & Terminal Fisheries - 2004 Catch Data



# NSRAA Forecasts

There are no great surprises in store for 2005 adult returns, said NSRAA data analyst Chip Blair.

"We expect everything to be quite similar to last year," said Blair.

Fishermen should catch a few more fish in the commercial chum harvest this year, despite an overall projection of 4.2 million this year, down slightly from 4.3 million last year.

"This is because we anticipate taking 300,000 fewer fish for cost recovery altogether than we did in 2004," Blair said.

Higher returns are expected at Deep Inlet and Limestone Inlet, but fewer adults are expected to return to Hidden Falls and Boat Harbor.

"Although the Boat Harbor return is expected to drop this year from 398,500 in 2004 to 277,000 chum, last year's return was a record by a wide margin," Blair noted. "The 2005 return is projected to be the second largest to date for the project."

Douglas Island Pink and Chum (DIPAC), which contracts with NSRAA for Boat Harbor and Limestone Inlet project operations, provide return projections for those projects.

A total of 95,000 chinook are expected to return this season, compared to 94,000 in 2004.

Although Medveje's projected returns of 62,400 fish is 3000 less than last year, the overall high projection is based on

an expected strong showing of 3-year-old chinook from the brood year 2000, which is showing a marine survival rate of 4.5 percent.

Hidden Falls should see 32,500 chinook, about 3500 more than last year.

"This return also has brood year 2000 as its major component, with a survival rate of around 3 percent," Blair said.

Managers at Hidden Falls and Deer Lake reported strong jack coho numbers this past season, which have been an indicator of strong marine survival for coho in the past, Blair said.

This anecdotal evidence helps support Blair's official projections, which show coho returns of 296,000 adults, compared to 250,000 a year ago.

Although it is difficult to predict coho returns since there are no earlier age classes to judge marine survival for each brood year, NSRAA managers typically use a conservative survival figure of 8 percent when making coho returns projections.

"We should see a big increase of coho returning to the Deer Lake program, as smolt numbers jumped from 144,000 in the spring of 2003, which were last year's adults, to 1,032,000 smolts in the spring of 2004, which will be this year's adults," Blair said.

2005 will be the first year of returns for the new Plotnikof Lake stock program. About 3200 adults are expected in Deep Inlet this summer.

## Deep Inlet cont.

nity during some years," Blair said.

For the past two seasons, the Deep Inlet terminal harvest area (THA) has been opened in early June to access chinook prior to the chum season. A proposal was brought to the NSRAA board to allow for an even earlier start, in early May, reported Blair.

Spring board meeting discussions on the topic centered around how the fishery would affect trollers who use the area during the spring troll fishery.

"Onetroller in attendance, Larry Calvin, told the board that he and other trollers had had good success in the area near Samsing Cove over the years," Blair said.

One suggestion was to modify the western line of the THA to protect that troll drag while allowing net fishing in the remainder of the area, and this was met with good support from the board.

Acting Regional Management Coordinator Bill Davidson of the Alaska Department of Fish & Game said the department supported early fishing, but that a restriction on mesh size for gillnet fishing would be required due to concern about early season sockeye in the area.

"Bill also suggested drawing up a Board of Fisheries proposal to deal with a separate management scheme for early season chinook," Blair said.

