



SPAWNING NEWS

SOUTHERN SOUTHEAST REGIONAL
AQUACULTURE ASSOCIATION

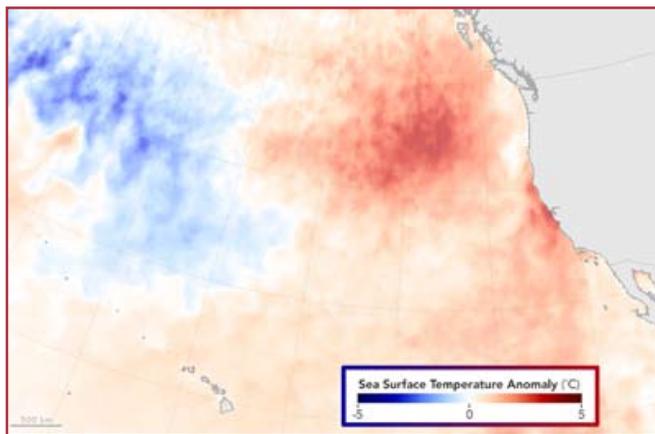
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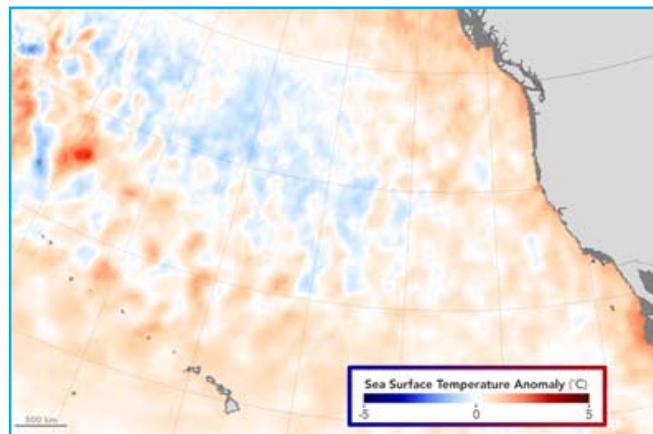
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Pacific hot spot affected salmon

'The Blob' weakens as scientists weigh its influences on many species



The red sea: The Blob shows as deep red in this NASA image of ocean temperatures during July 2015.



Cooling trend: The Blob had dissipated in thermal images from January 2016—but long-term effects are uncertain.

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By **JOHN HOLT**
SSRAA Research and
Evaluation Manager

The North Pacific temperature anomaly, otherwise known as "The Blob," was first detected in late 2013 and early 2014 as a body of abnormally warm Pacific Ocean water 500 miles wide and 300 feet deep.

Scientists watched as this warm-water area grew to more than 2,000 miles in length, from the Bering Sea to Southern California—including three distinct geographic sections. Researchers from Alaska, Washington state, Oregon, California and British Columbia gathered in Juneau recently for the 17th Annual Salmon Ocean Ecology Meeting and spent a day discussing The Blob, its effects and whether it persists.

Effects of The Blob were observed from California to Alaska. Among these were changes in abundance and species of jellyfish; exceptional algae blooms (including *Pseudo-nitzschia*, which can produce the neurotoxin domoic acid); unusual predators and fish species; and large-scale die-offs of sea mammals and birds.

In Alaska, notable effects included the lowest level of East Bering Sea ice on record; high mortality of common murre, sea otters, and whales; an increase in small copepods; the lowest catch on record of juvenile (or "age-0") pollock; and the presence of many unusual species, such as mola mola and pomfret.

Along the North Pacific coast, scientists blamed the The Blob for effects on some species of returning salmon. In particular, adult coho returns were dramatically affected.

Although the first three to four weeks of SSRAA's 2015 coho return were close to predicted levels, by week five the numbers of returning fish declined dramatically

THE BLOB

INDESCRIBABLE ... INDESTRUCTIBLE!
NOTHING CAN STOP IT!

There is one possible highlight, however. ...
Out-migrating fish were the largest on record.
Analyses suggest that salmon size in June and July correlates with survival.

To see a time-lapse representation of The Blob in Alaska, take your browser to www.nwfsc.noaa.gov/news/blogs/display_blogentry.cfm?blogid=1&blog_entry_id=34

and failed to reach expected returns based on our typical survival rate. This pattern was observed in several areas of Alaska.

On the other hand, northern areas saw a second surge of returning coho that the southern region did not observe.

Wild pink returns exhibited a similar pattern in southern Southeast Alaska. Those returning adult pink salmon, as juveniles, entered the same Blob-affected ocean as did the coho that SSRAA had released.

There is one possible highlight, however. In the spring and summer of 2015, NOAA sampled juvenile pink, coho and chum in Icy Strait before these out-migrating fish entered the open ocean; they were the largest on record. Previous and current analyses suggest that salmon size in June and July correlates with survival.

Time will tell, but this may set these fish up for successful returns. The first indication that this is the silver lining of an otherwise dismal outlook would be those pink and coho returning this summer, and the chum returning in 2017 and 2018 as 3s and 4s.

Will The Blob persist? As scientists predicted, The Blob began to dissipate in late 2015—but that does not necessarily

mean we've seen the last of its effects.

Northward coastal transport of warm El Niño waters has been observed and El Niño copepods were observed off of Newport, Ore., in late March. It's unclear whether this will ultimately result in sustained ocean heating consistent with The Blob.

A key distinction between The Blob and El Niño-related ocean warming is the depth of the warm water: 260 to 325 feet for The Blob and 980 feet for El Niño. This difference may help scientists to gauge whether warming observed in 2016 is the result of a strong El Niño ... or ...

THE RETURN OF THE BLOB!

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PRODUCTION UPDATE

Spring rearing and releases

SSRAA released 20,000,000 summer chum at Neets Bay through April 8 and over the next several weeks there were to be another 105 million fish released from various SSRAA sites.

