Agenda Item G.4.b
Public Comment
November 2016

CALIFORNIA WETFISH PRODUCERS ASSOCIATION
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October 12, 2016

Mr. Herb Pollard, Chair
And Members of the Pacific Fishery Management Council
7700 NE Ambassador Place #200
Portland OR 97220-1384

RE: Agenda Item G.4. Anchovy Stock Assessment and Management Measures

Dear Mr. Pollard and Council members,

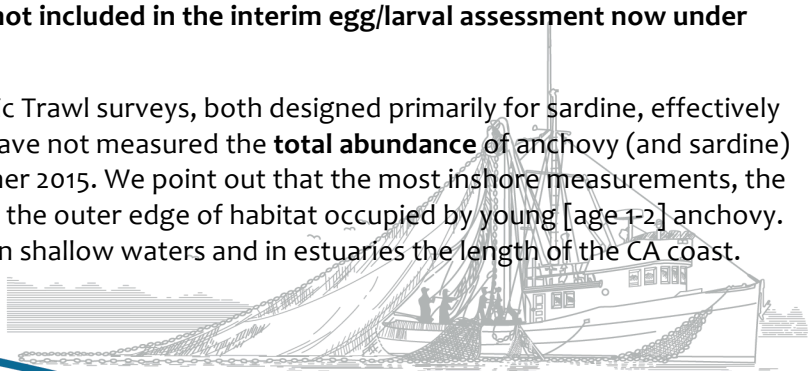
As Executive Director of the California Wetfish Producers Association (CWPA), representing the majority of coastal pelagic species 'wetfish' fishermen and processors in California, I appreciate your consideration of our continuing concerns in the ongoing discussion regarding anchovy management.
We agree with the draft report finding: "[existing egg/larval data] are **not suitable for estimating the biomass of the anchovy stock because the sampling frame of the [CalCOFI] survey is smaller than the geographic range of the stock, and fluctuations in adult spawn timing and fecundity create an unknown bias in the indices.**"**

Summarizing points made in our September Council comment [F.3.c.Sep '16] and testimony:
"… the biomass of the central stock of northern anchovy is extremely variable and that this variability occurs with and without a significant fishery on the stock. [Richard H. Parrish, Agenda Item H.3.b Supp. Public Comment 4, Nov 2015]

"… In 2015, the catch-per-tow of northern anchovy YOY … was at record levels over the 2015 sampling period, with the frequency of occurrence near 80% for the entire survey… This would suggest that 2015 summer anchovy spawning was widespread …" [Juvenile Rockfish Midwater Trawl survey for pelagic juvenile (young-of-the-year, YOY) rockfish - Central California Coast, May-June 2015 [pages 3-4]].

A great abundance of anchovy of various sizes [small to large] is now reported by fishermen from northern to southern California. This 2015-16 recruitment is not included in the interim egg/larval assessment now under discussion.

In fact, neither the CalCOFI egg/larval nor Acoustic Trawl surveys, both designed primarily for sardine, effectively quantify the nearshore [inside 50 meters], thus have not measured the **total abundance** of anchovy (and sardine) that has been observed by fishermen since summer 2015. We point out that the most inshore measurements, the six SCCOOS stations at 30 meters depth, are near the outer edge of habitat occupied by young [age 1-2] anchovy. Fishermen have been observing a large biomass in shallow waters and in estuaries the length of the CA coast.



For example, recent catches in the Half Moon Bay – Farallon Island area have been made in waters inside 10 meters. Thus an interim egg/larval production assessment utilizing existing data would seriously underestimate the current biomass.

We also reiterate a comment initially submitted by Dr. Richard Parrish in November 2015 [H.3.b. Supp. Comment 4, Nov 2015], and supported by this anchovy assessment report, "The biomass estimates in the MacCall et al paper [updated assessment approx. 15,000 mt] **cannot be used to estimate the 2016 biomass of the northern stock of anchovy."**

Northern anchovy was relegated to Monitored status at the onset of Amendment 8, expressly because landings had shrunk dramatically from the heyday of the fishery, when large volumes of anchovy were landed primarily for reduction. Catches have remained **well below their respective ABC/ACL levels since implementation of the CPS FMP in 2000**. **Average catches over the last 10 years have been approximately 7,300 mt … for CSNA** [central substock of northern anchovy], according to the CPS Management Team Report on Anchovy Management Update [E.3.a Sep 2016].

Regarding recent landings, the CPSMT White Paper noted an increase in CSNA landings in 2015 [to about 17,500 mt – still well below the precautionary harvest limit], but stated, "… when higher value fisheries such as market squid and Pacific sardine are slow due to lack of availability to the fishery or season closures, northern anchovy landings tend to increase… ". This was clearly the case, with the sardine fishery closed and squid on sabbatical due to El Niño. Those conditions have changed, however. Squid have returned, and the CPS fleet is now primarily targeting squid. Preliminary California anchovy landings through September 2016 were below 5,000 mt.