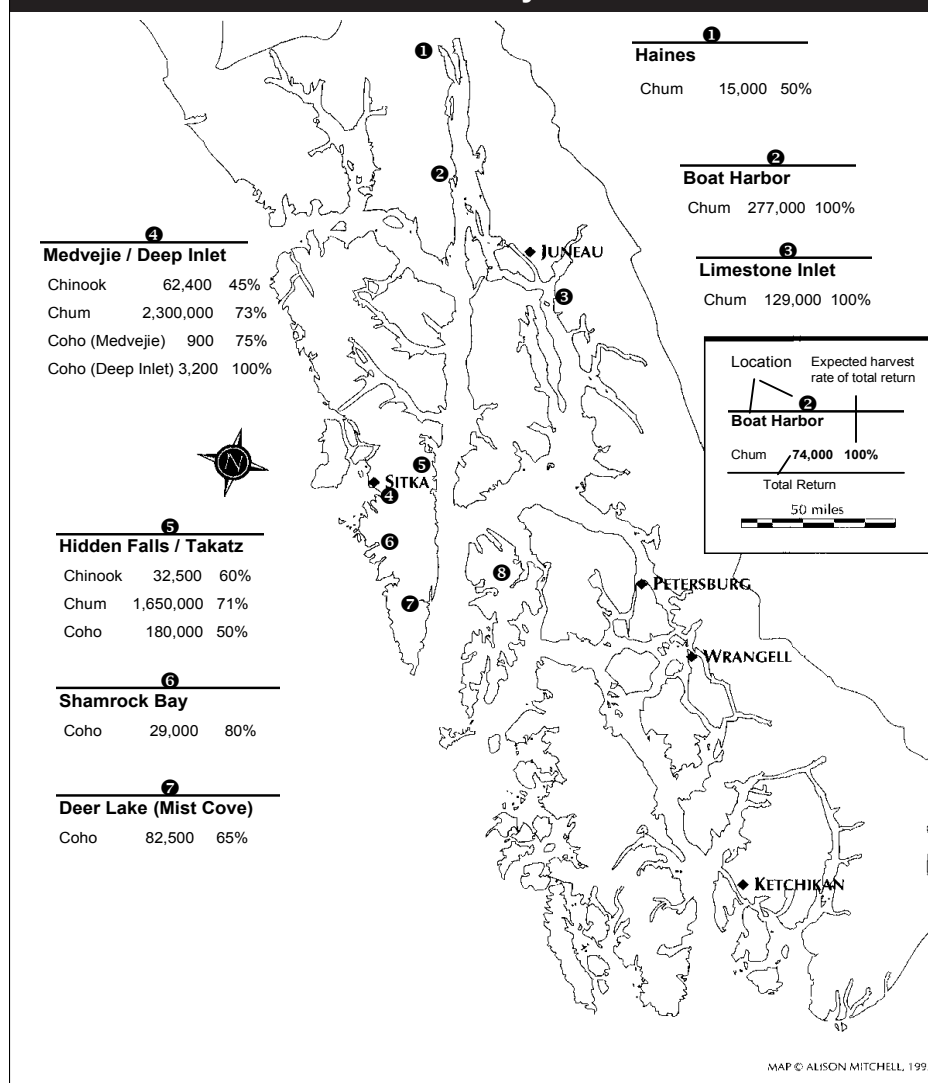
In the end, the board passed a reso-

lution to allow a rotational fishery with 4 gillnet, 2 seine, and 1 troll days per week in the THA from May 1 – May 21, with a modified western boundary. After May 21, the western boundary would move back to its original position, with the same gear rotation until late June, when cost recovery fishing begins.

The official proposal will be posted on the NSRAA website as well as at <http://www.boards.adfg.state.ak.us/>

## 2005 Projected Returns to NSRAA Projects

### Catch + Cost Recovery + Broodstock



www.boards.adfg.state.ak.us/ and will be The Deep Inlet terminal harvest area considered by the Board of Fisheries south-

(THA) will open on May 1 for commercial fishing to access hatchery chinook.

Deep Inlet regular season management will essentially be unchanged from last year, with inner Deep Inlet closed to commercial fishing beginning on June 30. A calendar for the THA from early June – September can be found online at: [http://www.nsraa.org/PDFfiles/DI\\_Plan\\_Calendar\\_2005.pdf](http://www.nsraa.org/PDFfiles/DI_Plan_Calendar_2005.pdf). Alaska Department of Fish and Game news releases can be seen at <http://documents.cfl.adfg.state.ak.us/>

