

#1

From: **Hugh McCaffrey** <[inspect7018@charter.net](mailto:inspect7018@charter.net)>  
Date: Tue, Feb 14, 2017 at 7:19 PM  
Subject: salmon season  
To: [Mike.Burner@noaa.gov](mailto:Mike.Burner@noaa.gov)

Thank you for your time

I fish recreational salmon which was handed down to me from my father and now I am fishing with my son. We fished hard last year out of morro bay and port san luis. Not many fish were caught by any anglers and when fish did come they were small schools which disappeared quickly , before I could get a day off. When june came and we were no longer allowed to fish I watched and heard on the vhf radio of the large school of fish which came in. the comm. Fleet caught more fish in one day than I would guess the sport fleet did all season. I feel we pay a lot in boat fees launching and lic.. to be shut out of the best time and successful time to be on the water. Even a week on and week off would give us a chance at these late fish. Please change the season to provide a later season. Thank you

Hugh mccaffrey  
[805 674 1338](tel:8056741338)

#2

From: **WCW** <[info@wellsconcreteworks.com](mailto:info@wellsconcreteworks.com)>  
Date: Wed, Feb 15, 2017 at 6:46 AM  
Subject: 2017 salmon season  
To: "[pfmtc.comments@noaa.gov](mailto:pfmtc.comments@noaa.gov)" <[pfmtc.comments@noaa.gov](mailto:pfmtc.comments@noaa.gov)>

To whom it may concern;

I to feel the 2016 closure for chinook salmon off morro bay / Avila while the commercial fleet was allowed to continue fishing is not fair to us as citizens and not backed by good data. I support the following letter. Thanks.

Maysun Wells  
SLO resident

Comments on CDFW Recommendations for the 2017 Salmon Season

As recreational fishermen fishing in Morro Bay/Avila, we feel that we were not treated fairly in 2016 salmon season. We were closed on June 1 while the commercial salmon fleet was allowed to keep fishing through the month of June even though they kill many more fish. The same closure dates are now being recommended for 2017.

Our position is that the CDFW Recommendations use flawed analysis to determine the impact to the population of concern, endangered winter-run (WR) Chinook, and that there is no good reason to close the recreational season in Morro Bay/Avila while the commercial season stays open. We ask that CDFW review our reasoning below, then work with us to ensure equitable access to the resource in 2017.

### Impact Rate Should Include Mortality of "Shorts" Released by Commercial Fishermen

The CDFW Recommendations report the impact rate on WR Chinook for Morro Bay/Avila in June as 1:200 for commercial and 1:9 for recreational. As observed in the document, this difference is due to the higher size limit for commercial (27") vs. recreational (24"). The methodology used to derive this impact rate is flawed and misleading because it does not correctly account for the mortality of released fish between 24"-27" by the commercial fleet.

The commercial salmon fleet in Morro Bay/Avila is fishing the exact same waters and the exact same body of fish as the recreational fishermen to the extent that they must avoid each other while trolling to prevent crossing lines. Commercial fishermen are absolutely hooking the same WR fish at the same rate (1:9) as recreational fishermen. The only difference is that the commercials have to release the 'shorts' under 27" but many of these fish do not survive. A simple reasonableness check demonstrates that wide difference between the 1:200 impact rate for commercial and 1:9 impact rate for recreational cannot be correct.

Mortality rates for released shorts were, unfortunately, not included in the CDFW Recommendations draft document but we were told by Michael O'Farrell of NOAA that it is 31% for Commercial and 19% for Recreational. If we apply the mortality of releases, the minimum possible impact rate on fish > 24" for commercials is the recreational impact rate times the commercial mortality rate:  $1/9 * .31$  or 1:29 not 1:200 reported in the document which is clearly a gross underestimate.

There is no data in the document on how many WR Chinook in the June population are < 24", but, since all are released, commercial will have a greater impact rate on these fish (31% mortality) than recreational (19% mortality).

### Impact vs. Impact rate

The CDFW Recommendations analysis focuses entirely on analyzing the impact rate. As we have shown, this rate calculation is flawed because it does not account correctly for the significant mortality of released fish, but, beyond that, the analysis does not consider the number that is most relevant to the survival of WR Chinook: total fish kills (total impact).

