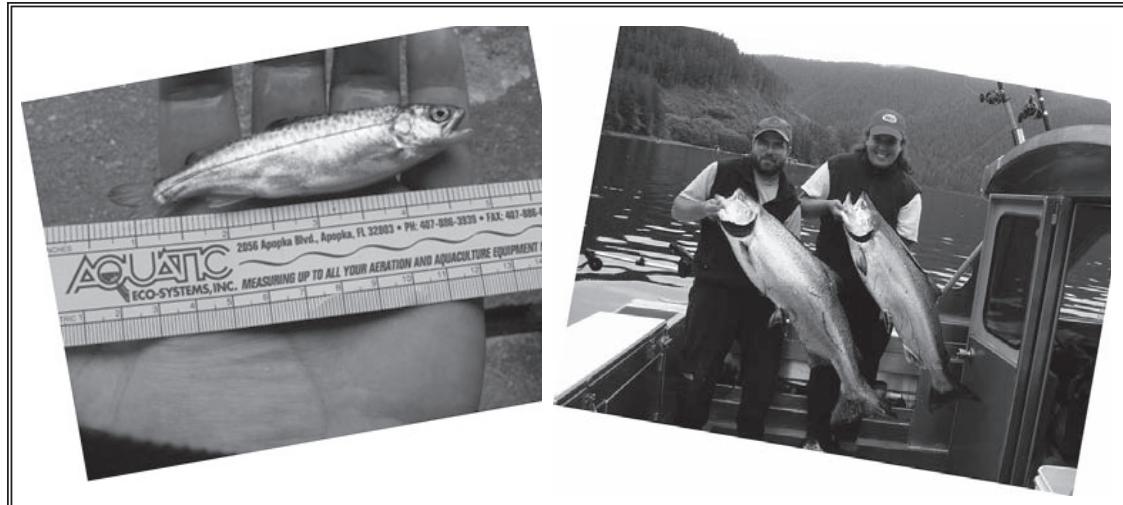


# FISH RAP

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

Vol. 25 No. 2  
December 2007***Medvejie***

***Chinook ... from  
smolt to adult.  
Over 30,000  
kings returned  
in 2007.***



A zero-check chinook smolt. Matt and Stacy Golden after a successful fishing trip.  
Matt rears chinook at Green Lake and Deep Inlet.

## Illegal High Seas Driftnet Fishing Still a Problem in North Pacific

### Unknown if NSRAA fish have been illegally harvested

NSRAA has a long record of fairly accurately projecting each of its projects' adult salmon returns. But 2007's dismal chum returns at Deep Inlet and disastrously low coho return to Hidden Falls were a shocker, for both Southeast fishermen and NSRAA staff.

When reports begin filtering in to the NSRAA offices that salmon all over Southeast had been caught with net marks, and when 50 percent of NSRAA's own chum samples in August were gillnet marked, suspicions that illegal high seas driftnets were to blame for at least a portion of the "missing" fish naturally flared.

"The marks look different from fish that escape from local nets in that they are healed over and were caused by a finer mono-filament. On the heads of a lot of fish it looks like someone drew lines with a fine-point marker," said NSRAA data analyst Chip Blair.

High seas driftnetting was indeed a major problem in the Pacific several decades ago, contributing to the devastation of North American wild salmon stocks, before it was finally banned in international waters in 1992.

"Until this last year it looked as if illegal salmon driftnet fishing was on a downward slide and I am pretty sure that such is still the case. However, the Russian border guard seized an Indonesian flagged illegal driftnet vessel in June with 90 metric tons of salmon on board," said Capt. Michael D. Inman of the U.S. Coast Guard (USCG) in Juneau.

In 2007 there were several

documented accounts of illegal high seas drift net (HSDN) fishing in the Western Pacific, according to Bill Heard, program manager at NOAA (National Oceanic and Atmospheric Administration) Fisheries in Auke Bay, Alaska.

"Many HSDN vessels were sighted in 2007 west of 165E and south of 44N," Heard said.

"Indications over the last few years are that the driftnet fishers are targeting salmon in the North Pacific in May and June, and squid in August, September and October," Inman said.

The U.S. Coast Guard was heavily involved in a multinational enforcement effort in 2007, working with Canadian and Japanese air patrols and Chinese surface patrols, Inman said. Besides the Indonesian vessel mentioned above, the USCG helped apprehend eight Chinese boats.

What happens to seized vessels after they are caught is difficult to pinpoint. Depending on the terms of agreement between the various governments involved, illegally fishing vessels are usually turned over to their country of origin for prosecution, Inman explained.

"Typically, in China, the penalties imposed are seizure of the vessel, catch, and fishing gear; revocation of licenses and distant water fishing permits, and large monetary fines," Inman said.

The Coast Guard had no information on the penalties imposed on processors who purchase illegally harvested fish. Neither does the Coast Guard have any direct

data on the dollar value of illegally harvested salmon, or any specific documentation on where the illegal catch is sold, Inman indicated.

"We have heard anecdotal information that catch in some cases is being brought to processing plants in Southeast Asia," he said.

But whether or not any illegally harvested salmon in 2007 were produced by NSRAA or other Alaska private non-profit hatcheries is unknown, and likely to remain a mystery for the foreseeable future. The Indonesian vessel illegally carrying 90 tons of frozen salmon was captured just outside Russian waters, and scientists from Kamchatka indicated the fish were of Russian origin, said Heard.

"Russian enforcement personnel videotaped the chase and apprehension of the vessel along with

making tapes of the frozen salmon inside," Heard said, who viewed these videos at the North Pacific Anadromous Fish Commission meeting in Vladivostok this year. "From what I could tell, a lot of the fish looked like maturing pink salmon."

Alaska salmon tend to migrate in predictable patterns, making a single large loop through the Gulf each year that they are at sea. That they make a few sidetrips away from their main loop into areas where legal gillnets are waiting for them is an alternative possibility to consider.

Heard noted that while he is not aware of Canadian gillnet fisheries in outer coastal areas that could be responsible for NSRAA's

*cont. on back page*

### A Tough Year for NSRAA Returns

It was a disappointing harvest season for NSRAA's major hatchery programs, with an adult chum return of less than half of what was projected, and weak coho returns.

Between Hidden Falls and Deep Inlet, 4.23 million chum were expected, but only 2.03 million returned.

The total exvessel value of NSRAA's contribution to the commercial fleet, \$4.1 million, is just 30 percent of the 2006 value (\$13.9 million), and only 45 percent of the 10-year-average of \$9.1 million.