NSRAA 2005 Return Projections / Expected Utilization / By Species							
Site	Projected Return	Range		Commercial	Sport	Cost Recovery	Brood Stock
		Low	High				
<b>Chum</b>							
Hidden Falls	1,650,000	1,300,000	2,000,000	1,190,000	-	340,000	120,000
Medveje/Deep Inlet	2,300,000	1,800,000	2,800,000	1,765,000	-	485,000	50,000
Boat Harbor*	277,000	227,000	327,000	277,000	-	-	-
Limestone Inlet*	129,000	79,000	179,000	129,000	-	-	-
Haines Projects	15,000	10,000	20,000	7,500	-	-	7,500
	4,371,000	3,416,000	5,326,000	3,368,500	-	825,000	177,500
<b>Chinook</b>							
Hidden Falls	32,500	27,500	37,500	19,500	500	9,500	3,000
Medveje	62,400	55,000	70,000	24,960	3,120	31,320	3,000
	94,900	82,500	107,500	44,460	3,620	40,820	6,000
<b>Coho</b>							
Hidden Falls	180,100	135,100	270,100	90,100	4,000	76,000	10,000
Deer Lake	82,500	61,900	123,800	49,500	1,000	32,000	-
Medveje	900	700	1,400	594	81	-	225
Shamrock Bay	29,000	21,800	43,600	24,100	3,500	1,400	-
Deep Inlet	3,200	2,400	4,700	2,400	320	480	-
	295,700	221,900	443,600	166,694	8,901	109,880	10,225
<b>Sockeye</b>							
Chilkat Lake Stocking	-	-	-	-	-	-	-
Chilkat Lake Incub. Boxes	-	-	-	-	-	-	-

\* Cooperative Project with DIPAC

## Field Reports

### Deer Lake

Spring set-up of the weir and pipelines at the Deer Lake/Mist Cove coho rearing site went well due to low snowpack this season, allowing staff to focus their attention on a change on rearing strategy at the site.

Coho fry had been stocked in the lake in past years when conditions permitted, but due to predation by growing numbers of non-native rainbow trout, coho rearing will take place in net pens for the foreseeable future, until trout populations have shrunk.

The coho lake rearing project works best when the majority of coho fry remain in the lake only one year, explained Todd Buxton, Deer Lake project leader. The trout appear to be the main cause of the fry holding over in the lake for an extra year, rather than migrating to sea.

"Weir set-up progressed rapidly, so we began obtaining raw materials for the construction of infrastructure needed to switch to pen-rearing coho fry on Deer Lake earlier than planned," said Buxton.

The Deer Lake crew, which includes Josh Homer, Ben Gilles, and Sarah Nelson, also benefited from good fortune in the form of a 6 foot diameter Sitka spruce blowdown that landed in the lake.

"Sections of this tree are being used as the main structural and flotation components of a float we are constructing to store fish food near the float pens we will install on the lake," said Buxton.

Trout predation pressures on the lake in 2004, combined with a mid-summer zooplankton (coho fry's main diet) population crash, depressed fry growth so that many fry will remain in the lake this spring.

*Fish culturist Tommy Sheridan ponds chinook fry out of the new incubation building, completed last summer, at Hidden Falls.*



"So we are projecting 700,000 coho smolt will migrate to Mist Cove in 2005, while around 400,000 will stay behind in the lake to rear an additional year," Buxton said.

This year's adult coho return is expected to be 82,500, a return that is far better than last year.

"Last year's sizeable and healthy coho smolt population as well as favorable sea conditions are the reasons for this encouraging projection," said Buxton.

Buxton said he and the staff are looking for ways to help the project pay for itself by "optimizing cost recovery" on the adults that escape the commercial harvest and return to Mist Cove.

### Haines

Chum fry migrated from their spawning channels and incubation boxes in the Chilkat Valley as usual this spring.

"96 percent of the chum eggs survived to the fry stage," said Haines project leader Todd Buxton. "The project contributed just over 3.3 million fry, which is close to what we projected last fall."

Winter activities at the Haines project included developing and testing equipment for thermal marking chum otoliths at incubation boxes.

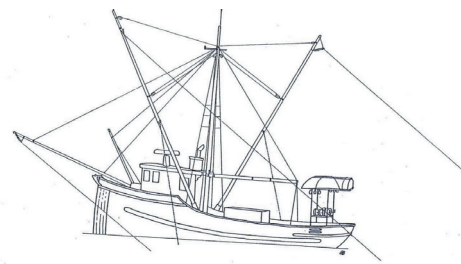
"Otolith marking will allow us to track enhanced chum from the Haines project through the commercial fishery and on the spawning grounds. We will be able to estimate both the survival percentage and the contribution percentage to the district



*Timber in the process of being sawn for a feed storage float at Deer Lake.*

115 drift gillnet fishery," Buxton said.

Knowing those figures will help NSRAA staff decide how best to use incubation boxes to maximize fish survival and commercial interception of the enhanced chum. The Alaska Department



of Fish and Game (ADF&G) also requires NSRAA to mark enhanced chum fry before permitting any additional chum eggs to be taken for the project.