For June in Morro Bay/Avila, recreational fishermen kill an average of 100 fish of which 1:9, or 11 fish are WR. Commercial fishermen catch an average of 700 fish of which 1:200, or 3 fish are WR but in doing so they are also killing 31% of fish < 27". The CDFW document does not include data on population of WR by size and without this information it is not possible to calculate the total WR fish kill by commercial fishermen but it will clearly be much higher than the 11 fish killed by recreational fishermen.

### Alternative Size Limit In June For Recreational Fisherman

Recreational fishermen in Morro Bay/Avila are almost entirely fishing from small private boats, generally only fish in calm weather and, of course, are bound by a two fish bag limit. Closing the salmon fishery in June has a significant impact on us because the best weather is in June and the kids are off school so we lose recreational opportunity. It is frustrating to be closed while the commercial fishery stays open when we know they are killing many more WR fish than we are.

The impact rate of the recreational fishery is much closer to the commercial rate if mortality of released shorts is properly accounted for. Additionally, the recreational fishery has a much lower total impact. We should be able to continue fishing as long as the commercial fishery is open.

If CDFW believes that the resource can tolerate the impacts of the commercial fleet in June with a 27" size limit but cannot tolerate the impacts of the recreational fleet with a 24" size limit, then the simplest way to avoid June closure of the recreational fishery is to raise the recreational size limit to 27" on June 1. With the size limits equal, the commercial fishery will actually have a greater impact rate than recreational due to higher mortality of released shorts, as well as a greater total impact due to higher impact rate and much larger number of fish caught

Sent from my iPhone

#3

From: Larry <[biglry@charter.net](mailto:biglry@charter.net)>

Date: Thu, Feb 16, 2017 at 1:35 PM

Subject: Comments on CDFW Recommendations for the 2017 Salmon Season

To: [Mike.Burner@noaa.gov](mailto:Mike.Burner@noaa.gov)

As a retired 31 yr Commercial Fisherman and now a permanent licensed Recreational Fisherman, fishing from Port San Luis/Avila Beach, I feel that recreational fisherman were not treated fairly in 2016 salmon season. We were closed on June 1 while the commercial salmon fleet was allowed to keep fishing through the month of June even though they kill many more fish. The same closure dates are now being recommended for 2017.

My position is that the CDFW Recommendations use flawed analysis to determine the impact to the population of concern, endangered winter-run (WR) Chinook, and that there is no good reason to close the recreational season in Morro Bay/Avila while the commercial season stays open. I ask that CDFW review the reasoning below, then work with recreational fisherman to ensure equitable access to the resource in 2017.

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Respectfully,  
Larry Royal  
1200 Russ ct. Arroyo Grande CA. 93420  
[\(805\)489-1917](tel:(805)489-1917)

#4

From: **Craig Zora** <[czora@comcast.net](mailto:czora@comcast.net)>  
Date: Tue, Feb 21, 2017 at 9:46 AM  
Subject: pHOS definition  
To: [commission@dfw.wa.gov](mailto:commission@dfw.wa.gov)  
Cc: [pfmtc.comments@noaa.gov](mailto:pfmtc.comments@noaa.gov)

Commission members:

I have a few comments on the article below from the Aberdeen Daily World:

"We have something called the 'pHOS,' the proportion of hatchery fish on spawning grounds allowed," said Herring. The state's management policy for primary systems like the Willapa River and contributing systems like the Naselle River, "the pHOS needs to be 30 percent or lower," he said. "Right now we have a pHOS in the Willapa in the high 70s, and the low 80s in the Naselle. Because of that we had to reduce the hatchery program at Forks Creek. The modeling showed that if we reduced hatchery Chinook to 350,000, when the fish return in 2019 the model shows we would be more likely to meet the pHOS. The policy is there hopefully to deal with situations before we get into the critical area where an Endangered Species Act designation is imminent."

- 1) How is pHOS calculated? Is this a modeled result? If so what is the model name? I'm just trying to understand the model algorithms and wonder if even 30 percent is too high for the Willapa system.
- 2) I have been volunteering on some culvert replacement projects in Grays Harbor. Is this reopened habitat being utilized? Do we know?

Thanks.

Craig Zora  
[360-589-9854](tel:360-589-9854)

#5

----- Forwarded message -----  
From: Craig Zora <czora@comcast.net>  
Date: Tue, Feb 21, 2017 at 8:54 AM  
Subject: Willapa Bay-DNA testing  
To: commission@dfw.wa.gov  
Cc: pfmc.comments@noaa.gov

Commission,

The paragraph below came from a recent article on the WDFW Commission meeting. Is a scientific report available on the DNA testing? Have the findings been peer reviewed? A separate meeting needs to be scheduled to present these DNA results and explain them in more detail.