In spite of the lower abundance, when viewed in the context of the 3 percent tax paid in by fishermen this year (\$1.2 million) versus value (\$4.1 million), the benefit to cost ratio of 3.4 to 1 still shows a very positive return to fishermen.

Fishermen harvested 1.16 million NSRAA fish altogether, the lowest contribution since 1992. 49 percent of the harvest went to the commercial fleet, 41 percent to NSRAA's cost recovery, and 10

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## Hatchery Reports

### Medvejie Hatchery Report

#### Chum

This spring, NSRAA released to Sitka Sound the greatest number of chum fry ever. A total of 52.27 million fry were released at Deep Inlet, with another 9.6 million released at Medvejie hatchery for future broodstock.

"Chum rearing went well this year but growth was slower due to the cold water temperatures," reported Medvejie hatchery manager Lon Garrison. Release dates were delayed by up to a week as well.

Over 10 million of the total released were raised as late-large fry; this is the fourth year for late-large chum at Medvejie.

The rearing strategy has had good results but it is not without risks. The disease Vibriosis posed a major threat to the late-large chum fry in late May.

"Although in general the spring was late and very cool, temperatures in late May, combined with small tides and poor water exchanges set up a perfect scenario for an outbreak," Gar-

rison said. The fish were released as soon as mortalities increased, to prevent further losses.

NSRAA has used an upwelling pump in Deep Inlet for several years to try to improve water circulation and alleviate these problems, but with limited success. Staff is now looking into airlift pumps for each net pen, a strategy that has worked well at other locations in Southeast Alaska and British Columbia.

Weak adult chum returns with many more males than females made it impossible for Medvejie staff to collect the full egg take goal of 42 million eggs this fall. A total of 38.66 million eggs were taken.

Including the eggs transferred from Hidden Falls, Medvejie is currently incubating a total of 63.8 million chum eggs for the Deep Inlet and Medvejie programs.

#### Chinook

Medvejie's chinook program now produces just under 4 million chi-



*Manager Scott Wagner spawning chum at Hidden Falls; Tommy Sheridan reading chum otoliths in NSRAA's new Sitka otolith lab.*



nook smolts each year, but in 2007, it wasn't easy.

"2007 was by far the most challenging and difficult chinook rearing season experienced by the Medvejie staff in many years," Garrison said. "Later than normal ponding dates combined with frigid water temperatures all summer lead to some of the poorest growth we have seen in over a decade."

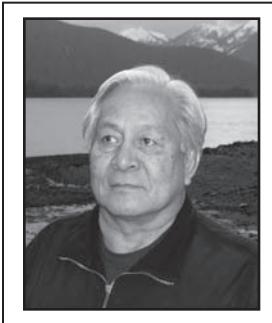
Freshwater temperatures at Medvejie only briefly got above 8 degrees Celsius in mid-August, and more critically, water temperatures in June and early July were rarely above 7 degrees C, when rapid fry growth should occur.

"As a result, we made a decision to move as many fry into the SeaReady program as possible in hopes that they would be ready for saltwater in time," Garrison said. SeaReady chinook are treated with extra light and salts to help prepare them quickly for the transition to saltwater.

About a quarter of the chinook, just over 1 million, were reared at Green Lake as zero-checks for Deep Inlet, which means they are reared and released their first season instead of being overwintered and released as yearlings. This was the second year for zero-check chinook at Deep Inlet.

*cont. on next page*

## General Manager's Notes



by Pete Esquiro

Several weeks ago, while walking in Crescent Harbor in Sitka, I ran into a troller – who shall remain unnamed - who began ranting about how few tagged king salmon he caught during last season's spring hatchery access king salmon troll fishery.

When I finally got a chance to speak, I greeted him cordially, and then listened to his concerns. I told him that I shared his concerns about Chinook salmon last season, and began to reassure him that both the quantity and quality of NSRAA's chinook smolt releases were very stable and consistent.

I suggested to him that the lower abundance of chinook salmon was more than likely caused by a host of factors in the ocean, all of which we have virtually no control over.

After listening to another few minutes of innuendo that we (NSRAA) had somehow conspired to make fewer chinook available to be caught by him, I realized that it didn't matter what I said, this person was not interested in having a reasonable, sensible discussion. I know this because as I took my turn to talk, he turned his back to me

and walked off!

I am confident that this person is an exception in the troll fleet, however, because I have had very productive conversations with many trollers. Thank goodness – otherwise my job would be no fun at all.

But this got me thinking. I wonder if there might be others out there who do not recognize the benefit chinook salmon enhancement brings to the fleet - aside from a few thousand NSRAA fish, more or less. What I tried to tell my troller friend is that the Alaska Department of Fish and Game wouldn't be able to conduct the May and June hatchery access troll fisheries if it weren't for our chinook salmon enhancement programs. Everyone benefits, especially trollers, from being able to fish on hatchery produced kings during this spring period when they are most abundant in Southeast Alaska, which, happily enough, is a time of year when chinook are in high demand yet are in relatively limited supply.

I know that many of you understand all this, because unpleasant encounters like the one above are pretty rare. I just wanted to take this opportunity to remind everyone: Let's not let the ups and downs in the short term obscure the major role chinook enhancement plays in the big picture, especially in our ability to go fishing in May and June. And please, let's keep talking – productively – about it.

All of us here at NSRAA wish you a Happy Holiday Season!

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

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## Hatchery Reports continued

"Late ponding and cold water resulted in the fry entering saltwater nearly 3 grams smaller than in 2006," Garrison said. "However, these fish more than doubled their size prior to release."

A Vibrio outbreak in early July resulted in these fish being released a week earlier than planned.

Other chinook releases included 194,000 traditional Medvejie yearlings, 496,000 Medvejie SeaReady yearling smolts, a special group of 97,000 yearlings fed a transition diet, 700,000 Green Lake yearlings, almost 600,000 early zero-checks, and 517,000 late zero-checks.

"We're employing a variety of rearing strategies for chinook; some are revolutionary and some have been around a long time," Garrison said. "By continuing to try new methods, and analyzing the return data, someday we'll be able to narrow our focus to the most successful strategies."

Each of the chinook groups has been coded wire tagged to allow NSRAA to compare their survival rates in the future.

Currently Medvejie has over 4.2 million brood year 2007 (BY07) eggs and BY06 yearlings on hand for chinook releases in 2008. This figure doesn't include BY07 eggs for release in 2009.

### Coho

Medvejie staff have been developing coho broodstock from Plotnikof Lake to be used for the new coho facility at Sawmill Cove, and 2007 was "the first real test" of how many adult coho would return to either Medvejie or Deep Inlet, Garrison said.