Projected production for the 2016 season is shown in the table to the right.

Rearing conditions have been almost too good this spring as salt water temperatures are at least one month ahead of normal. The challenge has been to keep fish growth from outpacing available space.

Releases will be significantly earlier than historical norms, but given the ocean conditions the early dates are certainly appropriate. There will be a more detailed accounting of all releases on the SSRAA website by mid-June, when all of the fish have been released.

	Summer chum	Fall chum	Fall coho	Summer coho	Chinook
Neets Bay	62,000,000	18,000,000	4,100,000		700,000
Whitman Lake			300,000		700,000
Burnett Inlet	5,000,000	5,000,000		200,000	
Crystal Lake			160,000		600,000
Neck Lake				1,700,000	
Nakat Inlet	8,000,000	8,000,000	600,000		
Anita Bay	22,000,000		600,000		450,000
Kendrick Bay	30,000,000				
Deer Mountain					100,000
Carroll Inlet					400,000
City Creek					100,000
TOTALS	127,000,000	31,000,000	5,760,000	1,900,000	3,050,000

Regional panel approves SSRAA requests to boost summer chum production

SSRAA had four permit alteration requests (PARs) before the Southern Southeast Regional Planning Team on April 6 in Ketchikan.

The six-member team voted unanimously to recommend approval of a PAR to more than quadruple summer chum egg capacity at Burnett Inlet —to 25 million from the presently permitted 6 million eggs.

The RPT voted 5-1 in favor of another PAR that increases the summer chum program at Kendrick Bay by 10 million eggs.

Both of these requests will be moved through to the commissioner of the Alaska Department of Fish and Game with positive recommendations.

SSRAA withdrew a request to establish a summer chum release at Shrimp Bay. A request to release summer chum at Earl West Cove received no recommendation from the panel.

The production planning committee will revisit the Earl West and Shrimp Bay PARs during the next meeting cycle.

The regional planning team also moved on SSRAA's hatchery permit applications for Klawock River Hatchery and Port St. Nicholas Hatchery. Those applications will now move into a public review process before new permits can be issued. In the meantime, both hatcheries continue operating normally under the authority of the Prince of Wales Hatchery Association, with financial backing from SSRAA.

SUMMER CHUM EGG CAPACITY AT BURNETT INLET WOULD MORE THAN QUADRUPLE WITH APPROVAL OF ONE PERMIT BY THE COMMISSIONER

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SSRAA Spawning News is published by the Southern Southeast Regional Aquaculture Association, a private, non-profit aquaculture corporation based in Ketchikan, Alaska.

Our web site is www.ssraa.org.

This publication is mailed free to all limited-entry salmon permit holders for purse seine, drift gillnet, power troll and hand troll in Alaska Districts 1-8. It is also mailed free to any person interested in SSRAA.

To receive Spawning News, send a request with your name, your organization's name and your address to: Spawning News / 14 Borch St. / Ketchikan, AK 99901.

For changes of address for permit holders, notify: Commercial Fisheries Entry Commission / 8800-109 Glacier Highway / Juneau, AK 99801.

The CFEC fax number is 907-789-6170.

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President's message to the fleets

By **CHARLIE PIERCY**

President of the SSRAA Board of Directors

I WOULD LIKE TO SAY THANK YOU to John Burke and the SSRAA staff for all of their years of service and for the salmon they have produced in southern Southeast Alaska.

SSRAA has regularly increased the amount of salmon available to all user groups in the region. This is mostly due to John and his staff.

I grew up in the logging and mill community of Port Angeles, Wash. I never envisioned sitting on a board of directors, let alone becoming the president of SSRAA's Board of Directors. My career as a chemical engineer brought me to Alaska and I never left. Lifestyle and a strong desire to be independent led to my becoming a commercial fisherman. The last decade of my life I have found myself involved, full circle, in all aspects of salmon—from the incubation tray to the plate, so to speak.

If you asked me, "What is the most critical factor involved in the rearing of salmonids?" my answer would be: "It's all about water."

THE AMOUNT OF WATER and water temperature affect the quality (size at release to saltwater) and quantity of salmon produced in each of our facilities. Most if not all of the production increases during past years have been achieved by maximization of water usage. With the proposed increase at the Burnett Inlet Hatchery *all* of SSRAA's hatcheries will be operating at capacity. This total water-usage maximization includes the recent takeover of the Deer Mountain Hatchery. When we



Charlie Piercy on the FV Tuckahoe

complete the ongoing merger with the Prince of Wales Hatchery Association, one more SSRAA hatchery will be operating at capacity. In recent years we have taken steps to mitigate cold water temperature problems by the use of heat exchangers and boilers during the incubation stage. Now we are adding chillers to help us deal with unusually warm temperatures that cause fish to emerge too soon. With capital investment and emerging technology, we are moving out of the position of having to accept what Mother Nature provides.

THESE ARE SMALL-SCALE improvements that will give our hatchery managers the tools to accomplish the goals for each program. These changes will improve our current programs, but they will not allow for production increases.

I want my readers to recognize that SSRAA's ability to easily and inexpensively produce more salmon is coming to an end soon. Any large or significant production increase will involve the total process of siting and constructing a new hatchery. This would be a major capital undertaking for SSRAA, economically. Also included in any new project is the need to be accepted by all the regulatory bodies, one of many challenges that future boards of directors will face.

THE NEED TO PROVIDE economic benefit to today's fishers without excessively burdening future generations will be the most challenging task of all.

SSRAA's ability to easily and inexpensively produce more salmon is coming to an end soon. Any large or significant production increase will involve the total process of siting and constructing a new hatchery

Nominations sought for a quartet of seats on SSRAA's board of directors

SSRAA encourages salmon fishers to turn in nominations for four gear seats on the board of directors.

The seats come open in January 2017 and include one seine seat, one gillnet seat and two power troll seats. Nominations are due Oct. 14, 2016.