It is the potential conflict between hatchery-produced salmon and wild salmon that has federal fish managers pushing for a management plan for Willapa Bay salmon that favors naturally occurring salmon over their hatchery counterparts, despite recent DNA testing that has shown there is no distinction genetically between the two. "We had no genetic separation between hatchery and natural origin Chinook in the bay or any of the sub basins," said Fish and Wildlife biologist Chad Herring. "That is the goal, to not have a distinction." Fisheries managers generally try to manage fish to protect the weakest stocks of salmon in a particular river system and most biologists believe that hatchery salmon present a competitive threat to the wild fish.

I listened to the Feb 11 meeting and came away very concerned for the sustainability of all salmon runs in the Twin Harbors area. We are in a crisis right now.

Craig Zora  
360-589-9854

----- Forwarded message -----  
From: Craig Zora <czora@comcast.net>  
Date: Thu, Feb 23, 2017 at 8:31 AM  
Subject: FW: Willapa Bay-DNA testing  
To: Chad.Herring@dfw.wa.gov  
Cc: pfmc.comments@noaa.gov

Do you have a peer reviewed copy of this DNA study?

Thanks.  
Craig Zora

360-589-9854

From: Commission (DFW) [mailto:COMMISSION@dfw.wa.gov]  
Sent: Wednesday, February 22, 2017 6:46 AM  
To: Craig Zora <czora@comcast.net>  
Subject: RE: Willapa Bay-DNA testing

Mr. Zora – your question has been sent to Chad Herring.

From: Craig Zora [mailto:czora@comcast.net]  
Sent: Tuesday, February 21, 2017 8:55 AM  
To: Commission (DFW)  
Cc: pfmc.comments@noaa.gov  
Subject: Willapa Bay-DNA testing

----- Forwarded message -----

From: Craig Zora <czora@comcast.net>  
Date: Thu, Feb 23, 2017 at 11:33 AM  
Subject: RE: Willapa Bay-DNA testing  
To: "Herring, Chad J (DFW)" <Chad.Herring@dfw.wa.gov>  
Cc: pfmc.comments@noaa.gov

Please send me a study or more info on methods. I want to run it by OSU Fish and Wildlife staff for their review.

Thanks.

Craig Zora  
360-589-9854

From: Herring, Chad J (DFW) [mailto:Chad.Herring@dfw.wa.gov]  
Sent: Thursday, February 23, 2017 10:26 AM  
To: Craig Zora <czora@comcast.net>  
Subject: RE: Willapa Bay-DNA testing

Hi Craig,

Thank you for your interest in Willapa Bay fisheries management. I have attached the summary of genetic baseline analysis that was completed by the WDFW Genetics Lab. These findings have not been submitted for publication so, consequently, they have not gone through peer review. This analysis was initiated for the purpose of fisheries management and not with the intent of publishing. Feel free to e-mail or give me a call if you have any further questions.

Chad Herring  
Willapa Bay Policy Implementation Biologist

Montesano District Office  
48 Devonshire Rd  
Montesano WA, 98563  
Office#:(360)249-1299  
Cell #:(360)470-3410  
Chad.herring@dfw.wa.gov

From: Craig Zora [mailto:czora@comcast.net]  
Sent: Thursday, February 23, 2017 8:31 AM  
To: Herring, Chad J (DFW)  
Cc: pfmc.comments@noaa.gov  
Subject: FW: Willapa Bay-DNA testing

Do you have a peer reviewed copy of this DNA study?

#6

----- Forwarded message -----

From: Greg Cobb <cobbconstruction@charter.net>  
Date: Sun, Feb 26, 2017 at 3:39 PM  
Subject: Central Coast Recreational Salmon Closure  
To: "pfmc.comments@noaa.gov" <pfmc.comments@noaa.gov>

I am a recreational fisherman on the Central Coast of California and have been fishing these waters for the last 45 years. I understand that the California Department of Fish and Wildlife is once again proposing or recommending that our upcoming season be shortened as it was for 2016 to two months - April and May. I understand these regulations are designed to help reduce the take of winter run salmon from the Sacramento watershed.

While I understand the plight of the winter run fish, there needs to be a more even approach to the protection of the run, meaning both commercial and sport and northern ports should all be equally affected. Also the drought has affected everyone with the lower river levels and poor survival rates. However, the Pt. Sur to the Mexican border shouldn't be made to shoulder the brunt of the restrictions.