As of mid-October, approximately 360 adults had returned to Medvejie and 4900 to Deep Inlet, adding up to 3.6 percent and 4.12 survival rates, respectively.

That's not quite enough adult female coho for the eggtake goal of 500,000 eggs, so eggs were taken at

Plotnikof Lake once again.

Almost 10,000 coho smolts were released in the spring for Medvejie broodstock; over 200,000 were released at Deep Inlet. All were healthy and vigorous at release, Garrison noted.

Currently on hand are 214,000 Plotnikof Lake fingerlings; 20,000 will be released next year for Medvejie broodstock in 2008, while the rest will be reared and released at Deep Inlet.

### Hidden Falls Hatchery

Record setting snowfall last winter resulted in record setting cold water temperatures at Hidden Falls that lasted nearly the entire rearing season. The nearby weather station at Little Port Walter recorded the highest snowfall ever in the winter of 2006 - 2007 with 268 inches, 30 inches more than 1973, the next highest year.

"The hatchery's typical late-July peak water temperature was just 61 percent of the average," said hatchery manager Scott Wagner.

Water temperatures of 7 degrees Celsius instead of the usual 13 degrees negatively affected the growth and health of all the rearing fish. The peak water temperature this year of 10 degrees C did not occur until late August, too late to be of much use.

Besides these difficult rearing conditions, Hidden Falls staff also dealt with lower than forecast chum returns, a very poor coho return, and lower than anticipated numbers of fish for release.

The season ended on the upswing, however.

"We've learned some valuable lessons," Wagner said. "Also, all broodstock goals were met despite lower than anticipated returns, which puts Hidden Falls in a position to make 2008 a much better year."

For details about adult returns to all NSRAA projects, see article on page 1.



*A new barge for Hidden Falls' Takatz chum program will arrive in time for the 2008 season.*



*Tim Hodge shows off a large Salmon Lake coho. Fish are marked and released as part of a population study.*

### Chum

Chum raised from eggs collected in 2006 (BY06) met or exceeded their size goals for release for all groups, Wagner reported, although cold temperatures pushed their release date two weeks later than normal in the season.

Eggtakes for BY07 chum went "exceptionally well."

"Staff outdid themselves, setting a new record for a single day eggtake of 9.14 million," Wagner said. Hidden Falls staff also had the highest daily average of 6.36 million eggs per day, using fewer staff.

Currently Hidden Falls is incubating almost 120 million BY07 chum eggs: 48 million for its own chum program and the rest for chum programs at Medvejie Hatchery and Takatz Bay.

### Chinook

In early May, 856,974 of BY05 chinook were released in excellent health.

"We were able to release them a month early, and at the largest size ever released from Hidden Falls," Wagner reported.

There were fewer numbers of chinook for release this spring than expected, probably due to otters raiding the ponds. Staff has taken steps to prevent the otters from helping themselves in the future.

BY06 chinook were transferred to saltwater this summer, after a delay of 3 weeks due to the cold. Despite the delay these fish were still smaller than desirable, which led to higher than normal ponding losses.

The remaining 662,221 fish are doing well, however, and Wagner expects they will reach an adequate size for release in 2008.

Staff collected approximately 2 million chinook eggs this season for Hidden Falls programs. In addition Hidden Falls is incubating 280,000 Tahini chinook eggs from Douglas

Island Pink and Chum, for the Lutak Inlet sport fish program.

### Coho

Just over 2.5 million coho were released from Kasnyku Bay this year.

"Again, due to the cold water, both the regular and the late-large groups were released at a smaller than desired size," Wagner said.

Currently, Hidden Falls staff are rearing 2.34 million coho for release in spring 2008. This is less than normal, Wagner said, due to losses earlier this year from a Phoma outbreak, a fungal disease, and Coldwater disease, a bacterial infection.

"These fish are still several grams behind schedule for this time of year, but with a 'normal' spring in 2008 should reach the target size," Wagner said.

Approximately 10,000 coho are in a trial group being overwintered in salt water instead of fresh water, and are doing better than expected despite their small size, with saltwater ponding mortalities at just a fraction of the chinooks'.

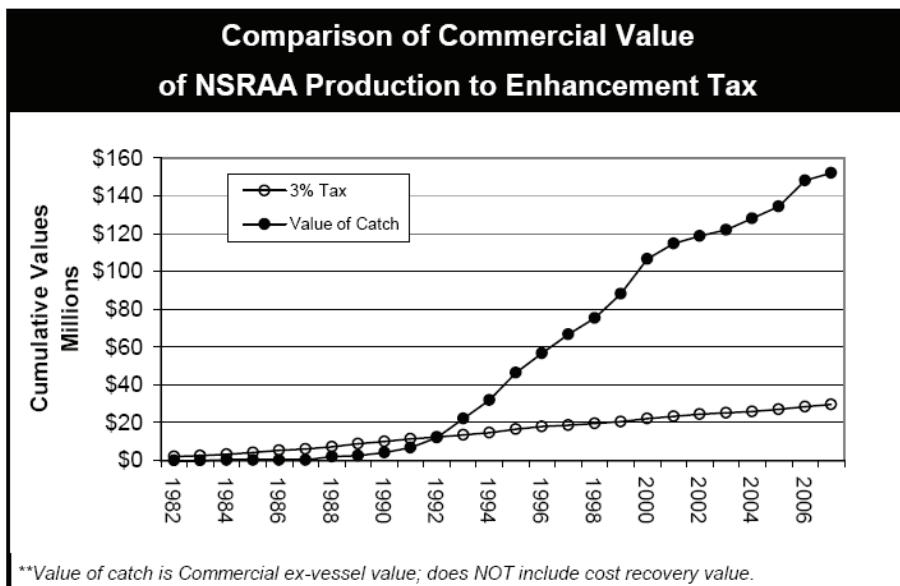
"This is new territory we're exploring but the potential is huge," Wagner said.

A total of 6 million BY07 eggs were taken this year. Of these, 2 million are set aside for the Deer Lake project and 4 million for Hidden Falls needs.

"We will have plenty of excess to account for any early loss of fry due to Phoma or cold water disease," Wagner said.

### Infrastructure

Several major projects were completed by Hidden Falls staff this summer, including replacing the Hydro plant bearings, constructing an apartment addition on the main building, and re-siding the main bunkhouse building.



## Program Diversity Saves the Year for NSRAA

The old wisdom about not putting all your eggs in one basket was proven true this year, at least from the perspective of the private non-profit salmon hatchery.