Nominations must be in writing and must include the permit holder's name; address; vessel name; and phone number. Nominees must be active southern Southeast commercial salmon permit holders. If you're nominating yourself for a board seat, include a brief statement of interest. If you're nominating another fisher, provide a short summary of the nominee's background. Limited-entry permit holders nominate only people in their gear groups. Nominations may be submitted by mail or by email.

- By mail: SSRAA, Attn: Liz Jones / 14 Borch St., Ketchikan, AK 99901

- By email: lizj@ssraa.org

For more information, call the association at 907-225-9605.

Burnett beach becomes a destination for a detonation

Military personnel from Anchorage and Southeast made an item beachcombed by SSRAA staffers go *boom!* in early April.

A 18-inch metal capsule found on the rocks near Burnett Inlet Hatchery by fish culturists Tony

Belback and Anna Tollfeldt on April 7 turned out to be a potentially dangerous military device.

The two hatchery staffers picked up the capsule and read a message recommending that anyone finding the object contact authorities or the military.

A couple of calls led SSRAA hatchery staff to bomb-disposal specialists at Joint Base Elmendorf-Richardson (JBER) near Anchorage.

Army specialists identified the capsule as an Mk25 Marine Marker, used by the military to mark the ocean surface—in situations from antisubmarine warfare to rescues at sea. The marker does its work by emitting massive volumes of flame and smoke.

SSRAA staff set the Mk25 on the hatchery dock and stayed clear until JBER personnel and a U.S. Coast Guard chopper crew mustered at the remote hatchery that afternoon. Army specialists in a basket beneath the chopper carefully wrapped the explosive device in more explosives, slung it to a beach and set off the charges to obliterate the Mk25 in view of hatchery personnel a safe distance away.

The Army and Coast Guard flare-busters got a crab meal from their hosts and flew away with thank-you boxes of SSRAA coho salmon.



A potentially dangerous beachcombed find near Burnett Inlet Hatchery on Etolin Island brought a full-on military response in early April. Army and Coast Guard personnel exploded a mysteriously orphaned flare.

PHOTOS BY STEVE REID

FISHING CALENDAR

2016

See the article on page 6 outlining management of Neets Bay SHA in 2016

JUNE 2016 - NEETS BAY
Special Harvest Area Rotation Calendar

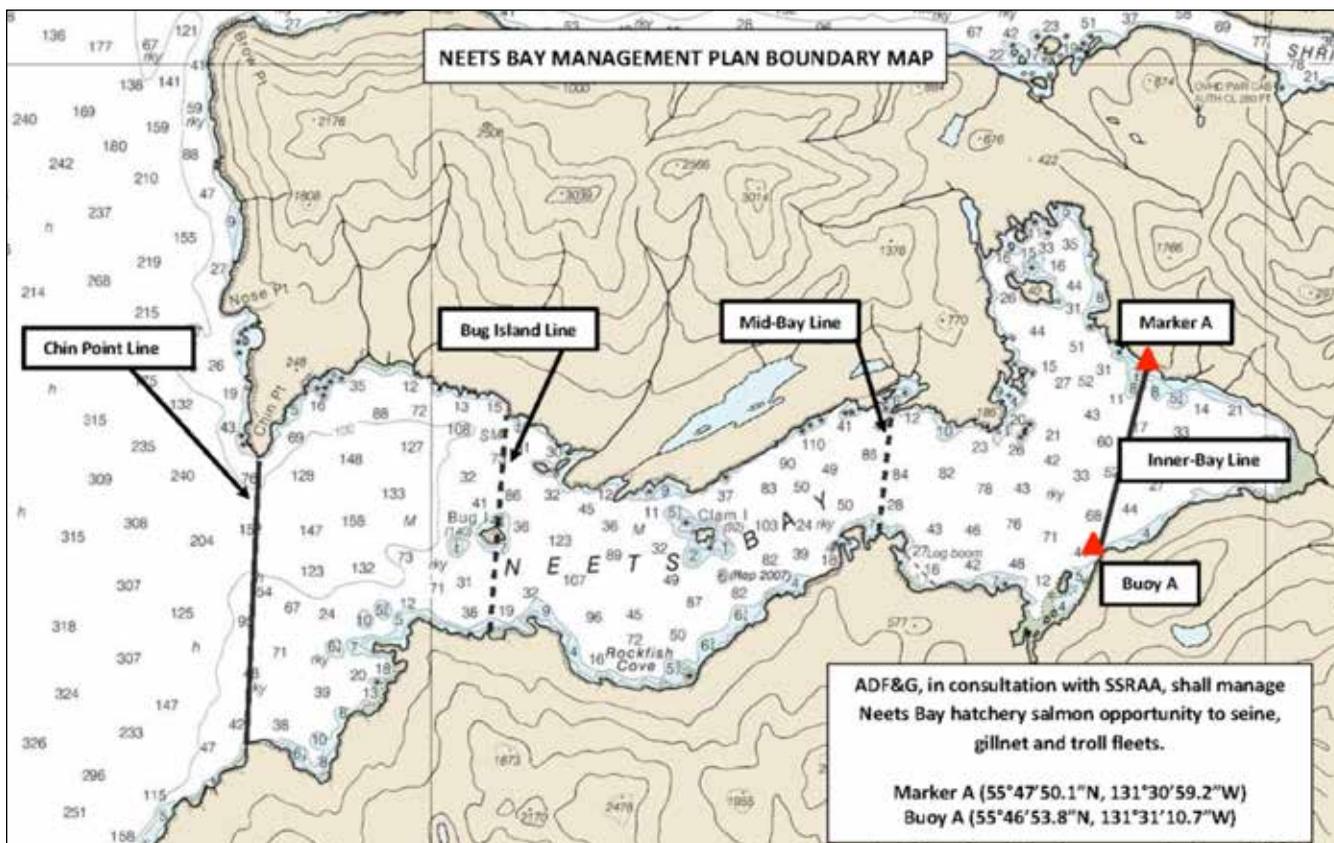
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
5	6	7	8	9	10	11
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						Troll
12	13	14	15	16	17	18
Gillnet			Break 42 Hour		Gillnet	
19	20	21	22	23	24	25
Break			Gillnet		Break	
26	27	28	29	30		
Gillnet			Seine			