Last year the Salmon Advisory Subpanel (SAS) recommended to the PFMC in March 2016 three alternatives that in the worst case scenario would have stopped us from fishing in our area (Port San Luis, Morro Bay) in mid-July as it was in 2015. At some point late in the process one of the original alternatives (the 3rd alternative - mid-July closure) was overruled and thrown out, and a more draconian alternative for our area was implemented - seemingly without the science to back up the reasoning. It was added at the last minute and no one in our area was given the opportunity to rebut the alternative. This alternative only allowed us to fish for salmon for two months - April and May. Why was the SAS overruled? And was it political?

Since commercial fishing was still open in June 2016, it was hard for recreational fishermen in our area to understand why we were cut off and they were allowed to continue to fish.

Especially when their continuing to fish would have a greater impact on the winter run salmon according to the California Department of Fish and Wildlife's scientific analysis. According to the analysis that I have read, there are more winter run salmon in our area during the June-August timeframe.

Based on this same scientific data, there does not seem to be any supporting data that recreational fishing stopped in May affects the take of the winter run salmon, especially when the commercial fishing continues through June. All that did was change who caught the fish.

Also, it appears as though some apparent political agenda is at work here and the recreational fishing in our area is used as the proverbial sacrificial lamb. In 2016, the ports just to the north, Monterey Bay and Santa Cruz, were allowed to continue fishing through mid-July, while the more northern ports were allowed to fish through the end of October. The inequality of the fishing regulations seem to favor the northern ports where they have more voice in the proceedings.

Some factors to be noted for fishing in our area are:

1. The size of the fleet - it is a much smaller fleet than many of the ports up north thus a smaller footprint on the salmon catch.
2. Weather - in our area, during April, May, and June, the weather is more uncertain and therefore more limiting for the smaller boats to be out on the water. Most of the time, if you can get out on the water, you are limited to how far out you can go and how long you can fish as winds generally pick up in late morning and early afternoon. Typical spring weather that runs the smaller recreational boats off the water.
3. Other fleets in area - when the catch is less up north, the larger commercial boats converge in our area which increases the take in our area. This is what happened in June 2016. The salmon actually started to make an appearance and with salmon being caught the larger boats from distant ports showed up in mass.

Here are some possibilities that may help in determining the 2017 Recreational Salmon season that we would like to see considered for our area:

1. Propose that we continue to fish through June 30th with a 27" size limit on the fish - same as the commercial requirement.
2. Limit the number of days that we can fish, such as odd or even days throughout the season.
3. Propose that a salmon punch card be used limiting the number of salmon that can be taken over the course of the season. Once filled, you're done.
4. Limit area for commercial boats - meaning boats from outside the Pt. Sur to the Mexican border zone can not fish this area - especially if this area is such a hot zone for winter run fish.

There are probably other ideas out there being proposed and that would also work and keep us fishing longer than two months.

Over the years our seasons have been curtailed from a Feb-Oct season down to a Apr-May season (2016). It would seem that if any of these measures taken by the PFMC over the years were working, the seasons would be getting longer, not shorter. I worry that these changes will eventually lead to no salmon fishing at all, regardless of whether the numbers of the salmon, including the winter run salmon, improve.

Because I have been an avid salmon fisherman for years, I worry that future generations will not have the opportunity to catch and enjoy these great fish. I understand that there needs to be controls in place to preserve the runs, but not at the detriment for one specific area - us.

Sincerely,

Greg Cobb  
Oceano, CA

#7

----- Forwarded message -----

From: <[lbslikeogh@charter.net](mailto:lbslikeogh@charter.net)>

Date: Fri, Feb 24, 2017 at 5:45 PM

Subject: Comments on 2017 salmon season regs

To: " <[pfmc.comments@noaa.gov](mailto:pfmc.comments@noaa.gov)>

Here are my comments, a concerned recreational fisherman from Morro Bay, trusting you to do the right thing.

As recreational fishermen fishing in Morro Bay/Avila, we feel that we were not treated fairly in 2016 salmon season. We were closed on June 1 while the commercial salmon fleet was allowed to keep fishing through the month of June even though they kill many more fish. The same closure dates are now being recommended for 2017.