As all Southeast Alaska fishermen know, 2007 was not a great one for chum and coho salmon. But NSRAA's finances, which depend so much upon chum, are not a catastrophe, thanks to its chinook returning in higher numbers than expected, and to good prices for the scarce chum.

"Prior to the first fish showing up in May, there was great anticipation for this season, with some experts predicting that 2007 might be an all time moneymaker, close to that legendary 1988 season," said NSRAA general manager Pete Esquiro. "As we know now, this did not happen."

NSRAA meets its budget needs with money from two sources: the 3 percent tax from fishermen, and cost recovery sales from chinook, coho, and chum to the highest bidding processor.

How many coho and chinook are harvested for cost recovery is determined simply by how many of them slip past the commercial fleet and return to their terminal area, where NSRAA harvests them. While the number of coho and chinook intercepted by fishermen stays fairly steady from year to year, marine survival rates of those fish do vary.

"So this year, we did better on chinook cost recovery than we expected because their marine survival was higher than forecast, giving us more to harvest," said NSRAA operations manager Steve Reifenstuhl. "We worked hard to maximize their value, and netted double

the anticipated income."

On the other side of the marine survival coin was NSRAA coho. This year, Hidden Falls coho posted their poorest survival rate – 2 percent – on record.

"We expected to bring in three-quarters of a million dollars on coho, but we got about 15 percent of that," Reifenstuhl said. "That shortfall put us in unprecedented negative territory."

The only species NSRAA can actively manage for a cost recovery goal is Hidden Falls and Deep Inlet chum salmon. The poundage goal for each site is set in the spring at the NSRAA board of directors' meeting. But even the chum - NSRAA's "bread and butter" that would normally make up for the coho disappointment - left the organization in the lurch.

"We hit this year's goal at Hidden Falls almost right on, but were 17 percent short at Deep Inlet," Esquiro said. "Both sites had total returns that came in about 50 percent of the forecast, so the fleets suffered too."

Fortunately the bid price for NSRAA's cost recovery chum was significantly higher than the board of directors had planned on in their spring board meeting.

"When all the numbers were tallied after the last egg was taken in November for our 2008 programs, 2007's income was short by only 0.02 percent of the fiscal year budget," Reifenstuhl said. "This could have been a very sad story, but two things saved us: the diversity of our programs and the price of fish. Hopefully next year won't be quite so suspenseful."



## Update on Sawmill Cove Hatchery

The Sawmill Cove Hatchery is on schedule for completion in May 2008, according to NSRAA operations manager Steve Reifenstuhl.

"Construction is proceeding quite well," he said. "The building shell is complete, the interior concrete slab is finished, and interior partition work is in full progress. The inside is taking shape and you can now clearly see the incubation room, the fry ponding room, mechanical room and office."

Through the winter, the construction team will work on the interior. And, as weather allows outside, the water supply pipeline will be laid, valves installed, and hooked into the City of Sitka's 36-inch bulk water line.

Early spring work will consist of laying the supply lines to the outside rearing area, placing the five raceways and 16 round ponds, placing effluent lines, and finally, deploying the 24-inch high density polyethylene effluent line in salt-

water to a depth of 100 feet.

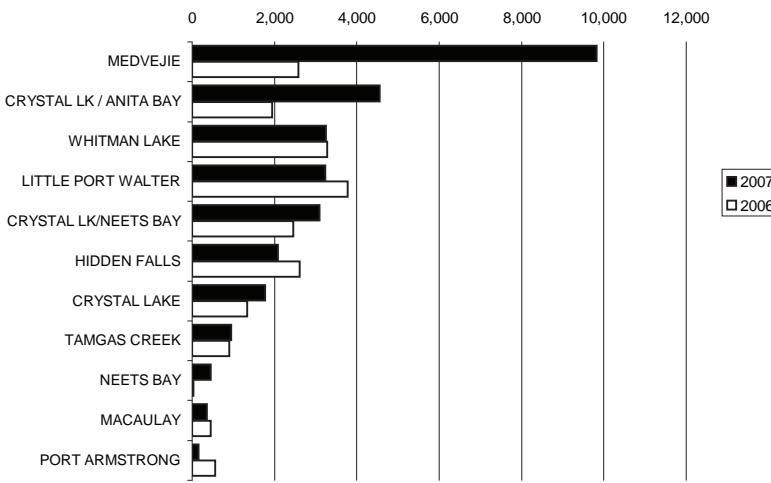
If all continues as planned, coho fry will be moved from Medvejie Hatchery to the new raceways at Sawmill Cove Hatchery in June, to grow into smolt.

"After several years of planning, it is rewarding to see the facility progressing so well and on schedule," Reifenstuhl said.

## Alaska Hatchery Contributions to S.E. Troll Fisheries

### 2006-2007 Chinook Troll Contribution

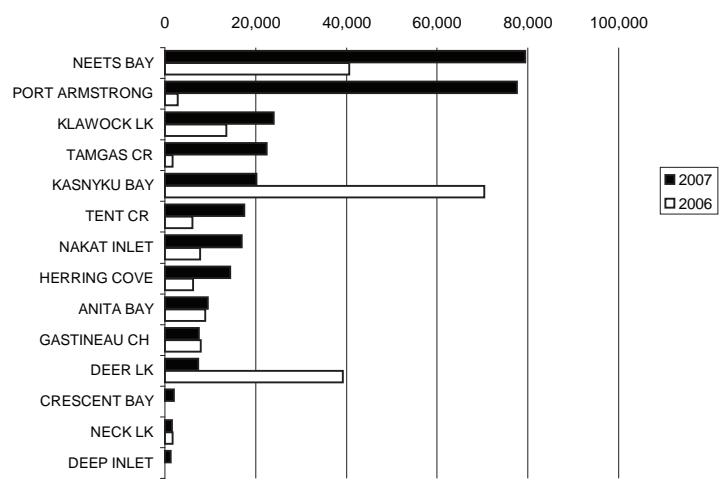
(Sites Contributing 100 or More Fish)



## Alaska Hatchery Contributions to S.E. Troll Fisheries

### 2006-2007 Coho Troll Contribution

(Sites Contributing 1,000 or More Fish)



NSRAA Contribution to Southeast Alaska Commercial Fisheries Number of Fish : 2006 - 2007								
	Gillnet		Seine		Troll		All Gear	
	2007	2006	2007	2006	2007	2006	2007	2006
Chinook	2,369	790	6,009	4,080	11,901	5,133	20,279	10,003
	304,934	841,993	606,552	2,865,880	167,630	139,291	1,079,116	3,847,164
	1,115	646	10,295	7,246	28,917	115,175	40,327	123,067
	-	960	-	-	-	-	-	960
All	308,418	844,389	622,856	2,877,206	208,448	259,599	1,139,722	3,981,194

## Market Outlook for Chum "Optimistic" for 2008

By Jim Paulin

Smaller chum harvests this year kicked off a trend of rising chum prices, and there's no reason to expect anything different in 2008.