"After marking chum fry this winter, we'll suggest additional sites and methods for increasing enhanced chum production in the upper Lynn Canal," Buxton said.

At their spring meeting, the NSRAA board authorized funding the construction of two new spawning channels in the Chilkat Valley. Construction will begin mid-July.

The new channels will be located at strategic locations on the Klehini River floodplain to save on excavation and rip-rapping costs.

Buxton noted that two new spawning channels would have about the same length and width as the Herman spawning channel, but will together only cost \$5,000 to construct. Ten years ago, it cost \$55,000 to build the Herman channel.

"While the lifespan of the new channels will be at the mercy of the river, our hope is that their inexpensive cost will make their likely shorter life span cost effective," Buxton said.

Alaska State Representative Bill Thomas of Haines has submitted a \$300,000 capital proposal to the state for the construction of spawning channels near Klukwan on the Chilkat River.

These channels, if built, will replace a natural mile long natural spawning channel that existed at the confluence of the Klehini and Chilkat Rivers in the 1980's.

"Thomas believes that production from this channel was responsible for that decade's consistently high returns of chum salmon to upper Lynn Canal, a conjecture that the Department of Fish and Game agrees with," Buxton said.

While NSRAA does not yet know if the proposal will be funded, it has agreed to design and oversee construction of the project if it does. ADF&G commercial fisheries division in Haines will assist in the permitting process.

### Limestone Inlet

The NSRAA board will be considering a longer term plan for the Limestone Inlet field project, after two years of contracting with DIPAC (Douglas Island Pink and Chum), to run the program from start to finish.

"They've always taken the eggs at the hatchery, incubated them, and provided the fry, but for two years they've been doing the whole ball of wax: ordering the fish food, hiring the fish feeders, watching over the program, and disassembling the site for winter storage," NSRAA operations manager Reifenstuhl said.

NSRAA approved a yearly budget for the Limestone Inlet project, and reimburses DIPAC for their expenses out of that budget. Financial liability for the program rests with NSRAA, however.

"The board is looking forward to deciding what the future arrangements will be, perhaps developing a five year plan," Reifenstuhl said.

## Chinook Programs at Medvejie Continue to Push the Envelope

Chinook program managers at Medvejie need spreadsheets to keep track of their stocks lately, with at least six different groups of chinook being readied for release in any given year.

"It's the most complex program in Alaska as far as I know," said NSRAA operations manager Steve Reifenstuhl.

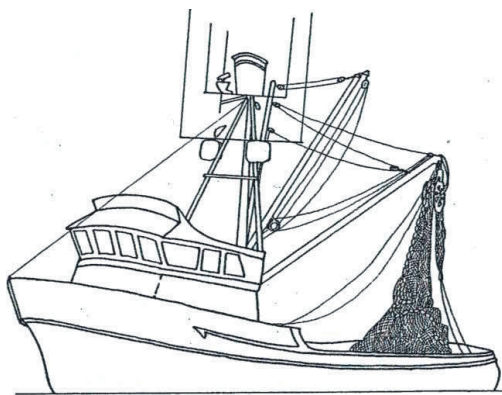
There are traditional yearling chinook at both the hatchery and at Green Lake, a "zero check" program at both the hatchery and Green Lake, and a "SeaReady" group of both yearling fish and zero check fish.

Zero check fish are released to the wild the first summer after they've smolted, rather than being held over through the following winter for release the next spring. SeaReady fish are treated with extra salt and light to prepare them for release into full strength seawater earlier than traditionally raised chinook.

These strategies are experimental, but managers, with the support of the NSRAA board, have forged ahead with multiple trials.

"We feel it's worthwhile to do them simultaneously to figure out which is the best strategy, rather than testing one, waiting five or six years to get results, and then trying another one," NSRAA operations manager Steve Reifenstuhl said. "And of course, Jim Seeland, former Medvejie manager, wanted to be challenged, so he always said, 'Come on, hit me with some more.' It's truly an exciting program, to experiment with strategies that could be used elsewhere in the state if they're proven successful."

The traditional Medvejie chinook program raises the chinook in hatchery raceways through their first spring and summer. They are put



in a brackish "lens" in October, raised to smolt size and released by the following May.

"That's actually a little different than the traditional programs at most places," Reifenstuhl said, "but that's what we consider our 'traditional' Medvejie program."