Our position is that the CDFW Recommendations use flawed analysis to determine the impact to the population of concern, endangered winter-run (WR) Chinook, and that there is no good reason to close the recreational season in Morro Bay/Avila while the commercial season stays open. We ask that CDFW review our reasoning below, then work with us to ensure equitable access to the resource in 2017.

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commercials have to release the 'shorts' under 27" but many of these fish do not survive. A simple reasonableness check demonstrates that wide difference between the 1:200 impact rate for commercial and 1:9 impact rate for recreational cannot be correct.

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#8

----- Forwarded message -----

From: **Mike Glick** <[wisehart@impulse.net](mailto:wisehart@impulse.net)>

Date: Tue, Feb 28, 2017 at 11:57 AM

Subject: 2017 CDFW Salmon Comments 2-28-17 Deadline

To: [pmmc.comments@noaa.gov](mailto:pmmc.comments@noaa.gov)

Regarding the 1:9 WR impact rate for recreational fishery in June in Morro Bay/Avila versus the 1:200 impact rate for commercial for the same area/month as reported in "CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE RECOMMENDATIONS FOR WINTER-RUN CONSERVATION MEASURES IN 2017 OCEAN FISHERIES ("Recommendations..."), despite numerous attempts on my part I have not been able to get the

biologists/analysts to provide me with details (data/numerical values) of how they arrive at these numbers (incomplete sub-port specific data provided for MB/Avila).

After reading the volumes of information that I have been provided, I understand the equations used but without the sub-port specific data it is not possible to replicate the above referenced numbers. However, I have noted several serious problems in the analysis that call into question the validity of these numbers.

1- As noted in previous comments, the impact "rates" neglect to include mortality of released shorts which intentionally introduces significant (one order of magnitude) errors specifically regarding commercial impact rates. When mortality rate of released short fish is included in the calculation the commercial impact rate is actually very similar to the recreational impact rate. Mortality of released shorts has a much greater impact on the comm rate than sport and not including that factor artificially biases impact rate calculations heavily in favor of comm. Additionally, there is no scientific reason to neglect this factor since the data necessary to include it seems to be readily available and the calculation is relatively simple.

2- For the purpose of calculation of the MB/Avila ocean harvest impact rate, the document "Recovery of Coded-Wire Tags from Chinook Salmon in California's Central Valley Escapement, Inland Harvest, and Ocean Harvest in 2012" ("Recovery of Coded...") and the document "Recommendations..." report that the whole area of "Monterey" includes both "North" and "South" and the analysis does not distinguish the fishery specific to the Morro Bay/Avila "sub-port" so it is not clear how they can come up with different results for Morro/Avila versus Monterey "North". In other words, the whole Monterey "management area" data is presented as one lumped model but no justification (only incomplete data) is given for the difference reported between Monterey "North" and "South" in the above referenced "Recommendations..." and "Recovery of Coded..." documents and incomplete sub-port specific actual data is given or referenced for MB/Avila. The different results for North and South do not seem to have any mathematical/data basis that can be replicated using the information provided.

3- Per report "Sacramento River Winter Chinook Cohort Reconstruction Analysis of Ocean Fishery Impacts" dated August 2012, table A2 lists the WR size distribution versus month but this data appears to be lumped together for the whole fishery irrespective of the major port area or sub-port area. This may or may not be a valid assumption but no justification is given. Additionally, no corresponding age-vs.-size is given for all other stocks which would seem to make it impossible to distinguish differences in impact "rate" for recreational versus commercial since the main (read: only) reason given for the difference in rates is the size limit difference (24" for rec and 27" for comm).

4- Using the reported CWT recovery rates for WR for the Morro/Avila it would seem that the amount of data is so small that it would not be statistically meaningful or accurate to draw any real conclusions about Morro/Avila sub-port specific impact rates without much more data/analysis. For example, in 2014, 590,623 WR were CWT marked and tagged and 1 total (emphasis definitely added!!!) WR sample collected south of Point Sur ("Recommendations..." page 8) which hardly seems statistically significant to draw any meaningful conclusions but is, rather, anecdotal at best.

This seriously calls into question the validity of the 1:9 and 1:200 numbers or really any sub-port specific conclusions reported for the Morro Bay/Avila fisheries with regard to WR impacts.

Thank you,

Mike Glick

Santa Barbara, Ca.

[805-450-6487](tel:805-450-6487)

Mr. Herb Pollard  
Chairman PFMC Dear Mr.