May 2016- NEETS BAY
Special Harvest Area Rotation Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
8	9	10	11	12	13	14
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
15	16	17	18	19	20	21
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
22	23	24	25	26	27	28
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
29	30	31				
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						

July 2016- Neets Bay
Special Harvest Area (SHA) Rotation Calendar
Trollers can Fish up to Mid-Bay Line, Net Fleets Inside Mid-Bay Line

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
						Troll
3	4	5	6	7	8	9
Troll		Seine		Gillnet		
10	11	12	13	14	15	16
INSIDE MID-BAY LINE		ONCE COST RECOVERY BEGINS, TROLLER WILL BE ALLOWED TO FISH CHIN POINT TO BUG ISLAND.				
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



NEETS BAY SPECIAL HARVEST AREA OPENING

The Neets Bay SHA will be open to the harvest of salmon by troll, drift gillnet and purse seine gear from 12:01 a.m. Sunday, May 1, 2016, through noon on Friday, June 10, 2016, followed by gear rotations. The total return of chinook is forecast at 26,800 (18,760 terminal); summer chum at 1,237,000 (903,000 terminal); fall chum at 250,000 (187,000 terminal), and coho at 254,000 (10,700 terminal).

2016



May 2016- Anita Bay Special Harvest Area Rotation Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
8	9	10	11	12	13	14
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
15	16	17	18	19	20	21
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
22	23	24	25	26	27	28
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						
29	30	31				
OPEN AT ALL TIMES TO ALL FISHERS UNTIL CLOSED BY EMERGENCY ORDER						

June 2016 - Anita Bay Special Harvest Area Rotation Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
OPEN CONTINUOUSLY TO ALL FISHERS						
5	6	7	8	9	10	11
OPEN CONTINUOUSLY TO ALL FISHERS						
12	13	14	15	16	17	18
OPEN CONTINUOUSLY TO ALL FISHERS	Troll					
Ends Noon	Noon Seine Noon	Noon Gillnet Noon	Noon Seine Noon			
19	20	21	22	23	24	25
Troll						
Noon Gillnet Noon	Noon Seine Noon	Noon Gillnet Noon	Seine Noon			
26	27	28	29	30		
Troll						
Seine Noon	Noon Gillnet Noon	Noon Seine Noon				

July 2016- Anita Bay Special Harvest Area Rotation Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
Troll						
					Noon Gillnet Noon	
3	4	5	6	7	8	9
Troll						
Noon Seine Noon	Noon Gillnet Noon	Noon Seine Noon				Noon Gillnet Noon
10	11	12	13	14	15	16
Troll						
Noon Gillnet Noon	Noon Seine Noon	Noon Gillnet Noon			Noon Seine Noon	
17	18	19	20	21	22	23
Troll						
Noon Gillnet Noon	Noon Seine Noon	Noon Gillnet Noon				Noon Seine Noon
24	25	26	27	28	29	30
Troll						
Noon Seine Noon	Noon Gillnet Noon	Break 18 hour	Noon Seine Noon	Break 18 hour	Noon Gillnet Noon	Break 18 hour
31						
Noon Gillnet Noon						Noon Seine Noon

August 2016- Anita Bay Special Harvest Area Rotation Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
Troll						
	Noon Gillnet Noon	Break 18 Hour	Noon Seine Noon	Break 18 Hour	Noon Gillnet Noon	Break 18 Hour
7	8	9	10	11	12	13
Troll						
Noon Gillnet Noon	Break 18 Hour	Noon Seine Noon	Break 18 Hour	Noon Gillnet Noon	Break 18 Hour	Noon Gillnet Noon
14	15	16	17	18	19	20
Troll						
Break 18 Hour	Noon Seine Noon	Break 18 Hour	Noon Gillnet Noon	Break 18 Hour	Noon Gillnet Noon	Break 18 Hour
21	22	23	24	25	26	27
Troll						
Break 18 Hour	Noon Gillnet Noon	Break 18 Hour	Noon Seine Noon	Break 18 Hour	Noon Gillnet Noon	Break 18 Hour
28	29	30	31			
Troll						
Noon Gillnet Noon	Break 18 Hour	Noon Seine Noon	Break 18 Hour	END Rotation		

September 2016 - Anita Bay Special Harvest Area Rotation Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
OPEN CONTINUOUSLY TO ALL FISHERS						
4	5	6	7	8	9	10
OPEN CONTINUOUSLY TO ALL FISHERS						
11	12	13	14	15	16	17
OPEN CONTINUOUSLY TO ALL FISHERS						
18	19	20	21	22	23	24
OPEN CONTINUOUSLY TO ALL FISHERS Until closed on November 10 or by emergency order						
25	26	27	28	29	30	
OPEN CONTINUOUSLY TO ALL FISHERS Until closed on November 10 or by emergency order						

SPECIAL HARVEST AREAS 2016

KENDRICK BAY SPECIAL HARVEST AREA OPENING

The return at Kendrick Bay in 2016 is forecast to be 868,000 summer chum (260,400 terminal). Kendrick Bay terminal harvest area is an exclusive purse seine fishery. Kendrick Bay will open on Wednesday, June 15, 2016, and will remain open through Friday, Sept. 30, 2016.