NSRAA's chinook program expanded with the Green Lake program in the mid 1990s. A million of the chinook fry are transported up to Green Lake, located above Silver Bay, and reared in net pens from July until October.

Then, they're brought back

down and reared in net pens in a brackish water "lens" at Bear Cove, adjacent to the hatchery until May, when they're released.

Managers realized that the larger of the Green Lake fry, at 20 grams or bigger, could go directly to full strength saltwater instead of having to be held in the lens. That saves on freshwater from Medvejie Creek.

The creek's finite supply of water has always been a limiting factor on production capacity at the hatchery. The lens requires about 2 cubic feet per second (cfs) of water to keep the salinity at 15 parts per 1000.

"We've proven this strategy for the last two years, so it is now a part of the Green Lake program," Reifenstuhl said.

Fish culturists are now working on defining the lower size threshold for introducing young fish directly into the saltwater.

"Hopefully we can eventually get all the fish to the target size and eliminate the lens for the Green Lake fish," Reifenstuhl said.

The zero check program is an offshoot of the Green Lake program. Green Lake fish regularly grew so rapidly in the warmer lake temperatures that they became "smolty" in the summertime.

"So we've modified the timing on this group of Green Lake chinook," Reifenstuhl explained.

The fish are taken to the lake as soon as the ice is off and put in net pens. Although the lake temperatures are very similar to Medvejie raceway temperatures, the fish feed much better, probably due to the large open space they have in the net pens.

The lake then warms much more rapidly than Medvejie Creek, so by June, lake

surface temperatures are at 10 degrees C whereas Medvejie is still at 4 degrees C.

"They grow so rapidly in these conditions that they smolt in June, and we're able to take them right down to salt water, keep them in pens for three to four weeks, and release them at 20 grams about the third week of July," Reifenstuhl said.

The first group to return as adults had a marine survival rate of four percent. Four other groups are still in the ocean, and NSRAA continues to evaluate the program.

Then, they're brought back



Medvejie fish culturist, Bill Coltharp, prepares a Sea-Ready treatment on this spring's Medvejie zero check chinook.

The zero check program's early success has resulted in several other encouraging developments.

Bacterial kidney disease (BKD), carried in most wild salmon and also in the non-indigenous brook trout in Green Lake, and sometimes spread to NSRAA stocks in the lake, has never manifested itself in the zero check chinook because they are in the lake for such a short period of time.

"In the yearling program we've had to release some chinook early because BKD was a problem, but we've never seen it in the zero checks," Reifenstuhl said.

The Alaska Department of Fish & Game (ADF&G) has allowed NSRAA a permit to move a million Green Lake zero check chinook into Deep Inlet net pens, so their first salt water experience, for imprinting purposes, will be Deep Inlet. The first release will be in 2006.

"Once the chum have left the net pens at the end of May, we'll be able to utilize the pens again and hold the chinook out there for a month until they reach 20 grams," Reifenstuhl said. "It's one of the really valuable components of this strategy, is that we can raise fish in Green Lake where we've got tremendous amounts of fresh water, and get them into salt water, without using freshwater from the hatchery."

The ADF&G sportfish division also has requested that NSRAA release chinook in Lutak Inlet to benefit the sport fishermen in the Haines area.

"They've asked us to use Tahini River stock from the Haines area," Reifenstuhl said. "So assuming the funding

comes through, we'll raise Tahini stock obtained from DIPAC (Douglas Island Pink and Chum) at Medvejie as zero checks, keep them in isolation, and then give them their first saltwater experience in net pens at Lutak Inlet." It will also be the first time NSRAA has received funding from the sportfish division.

The SeaReady process, which involves salt baths, salts in the feed, and extra light, also prepares the young chinook to enter full strength saltwater.

"We treated 600,000 of the yearling fish, so they also can go directly to the ocean without the brackish lens," Reifenstuhl said. The hatchery-raised zero check fish don't need to go to Green Lake, either, but instead are held for about 3 weeks in saltwater net pens, where the water temperatures are about 10 degrees C, until they attain their release size of 20 grams.

"The Medvejie zero checks are the same as traditional yearlings between February and May, but once they have been treated with SeaReady and begin rearing in saltwater they take off like gangbusters," Reifenstuhl said. "They grow at a rate almost triple that of their brethren that do not get SeaReady and remain in the freshwater raceways."