2-22-17

Pollard,

My name is David Helliwell. I am a commercial salmon fisherman. You may recall my presentation to the council last March proposing that the north line of the Fort Bragg salmon management cell be moved five miles north to latitude 40-10 (Agenda item E.4.c March 2016, consisting of four pages). This would be a minor, but extremely valuable addition to the salmon fishery. I discussed the addition with Brett Kormos in the spring, but time constraints did not allow for the development of a test fishery and neither one of us could see how one would be designed for such a small area.

The issue involved in such a move, of course, is additional Klamath impacts. How can they be accounted for? It would appear that an estimate could be made, say a 7.4% increase in cell size might equal a 7.4% increase in Klamath impacts. Model that increase, move the line north to 40-10 for three years and measure the actual impacts based on coded wire tag recovery in the cell. As the data settle out over time, impacts to the larger cell could be assigned to the model. It is of value to note that the northern boundary line was moved four miles north in 1988 from Pt. Delgada, 40-01'-24" to Horse Mt. 40-05'-00", its present position. The 1988 fishing Options in the Fort Bragg management cell forecasted the exact same Klamath impacts for the cell to Pt. Delgada as for the cell to Horse Mt.. At that time, the additional Klamath impacts for a four mile increase in cell size were seen as negligible.

The value of moving the line five miles north to 40-10 is multifaceted. The line would then be on the north side of Spanish and Delgada Canyons where the bottom is of even depth, making navigation predictable when turning to comply with regulatory lines and avoid collisions and negative interactions with a rocky bottom. Boats fishing a canyon fathom curve can only turn to the deeper side when they reach the boundary line. If it is foggy and there are lots of boats the results can be disastrous. The canyons themselves could be fished with the movements of the fish. The area is in a coastal wind shadow that ends on the north side of Spanish Canyon, making it a relatively safe area for

small boats to fish. It would make the north end of the cell closer to the currently isolated port of Eureka than Fort Bragg, giving local Eureka boats more opportunity to fish close to home for the first time in over thirty years. Reducing the run to Eureka by an hour would take some of the pressure off Fort Bragg for its limited services when all the boats are in and would make it more attractive for Eureka boats to end their trips at home. This would improve family life and boost the local economy, which has suffered greatly from thirty years of closure. At 40-10 the northern boundary line has the unique opportunity to be the same as the federal ground fish line, streamlining enforcement from two line management to one line management.

As I am sure you are aware, the southern end of the KMZ has been closed to fishing for twenty years to protect ESA listed coastal falls. If the southern boundary had been 40-10 at the time of that closure, there is no reason to believe it would not have been chosen as the southern boundary to protect coastal falls. Especially since Eel River, the primary coastal fall producer, is eight miles from the north end of the closed area and the Mattole River, of one tenth the watershed size as the Eel, would still be eight miles from the southern boundary of the KMZ.

This is an opportunity to do something valuable for the industry, both sport and commercial, after 35 years of reallocation, restrictions and the consequences of water diversion, none of which the industry is responsible for.

Thank you, David Helliwell  
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*(See following two figures)*

Or. Border

Klamath Control Zone

Humboldt S. Jetty

Eel River (green)