Alaska Seafood Marketing Institute spokeswoman Laura Fleming said processors were hoping for more chum salmon in 2007. "They seemed to be disappointed," she said. She reports increasing interest in salmon roe not only in Western Europe, but also Eastern Europe and Russia.

"The price is going up accordingly," said Scott Kelley, southeast regional commercial fisheries supervisor for the Alaska Department of Fish and Game.

Kelley said the fishing industry is expecting the upward price trend to continue through 2008, with the most optimistic projections reaching 40 cents a pound.

"The price side of this is optimistic. The production side isn't quite as optimistic," Kelley said. A somewhat bigger chum harvest is expected in 2008, but "nothing phenomenal," he said.

Markets were in strong shape in 2007 for Southeast Alaska chum and Alaska salmon generally.

The ex-vessel price per pound for chum to Southeast fishermen was 35 cents for the second straight year, and the statewide high for the eight-pound-plus fish.

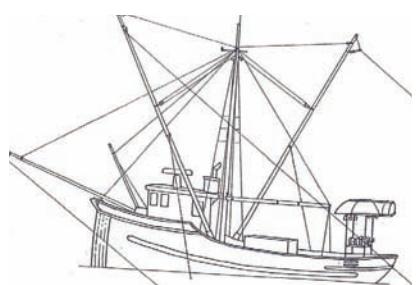
"In the last 15 years, 35 cents is relatively good. In fact it's quite good," said seafood industry analyst Chris McDowell, noting a statewide chum price reaching 40 cents only once since 1990.

The ex-vessel Southeast chum price has risen in recent years from 23 cents per pound in 2004 to 30 cents in 2005, McDowell noted.

According to the Alaska Department of Fish and Game, the 35 cents per pound paid to Southeast fishermen was the state's highest chum price, compared to 30 cents in Prince William Sound, 25 cents in Cook Inlet, 20 cents in Kotzebue, and 12 cents in Bristol Bay.

Steadily rising prices for limited entry fishing permits are another positive economic indicator, according to figures from the state Commercial Fishery Entry Commission.

In Nov. 2007, sales prices of both Southeast seine and gillnet permits soared compared to a year prior. The value of a salmon



purse seine permit was reported at \$65,500 last month, compared to \$46,700 in Nov., 2006. In the same period, a Southeast gillnet permit fetched \$55,300 last month, compared to \$40,400 in Nov. 2006.

In the Southeast chum salmon roe market, prices were up, though poundage was down. The wholesale roe price increased to \$6.89 a pound for the May-August period this year, up from \$6.11 per pound for the same period in 2006, according to the Alaska Department of Revenue. The chum roe poundage decreased, however, from 3.5 million pounds last year to 2.7 million this year.

The wholesale price for headed and gutted Southeast chum salmon fell by six percent, down to 89 cents, compared to 95 cents in 2006, the state revenue department reported.

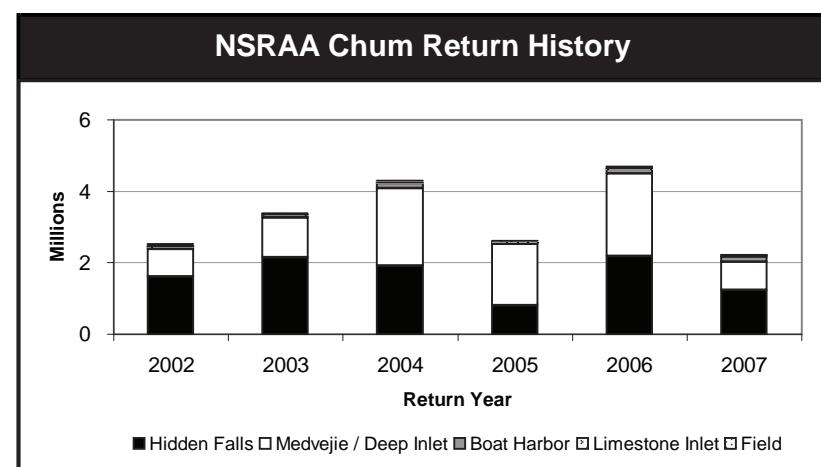
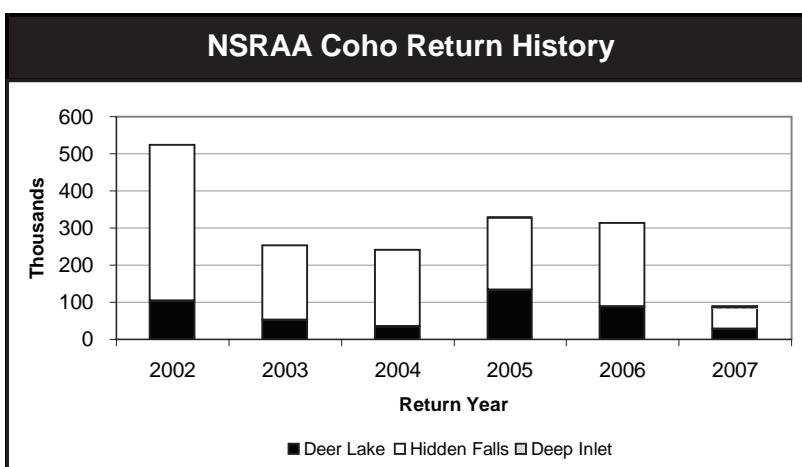
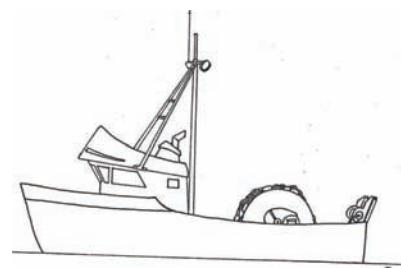
McDowell said the price decline can be attributed to the mega-harvest of pink salmon this year. "That curbed the demand for frozen chum to some extent," he said. He added that 89 cents is still a good price, the second highest in recent years for beheaded and eviscerated frozen chum salmon.

As more detailed export figures become available, McDowell expects to see a decline in chum exports to Japan because of increased demand in Europe thanks to a strong Euro.