The strategy was proven last rearing season, so next year the process will be used on a larger component of the traditional Medvejie chinook.

"Of course we don't have returns on those fish yet, so it is still being evaluated, but those were the biggest, most vigorous fish we've ever seen at Medvejie," Reifenstuhl said.

## Jim Seeland – Stepping Down From NSRAA After 22 Years

Longtime Medvejie hatchery manager Jim Seeland decided to retire from the organization this spring, setting May 1, 2005, as his “release” date from the facility. But he won’t go too far out to sea, having already agreed to act as a consultant on NSRAA’s new Sawmill Cove coho facility, now in the design phase. (See related story, page 1.)

Hidden Falls hatchery manager Lon Garrison will become the Medvejie manager on September 1. Medvejie fish culturist Scott Wagner will become Hidden Falls manager on September 1 and in the meantime is serving as interim manager at Medvejie.

“I started at NSRAA in October of 1982, along with Dale Hurdlow, Dan Goodness, Pete Esquiro, and Bruce Bachen,” Seeland recalled. “Those were the days of plywood, two by fours, and visqueen, although we usually had to get special permission to buy much visqueen.”

Seeland grew up in Missouri and earned his Bachelor of Science degree in Fish and Wildlife Biology at the University of Missouri in 1976. He headed to the west coast with \$500 and a dog, intending to join his brother in British Columbia, but instead found a job at Trout Lodge Incorporated in Puyallup, Washington, and stayed there for five years. In Puyallup he met his wife, got married, and had a baby girl.

“Then I got bored and answered an ad for a job with PWSAC (Prince William Sound Aquaculture Association), working on a remote island for two years, during which time my son was born,” Seeland said. After that he followed Dale Hurdlow to the just spawned Medvejie, which needed a manager and a fish culturist. He’s been working steadily at NSRAA since then, except for a one year hiatus in 1987 when they moved to Minnesota for his wife’s nursing school.

Now his daughter is 26 and his son is 24. My, doesn’t the time fly?

“We want to keep working, but we’re ready to enjoy ourselves too,” Seeland said. His wife recently completed her Master’s in Nursing degree and is now a practitioner at the Mountainside Family Health Clinic in Sitka, so they intend to stay in Sitka for several more years.

Seeland’s NSRAA history is Medvejie hatchery’s history too. He’s seen it all, starting with two buildings and two raceways in 1984, expanded for chinook in 1987, and over the last couple years, transformed with the addition of a new chum expansion building, allowing the chinook programs to blossom once again. (See related story, page 7.) On the most recent construction project, Seeland contributed to the design effort and is very pleased with the result.

“We had maintenance guy thinking on one end, fish culturist thinking on the other end, input on the blueprints, and the building works as well as we had hoped. Nothing went wrong. I liked being part of that team,” Seeland said.

Seeland thinks his desire to attend to the “simpler” jobs like cleaning things, feeding the fish, and doing eggtakes, helped keep him happy for so many years.

“I’ll miss the mundane tasks of keeping things clean,” Seeland said.

“I love taking care of small fish, keeping things well run and healthy. I’ll miss that physical work. I feel great, mentally and physically. It’s got to be the work.”

Seeland is proudest of the progress NSRAA has made during his tenure on the chinook programs.

“I like the chances we’ve taken, even though not everything has worked. I love how dynamic it is, I know it’s going somewhere,” Seeland said. “And you know, chinook fishing is one of the top three reasons for being alive.”

It’s not hard to find things Seeland is enthusiastic about, especially if one inquires about his future plans.

A huge fan of Alaska fisheries, Seeland was at his best in front of hatchery visitors, and can certainly imagine continuing that line of work.

“If they wanted me to be the public relations front man at Sawmill Cove, I’d think I’d died and gone to heaven, taking tourists around. When you’ve been doing the job you’ve got some credibility. I’ve watched the folks from the Allen Marine Tours. When you explain things about the hatchery and salmon, they listen to every word,” Seeland said. “I’m sincerely concerned that they get the facts, that they go back home and tell their friends. You’ve got to talk to human beings, not just magazines.”

Seeland admits that there is some truth to a rumor that he was going back to school. He’s been working on a distance delivered elementary education degree.