NAKAT INLET SPECIAL HARVEST AREA OPENING The Nakat Inlet special harvest area opens on Wednesday, June 1, 2016, and is an exclusive gillnet/troll fishery. Forecast returns are 260,000 summer chum (130,000 terminal), 82,800 fall chum (53,800 terminal), and 23,000 coho (2,300 terminal). The SHA will remain open until Thursday, Nov. 10, 2016

ANITA BAY SPECIAL HARVEST AREA OPENING

The Anita Bay special harvest area opens Sunday, May 1, 2016, to all fishers. Gear access changes throughout the time period until it closes on Thursday, Nov. 10, 2016. Forecast returns are 387,000 summer chum (193,500 terminal), 16,490 chinook (11,540 terminal), and 15,000 coho (2,300 terminal).

Neets Bay special harvest area management outlined

Neets Bay is a busy place most months of the year, but as the summer fishing season begins, the activity becomes especially intense. The enhanced salmon that return to Neets Bay consist of summer and fall chum, chinook and fall coho.

The fisheries directed at these stocks are:

- 1) The chum troll fishery;
- 2) The summer chum and chinook early net rotations;
- 3) SSRAA's summer chum cost recovery and broodstock collection;
- 4) The mid-season summer chum rotations (when and if the revenue goal is met);
- 5) Fall chum broodstock management and cost recovery; and
- 6) The fall chum and coho rotational fisheries.

The management of Neets Bay starts out with a collection goal for adequate broodstock for both summer and fall chum, but most of the intensity is for summer chum, since so many fish are required—more than 160,000 adults. We also currently depend on Neets Bay for the lion's share of cost recovery for SSRAA's operations, set through a yearly revenue goal.

In 2016 that goal is some \$7.6 million. However, the SSRAA Board of Directors decided to reduce that amount by about \$1 million, combining carry-over revenue from last year and a \$500,000 grant from DIPAC to lower the revenue goal. Even with a smaller revenue goal, the question remains: "After broodstock and cost recovery, will there be enough summer chum to have additional chum troll and net rotations?"

At this time, we don't know the complete answer, since the cost recovery bids have not been received at the time of this writing. Also, because 4-year old chums are the biggest portion of the forecast return, these fish will largely determine common property opportunities in the bay this summer. The summer chum forecast for Neets Bay is quite similar to what was forecast in 2015, although more returned in 2015 than we expected.

Summer chum and chinook

During the March 11 meeting of the SSRAA Board of Directors, several modifications were made to the 2015 Neets Bay schedule. These changes and additional information are captured with the monthly schedules printed on pages 4 and 5 of this *Spawning News*. Here is an expanded description of these changes.

Inner bay rotations Two rotations (one seine/one gillnet) inside the mid-bay line in July. During the opening, trollers will be allowed to fish to the mid-bay line until cost recovery starts; they would then be moved out to Bug Island.

SHA openings Once summer chum broodstock and revenue goals are assured, the Neets Bay SHA will be opened as follows:

- The entire SHA to the inner bay line (Marker A–Buoy A) open to troll for 48 hours, concurrent with final broodstock or revenue fishing near the barrier
- Gear group rotations follow for the next 72 hours:
 - 24 hours seine inside the mid-bay line, troll outside the mid-bay line;
 - Then 24 hours troll only the entire SHA outside the inner bay line;
 - Then 24 hours gillnet inside the mid-bay line, troll outside the mid-bay line.

These will be followed by:

- 24 hours troll only, entire SHA
- 24 hours seine only, entire SHA
- 24 hours gillnet only, entire SHA
- Followed by repeated additional rotations the same as 3 (a)-(c) above

The SHA will be closed to commercial fishing when fall chum are entering Neets Bay. This is usually around Aug. 25.

Troll access Finally, there was a decision to allow trollers liberal access to Neets Bay this year. In previous years, a chum troll target number was set by the board. But there are difficulties with setting a "hard" number for troll-caught chum. Weather patterns between low and high pressure, the variability of effort and catch rate, and other factors make this more of a self-limiting number as opposed to simply setting a target number. This new direction from SSRAA's board was taken in an effort to balance allocation issues among gear groups.

Fall chum and coho

This begins with the cost recovery seiner cleaning up the area of the barrier seine about Sept. 1 to remove the mix of very late summer chum and early fall chum. After resting the area for several days, SSRAA will seine for fall chum broodstock. Broodstock collection will go on for at least several weeks. Excess males will be sorted from the seine sets with any early-arriving coho. Excess male chum and fall coho become incidental harvest during broodstock collection. These fish will be sold for cost recovery.

As we have in the past, SSRAA will open the Neets bay SHA to fall rotations as soon as fall chum broodstock is secure and egg-take goals are assured. This is conditional upon reaching broodstock and cost recovery—if needed. There are typically several rotations harvesting fall coho and fall chum. The barrier net is generally removed on or about Oct. 10.

The Anita Bay terminal harvest area will be managed as it was in 2015, with rotational net fisheries, as depicted in the calendars on pages 4 and 5.



Neets Bay SHA is seen in 2015 as seiners harvest hatchery salmon.

PHOTO COURTESY OF A.D.F.&G.

A COMPLETE DISCUSSION OF ALL THAT GOES ON IN THE NEETS BAY SPECIAL HARVEST AREA WAS INCLUDED IN THE FEBRUARY 2016 EDITION OF *SPAWNING NEWS*. YOU CAN REVIEW THAT NEWSLETTER AND OTHER BACK ISSUES AT WWW.SSRAA.ORG

ADF&G posts numbers on harvests of hatchery salmon

The Alaska Department of Fish and Game presented allocation of hatchery-produced salmon estimated value in Southeast Alaska at the Southern, Northern and Joint Regional Planning Team meeting in Ketchikan on April 6.

The department announced the preliminary 2015 and final 2014 enhanced salmon allocation and updated five-year rolling allocation averages.

Preliminary estimates for 2015 are:

- Troll, 16 percent;
- Drift gillnet, 38 percent;
- Seine, 46 percent.

Final estimates for 2014 are:

- Troll, 22 percent;
- Drift gillnet, 45 percent;
- Seine, 33 percent.