Exports of Alaska sockeye salmon to Japan nosedived for the second straight year, but that's probably not because the Japanese have lost their appetite for the healthy and flavorful red salmon meat. Sockeye exports to Japan fell dramatically from 69 percent of Alaska's sockeye in 2005 to 33 percent in 2006 and 23 percent in 2007, according to the Alaska Seafood Marketing Institute.

A more likely explanation is found in the cheap labor costs for seafood processing in China.

"It is reasonable to assume that a significant volume of Alaska sockeye is entering Japan after secondary processing in China," according to ASMI's November report. "The initial, logical conclusion from these export figures is that sockeye consumption in Japan has fallen dramatically. However, the consumption decline is probably less dramatic than the export figures suggest."



## Board Member Profile - Deborah Lyons

The commercial fishing industry gained a devoted friend when NSRAA board member Deb Lyons caught the fishing bug back in the late 70s, after the Wisconsin-born and California-raised woman arrived in Wrangell in 1976 to thin second-growth in Edna Bay for the U.S. Forest Service.

Lyons caught her first coho in Warren Channel fishing from the lapstrake skiff she used for trapping, and the next summer she rented a troller - the *Nibble* - and fished by herself. Limited entry rules put an end to her new career as a skipper the next summer but she soon found deckhand jobs in between her jobs in the woods - the most important one being on a troller longliner called the *Kraken*, owned by Dave Lyons.

"I was determined to learn everything I could from that summer with him, so each evening I sat down and wrote everything out in my little notebook: where we fished, how deep, what gear we used, how long the tail leaders were on the flashers... I loved learning to navigate and took great pride that David would sleep soundly while I ran along at night using the Loran and the Radar. I was determined to be the best crew member he had ever had."

Apparently she was, because that winter he proposed, and Deborah and David were married a year later in 1987. Although, Lyons

jokes, "I still think he married me to keep the contents of the little notebook on the *Kraken*." She and David fished together for many years after that, and moved to Sitka in 1998.

Lyons holds the crewmember seat on the NSRAA board, and serves as the board's secretary/treasurer. Lyons was no stranger to the bureaucratic side of the fishing world when she joined the board a decade ago, having been appointed to the Alaska State Board of Fisheries in 1990 and to the Northern Panel of the Pacific Salmon Commission in 1995. They were contentious years - remember

when some Canadian fishermen captured the Alaska State Ferry when it was in port in Prince Rupert? - but Lyons applied herself on behalf of the Alaska fishing industry with the same determination she had used to learn to fish, and is proud of her many accomplishments on behalf of fishermen and fish while on these organizations.

She joined the NSRAA board shortly after leaving the Board of Fisheries.

"Gordon Jensen lectured me that I could not just walk away with everything I had learned," Lyons said.

Not many board members stay with it for 10 years, though.

What has kept her going, even through the year when she was going through radiation and chemotherapy treatments for cancer? Lyons' official answer is that "NSRAA's projects are vital to the health of the commercial fishing economy in this region, and that NSRAA produces million of dollars in benefits to the fisheries each year."

But the connections she's made with other fishermen, board members, and NSRAA staff might be the unofficial reason for her dedication.

"During that whole time [cancer treatment] I continued to serve on the board, and there are guys there today that

remember me showing up bald and uncharacteristically quiet! I must say the other board members were wonderfully supportive through all that and I realized that many of the people I worked with were really good friends as well.

"Also, working with someone like Pete Esquiro has been a real privilege. He is so good at what he does, he makes a very difficult job look easy. I have been so impressed by how consistently the NSRAA staff dedicates themselves to producing as many of the healthiest fish as they can... all for us to catch. They have an amazing work ethic and track record of success."

Lyons spends less time fish-

ing these days, making one king salmon trip every year with her husband, but she hasn't slacked in her advocacy for fishermen. She currently serves as Vice President of the United Fishermen of Alaska. She has also learned valuable lessons about working with a non-profit's board of directors in her job as the Executive Director of Sitka Trail Works, and has applied that knowledge to help the NSRAA board and staff use its financial information in improved ways.

"To me that exemplifies the crew member mentality. You come to the boat with your various skills. You work hard to do the job that you are expected to do. But if you want to be a really great crew member you look at the whole boat and try to figure out what you can do to make your skipper's life easier and how to help your fellow crew members," Lyons said. Lyons is using the winter months to look ahead to what she considers an immediate challenge for the NSRAA board: how far the seine fleet has fallen behind in their allocation.

"If the high seas drift gillnets are not brought under control we could face another terrible year for chum returns, which would have a very negative affect on seiners at Hidden Falls. I'd recommend forming a committee, like we did for the trollers, to work on ideas to help the seiners come back into their allocation range."

You can be sure Lyons will have the idea further along by the time the NSRAA board meets next, in the spring.

"I'm not content to sit and coast."

## Deer Lake Update

An impressive ocean survival rate heralded Deer Lake's first adult returns of pen-reared coho this fall. 10 percent of the pilot group survived to return to Mist Cove, compared to marine survivals of 2 percent for Hidden Falls hatchery coho and 5.7 for Port Armstrong hatchery coho.

The pen rearing strategy was adopted in 2005 to stem the losses of planted coho fry due to predation by the Deer Lake's non-native rainbow trout. It seems to be working. Besides improved coho survival rates, the trout population appears to have declined by about 1/3 since 2005.

580,000 fry were planted in net pens in the lake in 2005. 264,000 of those (45 percent) emigrated out of the lake as smolts into the salt water of Mist Cove last year, and 26,000 (10 percent) returned as adults this

season.

"We purposely reared a small number of fish the first year in order to minimize expenses while we determined if the strategy would be successful," said Deer Lake project leader Todd Buxton.

The increase in survival has been accompanied by a gain in average weight per fish.

"The average size of these Deer Lake coho, 6.2 pounds, has also outpaced Hidden Falls' average coho size of 5.5 pounds," Buxton said.

533,000 of the 2006 fry were successfully released into salt water this spring, more than twice as many as the pilot year.

"We nearly reached the upper end of our goal of 40 to 60 percent survival of pen-reared fry to smolt, as 54 percent of the fry emigrated to Mist Cove this spring," Buxton said.