“I still don’t know yet where that’s going to take me, but I’m looking forward to having time to at least volunteer my time at the elementary level. The days the third graders came out to the hatchery were my best days,” Seeland said. “I hope to consult with the school system and the college to design some kind of program. I’d like to make salmon education a big deal.”

In the meantime Seeland has been teaching mariculture (shellfish) at Sheldon Jackson College as an adjunct professor.

“Mariculture is a big thing in the lower 48 and could become big in Alaska. I wonder if NSRAA’s system could be transposed into this other area, and I’d love to see it blossom,” Seeland said.

He’s also accepted a contract with an Oregon fish food company called BIOOREGON to act as a sales representative, which he says will be fun “because I’ll get paid to go around and visit my friends.” And in his spare time, Seeland says he’d be glad to serve on the NSRAA board.

“I think I could help,” he said.

Seeland leaves with good feelings and lots of good experiences to remember.

“There’s never been a day I haven’t appreciated working for this outfit,” Seeland said. “I’ve learned so much – about a good way to run things, empowering people, treating them well, expecting a lot, and holding people accountable. My kids got to grow up in this great place, and my family has all enjoyed good health. I’m very grateful for that, and I’m sure it has something to do with the work we do.”



*Jim Seeland checks out the help wanted ads during a break in chum ponding this spring.*

## Board Member Profile: Lucas McConnell

Lucas McConnell of Port Alexander joined the NSRAA board in the fall of 2004, taking the rural troll seat.

“That just means I don’t live in Sitka, and it gives me a different perspective because of the areas that I fish,” McConnell said, explaining his place at the table.

At age 28, he might be the youngest member of the board. He certainly looks a little young compared with some of the faces on the NSRAA board, but don’t be fooled. McConnell’s already had lots of experience, on the water and at the table.

He serves on the City of Port Alexander city council, is in charge of the Port Alexander harbors, and is on his local Alaska Department of Fish and Game (ADF&G) advisory committee.

“We’ve dealt with some of the same issues, and I’ve worked with fishermen, so I understand how to work on a board, how the compromises have to work,” McConnell said.

McConnell’s father was a troller as well, and McConnell was born in Port Alexander. He grew up in Oregon but spent most of his summers in Port Alexander, moving there for good at the age of 15. He’s been fishing ever since.

“I’ve been commercial fishing for twelve years, starting out as a deckhand, and I’ve owned my own boats for the last eight years,” McConnell said.

McConnell hand trolled for three years on the F/V *Tomboy*, and is entering his fifth season as a power troller on the F/V *Fury*.

“I fish the southern tip of the island, the east side of Chatham strait, and southern Chatham,” McConnell said. He fishes for chinook in winter, and coho in summertime.

McConnell joined the board when the rural troll seat was vacated last year, at the recommendation of the Alaska Trollers Association and Pete Esquiro’s request. His term expires in 2006.

“Other fishermen encouraged me to get involved in it,” McConnell said.

As a troller, McConnell faces the perennial issue of allocation of the resource among the gear groups.

“Everybody wants a bigger piece of the pie, and the trollers are still behind,” McConnell said, referring to the S.E. Alaska Allocation of Enhanced Salmon. “The Deer Lake project, meant to help the trollers, has had a few problems, with the trout eating the coho fry. Hopefully we can work our way through them.”

McConnell has some ideas how to improve the Deer Lake situation: “There are too many non-indigenous trout in the lake, and the best way to deal with that is to allow sport fishermen there to catch them. We could control the population ourselves by using beach seines.” McConnell is optimistic that the new coho hatchery in Silver Bay will help the trollers.

“The hatchery will be very beneficial, since right now NSRAA produces very few cohos in this vicinity,” McConnell said.

Overall McConnell has a good feeling about the next few years, an optimism he seems to share with his fellow board members.

“There was lots of humor today,” McConnell said of day one of the board meeting in March. “Everyone seemed to be in a good mood. I’m really happy to be a part of it.”

“Everything’s looking up. NSRAA’s cost recovery will be better, we’ll get more money for the fish, markets are rapidly improving this spring, permit prices have doubled in the last year,” McConnell said. “It’s a complete turnaround from a couple of years ago.”

McConnell hopes to improve upon a good year by marrying his fiancée, Ptarmica, in August, “if we can get everything together.” Ptarmica is Port Alexander’s city clerk.