The five-year rolling allocation averages were not affected by the single-year swing in allocation percentages, primarily due to the inclusion of the large values in 2011, 2012 and 2013 in the five-year average. These three years represent the number three, number one and number two largest values, respectively, in the history of the Southeast Alaska hatchery program.

Preliminary five-year rolling allocation averages (2011-2015) are:

- Troll, 18 percent;
- Drift gillnet, 40 percent;
- Seine, 42 percent.

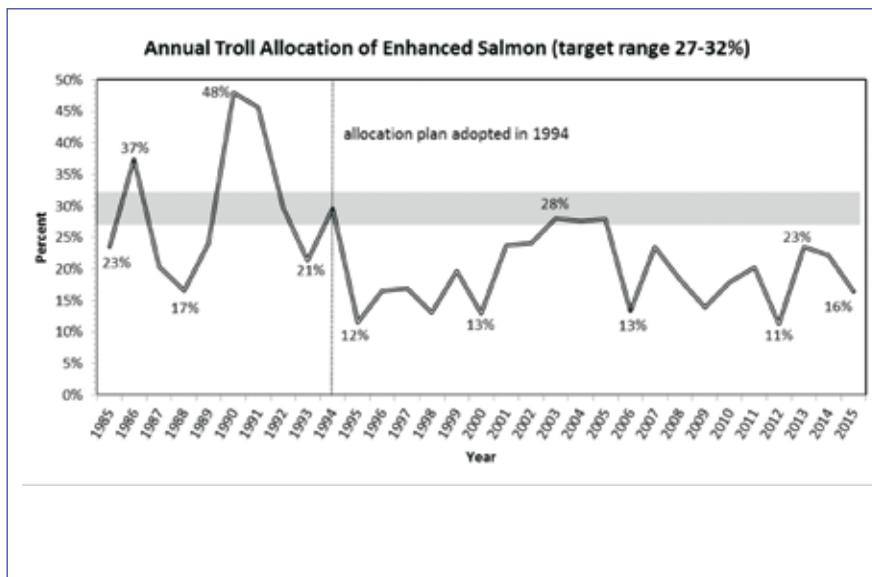
Final five-year rolling allocation averages (2010-2014) are:

- Troll, 18 percent;
- Drift gillnet, 40 percent;
- Seine, 42 percent.

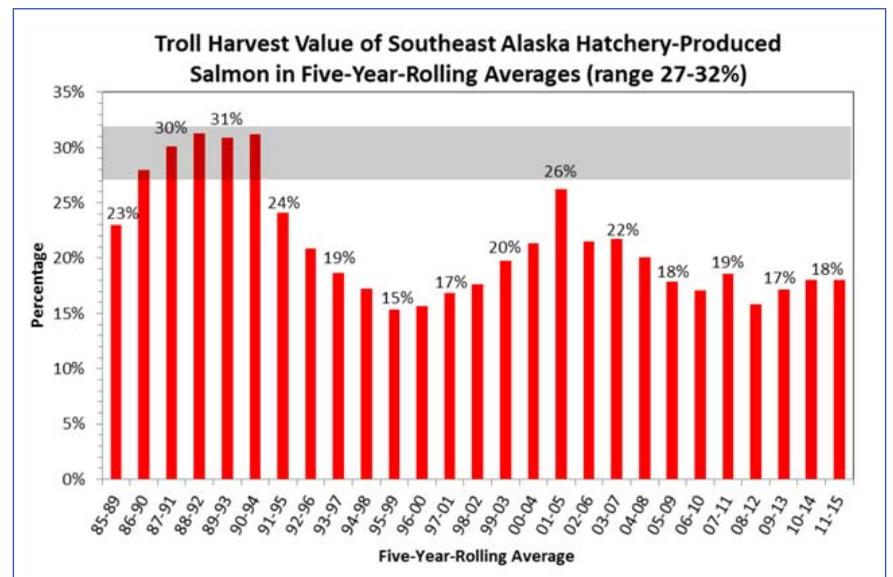
The preliminary 2015 estimate of the value of hatchery-produced salmon is more than \$34 million. Approximately \$16 million of that value went to the seine fleet, \$13 million to the drift gillnet fleet and \$6 million to the troll fleet.

Chum salmon accounted for more than \$28 million of the total value; coho salmon returned approximately \$3 million and the king salmon value was approximately \$2.5 million.

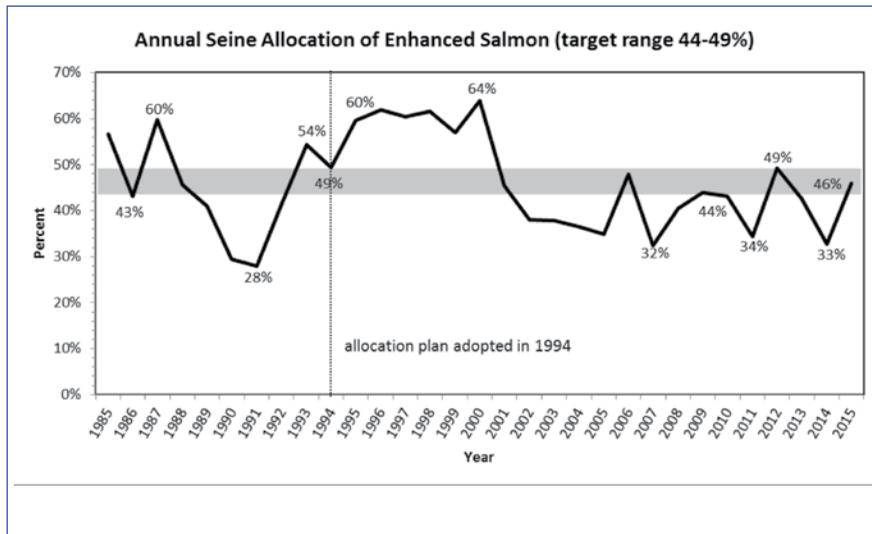
A complete summary of the 2015 Alaska salmon enhancement program will be available on the ADF&G website: <http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesOtherInfo.reports>