40-10

40-05

Pt. Arena

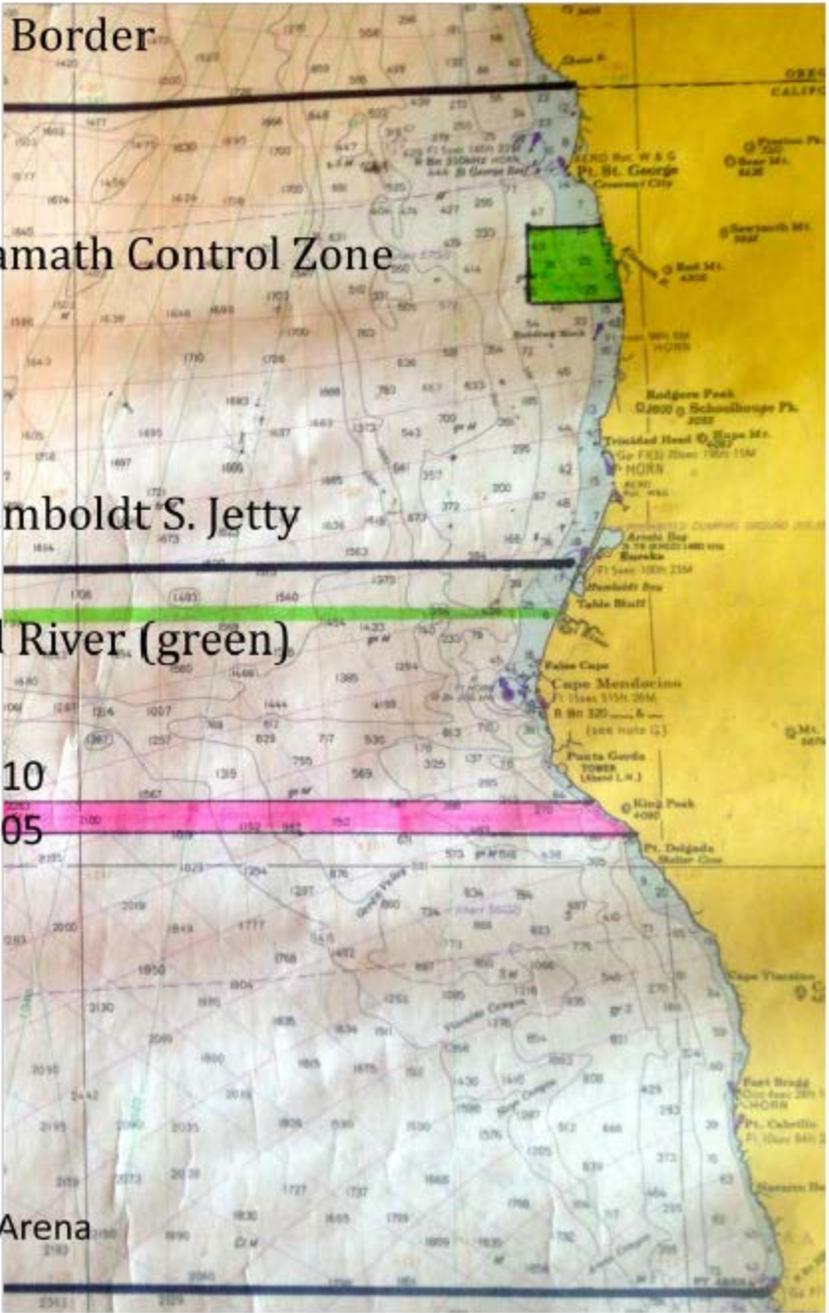


Table 10. Impacts of 1988 chinook management options on California, Oregon, and Washington fisheries and escapements compared with 1987 observations (thousands of fish).

Area	Option 1	Option 2	Option 3	Option 4	1987 Observed	Spawning Escapement Goal
OCEAN IMPACTS						
Oregon-Washington						
North of Cape Falcon						
Treaty Troll	0	10.8	62.5	62.5	19.3	
Nontreaty Troll	0	34.4	85.0	141.6	62.7	
Sport	0	34.4	72.1	96.4	45.2	
Total	0	79.6	219.6	300.5	107.9	
Oregon						
Cape Falcon to Port Orford Red Buoy						
Troll	232.1	232.1	329.2	342.3	479.1	
Sport	28.8	28.8	28.8	28.8	28.8	
Total	260.9	260.9	358.0	371.1	507.9	
Oregon-California						
Port Orford Red Buoy to Pt. Delgada or Horse Mtn.						
Troll	47.9	47.9	115.9	153.4	123.7	
Sport	37.3	37.3	37.3	37.3	56.1	
Total	85.2	85.2	153.2	190.7	179.8	
California						
South of Pt. Delgada or Horse Mtn.						
Troll	539.6	539.6	567.8	599.2	790.1	
Sport	119.3	119.3	119.3	119.3	160.7	
Total	658.9	658.9	687.1	718.5	950.8	
OCEAN ESCAPEMENT						
Columbia River						
Upper River Brights	460.1	453.2	439.6	431.8	421.0	40.0
Lower River Hatchery Tules	303.9	274.4	221.7	191.8	346.9	37.4
Spring Creek Hatchery Tules	7.3	6.6	5.4	4.6	9.2	8.2
Upper River Springs	65.1	64.6	63.2	62.6	99.8	100-120
Upper River Summers	33.2	33.0	32.6	32.4	33.0	80-90
California						
Klamath	153.0	153.0	120.5	109.1	199.0	82.7 <sup>a/</sup>
Sacramento	199.0	199.0	189.6	179.2	171.1	122-180

a/ Framework amendment ocean escapement goal, 1987-1990 average. KFMC goal is 153,000.