The fry to smolt survival results are encouraging, especially

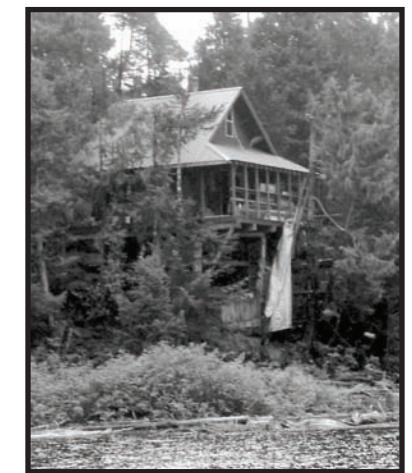
considering the harsh winter and early spring conditions this year, with record amounts of snow and very cold lake temperatures.

NSRAA hopes to improve over-winter survival even further by holding the lake-reared fry in the pens through the winter instead of releasing them into the lake in the fall. This strategy has been successfully employed by SSRAA, in the Southern Southeast region, and should result in an even smaller rainbow trout population in Deer Lake next year.

The 2007 fry were planted a month later than normal and reared in water temperatures about 3 degrees C colder than usual. As of this December, there are approximately 1 million fry in the pens, scheduled for release next May.

"Despite the challenging conditions, the fry grew to a weight of 17 grams which is larger than any Southeast Alaska hatchery was able to grow their coho fry this

season as far as I can tell," Buxton said. The fry's steady growth can be attributed to the fish being fed 6 times a day by the Deer Lake crew, and to their regular cleaning of the net pens.



New digs: Deer Lake's coho crew built a new cabin this season to replace the canvas wall tent staff has used for over 20 years.

## Field Reports

### Haines Projects

NSRAA works to enhance chum in the Chilkat and Klehini River valleys to benefit the Lynn Canal commercial fishery. Because these rivers' natural chum spawning habitat is high quality but inconsistent, NSRAA maintains spawning channels and streamside incubation boxes for both the early returning Klehini chum, and the later returning Chilkat chum. While only 2 to 3 percent of chum eggs spawned in these rivers survive to become fry, in the spawning channels the egg to fry survival rate is a healthier 5 to 15 percent. In the streamside incubation boxes seeded by NSRAA staff, the egg to fry survival rate is a robust 90 percent.

### Klehini River

On the Klehini River, NSRAA operates the Herman spawning channel and incubation site, as well as an incubation site at 31-mile of the Haines highway.

Project leader Todd Buxton reports that the chum eggtake goal of 1.6 million for the Herman incubators was nearly met, with 1.47 million eggs collected. Because there was no excess broodstock at Herman, no eggs were seeded at the 31-mile site.

"Klehini River chum returned this year as they have in the past, in good numbers, in fishable side channel spawning habitat," Buxton said.

Chum escapement at Herman spawning channel was managed with movable weirs in 2007; the peak count of chum in the channel was at just over 800 fish. Escapement to Herman spawning channel has averaged 4,500 fish annually since its construction in 1989, so this year's escapement is disappointing.

NSRAA hopes to further multiply the numbers of Klehini chum with a new spawning channel in the Herman area.

"Permit applications have been submitted for a new spawning channel that will be located at a confluence with Herman Creek, downstream of the existing Herman spawning channel," Buxton said.

Additionally, permits have been submitted to replace the spawning gravels in the upper 200 feet of the Herman channel.

### Chilkat River

Eggtakes for the 17-mile incubation site on the Chilkat were more frustrating than in the Klehini. 230,000 eggs were taken and seeded at 17-mile, substantially less

than the permitted 1.2 million eggs, due to an overall low adult return.

"The fish entered the river in a slow trickle, which allowed them to spawn in low densities in deep, high velocity areas that we could not seine," Buxton said. "It was a frustrating effort that lasted several weeks."

The return to the 24-mile spawning channel was just 98 fish.

This number is expected to improve soon, as a grant from the Alaska Legislature in 2005 is funding the rejuvenation of the spawning gravels in the 24-mile channel, which should restore chum returns to the historic annual average range of 5 to 10,000 fish in coming years. Consistently high chum returns to the channel after its construction in 1983 had steadily stripped the spawnable gravel out of the constructed waterway, leaving only large stones unsuitable for spawning.

This grant is also funding construction of three new spawning channels that will be tributaries to the Chilkat River, with completion anticipated in 2008.



*Haines new Confluence Spawning Channel saw its first adult chum salmon this fall.*

### Limestone Inlet

The chum harvest for Limestone Inlet was 115,400 fish in Stephens Passage and Taku Inlet, just shy of the projection of 125,000 chum.

Limestone Inlet chum rearing and release is a cooperative program between NSRAA and Douglas Island Pink and Chum (DIPAC). The annual goal for this program is to produce 150,000 adult chum salmon in the Stephens Passage and Taku Inlet gillnet harvest, districts 111-31 and 111-32.

While this goal has not been achieved since 2000, it came closer this year.

Beginning in 2006, NSRAA has raised a late-large component at Limestone Inlet, which is fed two weeks longer than the regular chum before release to try to improve their chances of survival in the open ocean.



*Judd Kirkness starts hauling gear to the Plotnikof Lake cabin in preparation for the fourth year of remote eggtakes for the new Sawmill Cove coho program.*

This was the first year for the 4-year-old late-large adults to return, and all indications are that the late-large strategy is paying off. This year, the late-large 4-year olds had a strong presence and out performed the regulars 3 to 1. 2008 will be the first year that all three age classes – 3-, 4-, and 5-year-olds – will be returning together.

15 million fry are permitted for release at Limestone Inlet. The program will continue with a goal of releasing of 7.5 million late-large fry at a size of approximately 3.5 grams; the remaining 7.5 million are reared to the traditional release size of 1.5 grams.

A total of 15.2 million fry were successfully transported to Limestone Inlet this spring, with an outstanding transport mortality rate of less than half of one percent.

7.8 million were released as regulars in late May, with another 7.37 million released as late-larges in early June. Cold water temperatures and a short growing season kept the fry slightly smaller than optimum but not too far off the mark.

### Boat Harbor

The gillnet harvest this season in Boat Harbor and the area in Lynn Canal adjacent to Boat Harbor was the second highest harvest on record, with 427,000 chum caught.

Boat Harbor Marine Park is located on the west side of Lynn Canal 30 miles northwest of Juneau. The goal for this program, operated cooperatively between NSRAA and DIPAC, is to produce 150,000 adult chum salmon for the gillnet fleet in Lower Lynn Canal, district 115-10 fishery.

In 2006 this goal was exceeded by three times, a record return for the project. This year's performance was almost as dramatic, although slightly below the projected return of 545,000.

Since 2004 there have been two components to the chum release at Boat Harbor: regular and "late-large," which have been held longer and released at a larger size than the regulars. The late-large strategy has yielded impressive results so far, with all age classes of Boat Harbor chum surviving at a higher rate than the regular component.