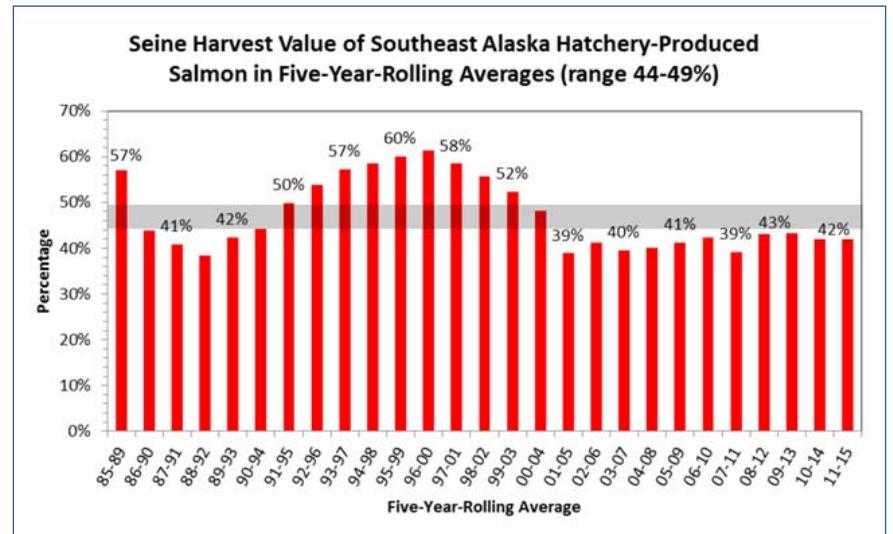
TROLL



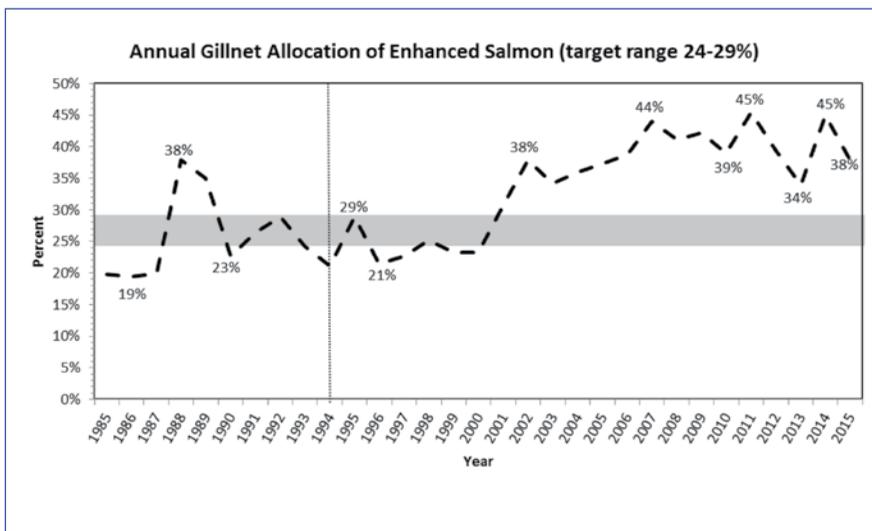
Source: ADF&G



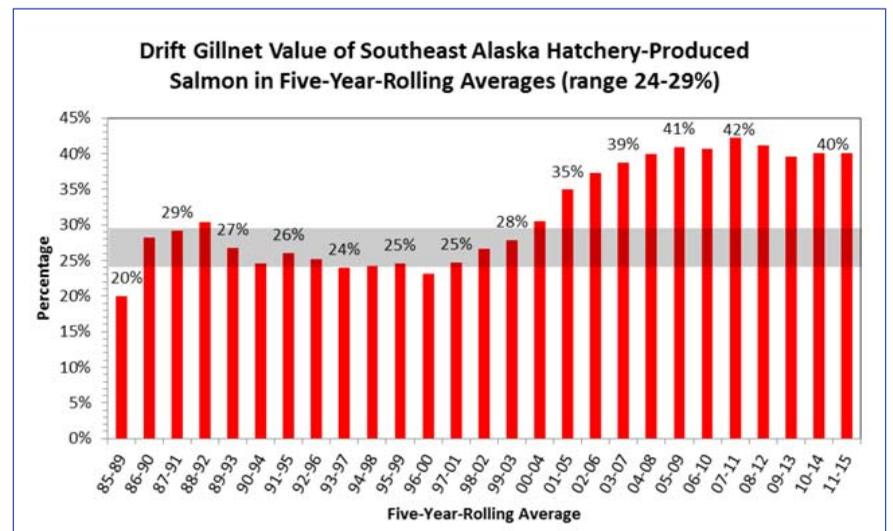
SEINE



Source: ADF&G



GILLNET



Source: ADF&G

SSRAA PEOPLE



MATT ALLEN PHOTO

FV Lynda and FV Seven Seas have put in decades with SSRAA. This photo finds them in a rare pose, rafted at a remote rearing site.

Tenderman's life 'ricochets' from Wash. hatchery to boat rehab

Mike Lindgren's experience with hatchery salmon straddles two states and four decades.

He worked for years as a fish culturist in a Washington state aquaculture operation before he landed at the then-new Whitman Lake Hatchery in the late 1970s. Now he's a fish motorist, running fry and smolts to rearing sites and carrying cost recovery fish to processors in the hold of his boat.

His resumé along the way pinballs from raising salmon in hatcheries to crewing on Bering Sea tenders, from running a seine boat in Southeast to refurbishing a World War II-era vessel.

"My life wasn't real well planned," Lindgren said by phone. "I just kind of ricocheted around."

Lindgren handles north-end tendering for SSRAA, his counterpart Todd Ranniger taking care of south-end duties. Lindgren's 86-foot FV Seven Seas carries a beam of 22 feet. A Detroit diesel powers the boat. The wood-hulled vessel was built in 1944 as a California sardine tender and later served as a king crab boat. The Seven Seas has been in Southeast for decades—like its skipper.

Lindgren said his first ricochet started innocently. "I grew up in Hoodspport and there's a hatchery there," he said of his hometown on Hood Canal. "I was walking by and the manager said, 'Mike, come here. I need some help.' I worked there for years."

While SSRAA was setting up its own culturing operation, its consultant visited the Hoodspport hatchery. "He was picking our brains," Lindgren said. He got his first inkling of Ketchikan, Alaska.

Lindgren followed that lead to Revilla Island and hired on as an early-days fish culturist at Whitman Lake Hatchery. He put in time at remote rearing camps. When his position dropped out of the SSRAA budget, he stayed in Alaska and crewed on seine

boats. He worked on a tender in the Bering Sea and fished herring in Bristol Bay. He crewed on Wards Cove Packing seiners for six years. He returned to SSRAA and raised salmon at Neets Bay Hatchery.

When the FV Seven Seas came up for sale in 1991, Lindgren was ready. He tendered for Silver Lining Seafoods 1991-1996 and hauled SSRAA's cost recovery fish after 1997. He also tendered salmon to remote sites: "To get the Seven Seas, I had to tender the babies."

For years, Lindgren owned the FV Seven Seas and FV Lynda; his brother was principal skipper on the latter until Ranniger bought it.

SSRAA's demands on the Seven Seas are only increasing.

"The schedule keeps getting longer," Lindgren said. "SSRAA has done nothing but grow and grow, and they'll keep growing."

Lindgren said the more than 70-year-old FV Seven Seas is "comfortable" and carries all the contemporary working gear that he needs, but the skipper is taking pains to renew the wooden boat. "I'm resurrecting it, piece by piece" from the bottom up, he said. He defied harbor kibitzers by selling off the steel-hulled FV Lynda and keeping the Seven Seas.

"I just decided I wanted to resurrect a boat," he said. "I took a lot of heat in the fleet. They thought I was crazy."



Mike Lindgren of FV Seven Seas

“I just decided I wanted to resurrect a boat. I took a lot of heat.”
— Mike Lindgren

Skipper and his boat run the gamut of the salmon life cycle

Todd Ranniger is involved with SSRAA's salmon practically from cradle to fillet.

Ranniger runs the FV Lynda to release sites in late winter and early spring, the boat's hold filled with salmon fry or smolts bound for rearing pens. Years later, returning hatchery fish and their wild counterparts get caught in net fisheries and he provides their final ride to Ketchikan processors' docks.

For a lifelong Ketchikan resident who's been in various modes of commercial fishing and enduring "big-boatitis" for nearly three decades,



Todd Ranniger of FV Lynda

tendering salmon and taking the occasional freight job feels comfortable.

"Really, no one's getting rich in the tendering world, but people are making a living," Ranniger said in April between runs to remote rearing sites carrying baby salmon in his boat's fish hold.

Ranniger's FV Lynda cuts a familiar wake in this area. He bought the 1947 Tacoma Boat vessel about a decade ago from Mike Lindgren, who also provides SSRAA with tendering service, on the FV Seven Seas. The 86-foot steel FV Lynda, with a 22-foot beam, is pushed by a 353hp Caterpillar diesel. A full hold of fish and chilled water is nearly 90 tons. The wheelhouse has the latest

in electronics, the galley and cabins all the comforts of home—probably a good thing in the summer when Ranniger's teen-age son is aboard as crew. Through the year, Ranniger keeps the boat busy moving fish and freight.

Ranniger's father came to Ketchikan on a seine boat in the 1950s and later worked at the pulp mill. The family operated a VW dealership in the seventies at the site of today's Plaza mall. "I grew up washing Volkswagens," Ranniger said. The family now operates Alaska Car Rental, where Todd Ranniger has a minor role.

The family had a 40-foot recreational motor vessel and ran it as far as Glacier Bay. Ranniger first worked at sea when he was 18, crewing on a seine boat. (SSRAA board member Dan Castle was one of his early mentors.) He fished commercially while earning a degree in business administration at Western Washington University. Along the way, he bought a seine boat and a permit.

"I've used my degree. I definitely run a small business," he said. He's owned working boats for about 20 years.

The bonanza years of seining missed him. "I fished through all the terrible years in salmon fishing—5 cents, 8 cents, 12 cents, 15 cents. I barely ever made a dime," he said.

Ranniger won bids to conduct contract seining in SSRAA's cost-recovery harvests at Neets Bay and kept at it for six years. He sold his seine permit. Along the way, he found out that the FV Lynda was for sale.

"I had big-boatitis," he said. "The size of the Lynda attracted me to a new tendering venture."

That big boat is busy with hatchery jobs through late winter and spring. "From mid-January to early May, the boat's tied up with SSRAA," Ranniger said. He moves chum fry to rearing sites through February, hauls SSRAA freight and supplies to remote camps through March and spends April taking chinook and coho smolts to saltwater rearing pens.

When June hits, he installs a pump and other gear for tendering salmon. He's typically busy by mid-June.

That's when he sees how much aquaculture has altered fishing.

"The seiners didn't used to get fishing until after the Fourth of July," Ranniger said. "Now they get their nets on deck by June tenth. Hatcheries have provided that" with enhanced summer chum runs.

Now that Ranniger's boat bookends the salmon's saltwater life cycle—pouring fry into net pens and delivering harvested fish to processors—he appreciates the scale and successes of aquaculture in southern Southeast.

"In several trips back in February, I moved 30 million chum fry to Kendrick Bay for rearing and release," he said on an April day just before a trip with tens of thousands of coho smolts to another SSRAA remote site.

“I’ve used my degree. I definitely run a small business.”
— Todd Ranniger