The goal for chum releases at Boat Harbor beginning in 2007 was to release 1½ million 1.5 gram chum fry in mid May and 7.5 million late-large chum salmon at a size of 3.5 grams two to three weeks later.

To meet this goal, 15 million fry were moved to Boat Harbor this spring, with very low transport mortality for the second year in a row – good news for a program that has historically struggled with this problem.

Harsh weather conditions delayed the fry's arrival at Boat Harbor, and cold water slowed their growth so that they were smaller than desirable at release. Almost 15 million fry were released in total, with about half of them as regulars in late May and half as late-large in early June.

DIPAC was able to collect the full complement of chum eggs during July and August this year, so both Boat Harbor and Limestone will be fully stocked next year.



*Andy Einman tagging a coho at the Salmon Lake weir.*



*Net-marked chum like these caught by trollers in Eastern Channel this August were reported in several SE Alaska fisheries this season.*

## High-Seas Gillnetting

*Cont. from front page*

marked chum, there are coastal gill net fisheries in Alaska, specifically Area M in the Aleutians, and off the Copper River, that could be.

"Agillnet fishermen from Cook Inlet told me that it was not uncommon during open fishing periods for Inlet gillnetters to spot schools of salmon, including chum salmon, swimming in a southerly direction moving out of Cook Inlet," Heard said. "The implication was that it might be possible, in certain years and in under certain conditions, for schools of homeward bound migrating Southeast chums to 'probe' their way into outer Cook Inlet only to turn around and head back out. I assume a similar kind of probing behavior might involve Prince William Sound."

Heard suggested that with proper planning it would be possi-

ble to obtain the heads from chums caught during some of these fisheries to determine from their otolith markings (if any) if they were from Southeast Alaska.

So far, otolith testing has not been utilized by the U.S. government in HSDN enforcement operations to determine the origin of any of the illegal catches. Fishermen in Cook Inlet targeting southward-bound schools of chum are, of course, totally legal, even if the fish are shown to be of Southeast origin.

The Coast Guard will resume its HSDN enforcement mission in the spring of 2008, balancing those responsibilities with their other duties related to national security and drug enforcement.

"We try to be as flexible and agile as possible with the surface and air assets available," Inman said.

## A Tough Year

*Cont. from front page*

percent to broodstock.

A strong chinook return – nearly double expectations at Medvejie – and continued high prices for all species helped soften the blow somewhat, at least for those watching NSRAA's budget.

"Despite the poor returns we were able to come very close to meeting our cost recovery goals," said NSRAA data analyst Chip Blair. "Of course the downside of this was limiting commercial openings in both Hidden Falls and Deep Inlet chum fisheries. In this business we have to expect a down year now and then, but seasons like this are never easy for either fishermen or managers. We are encouraged with the fact that returns for all species are expected to be higher in 2008."

Several factors could have affected this year's returns, Blair said.

"Smaller than normal fish size for chum and coho suggests poor ocean feed conditions during the summer of 2006," Blair said.

Also, the timing of the returns was negatively influenced by the very cold spring weather, which caused the fish to stay away from their terminal areas much longer, adding to the harvest difficulties.

Both of these factors are out of the realm of human control, but unfortunately, there is also evidence that illegal high seas drift gillnetting is occurring.

"There is no way of knowing how many of our fish were intercepted," Blair said. "But we had a high incidence of gillnet-marked fish in the Deep Inlet fishery in August, and we had two samples of troll-caught chum in mid-August where 50 percent of the fish were net-marked. So it appears that at least portions of our runs could have been greatly affected by illegal fishing."

Blair noted that there were reports of gillnet marks on fish caught all over Southeast Alaska this season. (See related story, front page.)

## Chum

1.1 million harvested NSRAA chum were worth \$2.97 million in total to the fleet, with \$1.5 million to seiners, \$838,000 to gillnetters, and \$621,000 to trollers.

The smaller NSRAA programs operated cooperatively with

Douglas Island Pink and Chum (DIPAC), Boat Harbor and Limestone Inlet, were the bright spots this year, with returns of 78 percent and 89 percent of the forecasts.

Boat Harbor's return of 427,000 fish was the second highest on record, behind last year's return of 565,000. Returns in both 2006 and 2007 were aided by the strong showing of late-large chum.

"The late-large programs for both Boat Harbor and Limestone Inlet continue to show good success, with survival rates of 2 to 2 ½ times that of regular rearing," Blair said.

## Coho

A commercial catch of 40,200 coho contributed a total of \$425,000 to the fleet, with \$370,000 to trollers, \$52,000 to seiners, and \$3000 to gillnetters. This was the smallest coho return since 1990. NSRAA has averaged a 143 thousand fish commercial contribution over the past ten years.

Together, NSRAA coho projects accounted for 3 percent of the Southeast coho troll catch, down from 8.5 percent a year ago.

Coho survivals at Deer Lake and Deep Inlet were a bit below average, but the Hidden Falls return might be considered a "disaster," according to Blair.

"It's hard to imagine a poorer return than this year's coho return to Hidden Falls," Blair said. "Marine survival was a dismal 2 percent, with only 56,000 adults returning from a 2.8 million smolt release. The previous low for the program was 6 percent survival, with a long term average of 12 percent. We had some rearing problems with this group, but nothing that prepared us for this small of a return. Fortunately we saw good coho jack numbers this fall, so we're hopeful of a much better return in 2008."

## Chinook

20,280 chinook contributed \$745,000 in total to the fleet in 2007. The value to trollers was \$563,000, with \$128,000 for seiners and \$53,000 for gillnetters.

Most of the value came from Medvejie chinook, with a total return of 31,000, almost double the forecast amount. The troll contribution at Medvejie was 9,814 fish, improving upon the five year average of 8,100. These fish were worth about \$469,000.

There were large numbers of two-year-olds in the return, a factor that could indicate another good chinook return next year.

## Important Message to Purse Seiners

### Bids for Harvest of Cost Recovery Fish

NSRAA will not be mass mailing cost recovery contract solicitations this year. The cost of printing and mailing is not justified for the small number of proposals returned to NSRAA for consideration.

If you are interested in submitting a bid to harvest cost recovery fish at Hidden Falls or Deep Inlet/Medvejie in 2008 please contact us and we will send the bid packet and forms to you. Bid forms will be sent out to interested parties in February and due late April.

**Phone: 907-747-6850**

**Fax: 907-747-1470**

**E-mail**

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