Please recognize that catches have averaged less than half of the precautionary 25,000-mt limit for more than two decades. As Dr. Richard Parrish pointed out, "The fact that the stock remained in the 0.2 to 0.5 MMT range from 1990 to 2004, surged to over 2.0 MMT in just two years and then fell by more than an order of magnitude in the next couple of years does not appear to have been "monitored" or noticed**. The anchovy fishery showed no response to the increased population**; apparently the low price for anchovy, the lack of canning and fishmeal processing equipment and the small market for fresh or frozen anchovy is what has limited California landings for the last couple of decades. **Fishery management has had essentially no impact as the conservative annual quota was larger than the market."**

Further, a recently study, *When does fishing forage species affect their predators?* [Hilborn, R. et al, in review, Fisheries Research, Amsterdam] finds that **variability in small coastal pelagic fish (i.e. anchovy and sardine) is controlled predominantly by the environment. Scientists concluded that patterns appear to be driven by both density-dependent and density-independent dynamics (Lindegren et al. 2013) and have been ongoing long before the presence of commercial fishing.**

The study also shows that neither anchovy nor sardine abundance influences the rate of change in predator abundance (i.e. sea lion or brown pelican populations). **Management of CPS stocks is precautionary, conservative, and successful. Fishing pressure is generally negligible compared to the large-scale effects of environmental forcing.**

Clearly, there is no biological point of concern re: anchovy abundance, but there could be a serious socio-economic point of concern if the small harvest limit now allowed in the CSNA fishery is further restricted.

The reduction fishery is history now. However, **the anchovy fishery is still very important to California's historic wetfish fleet as a fishery of "last resort"** -- a target when no other CPS are available. A further reduction in

current harvest limits, precluding fishing opportunity to fish on anchovy in slack times, could be the proverbial last straw that curtails California's wetfish industry, the backbone of California's fishing economy.

We again recommend that the Council :
[1] retain the status quo management option for the CSNA fishery, with the current harvest specifications, which represent a reasonable average OFL and precautionary harvest limit, in light of the variability in anchovy abundance and the negligible impact of the fishery on the resource and dependent predators.
[2] acknowledge recent record anchovy recruitment and
[3] recognize the need to expand surveys to completely assess biomass (both anchovy and sardine) in nearshore habitat [inside 50 meters], as well as the upper water column.

One last point in considering Monitored vs. Active Management status, please consider the comment from Dr. Richard Parrish: **"Clearly the biomass variations … demonstrate that in the central stock of northern anchovy biomass estimates are worth very little for real time management if they are more than one year old. "**
Annual stock assessments would be hugely expensive for a fishery that has averaged less than 10,000 mt per year over the past two decades.

As noted above, fishery management has had virtually no impact as the conservative annual quota was larger than the market. Therefore this fishery should be allowed to continue under its current management framework.

Thanks very much for your consideration of these recommendations.

Our best regards,

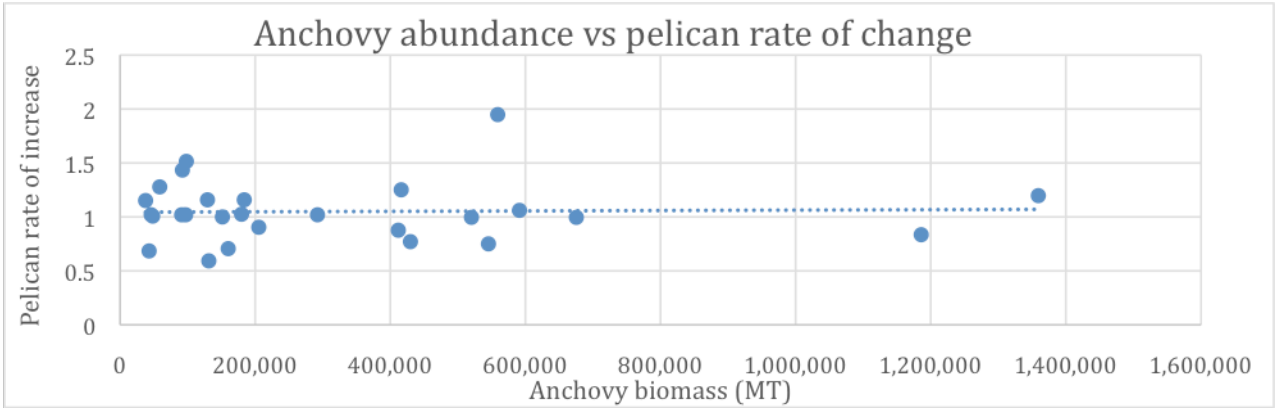
Diane Pleschner-Steele
Executive Director

Prey abundance and predator rate of change in the California Current

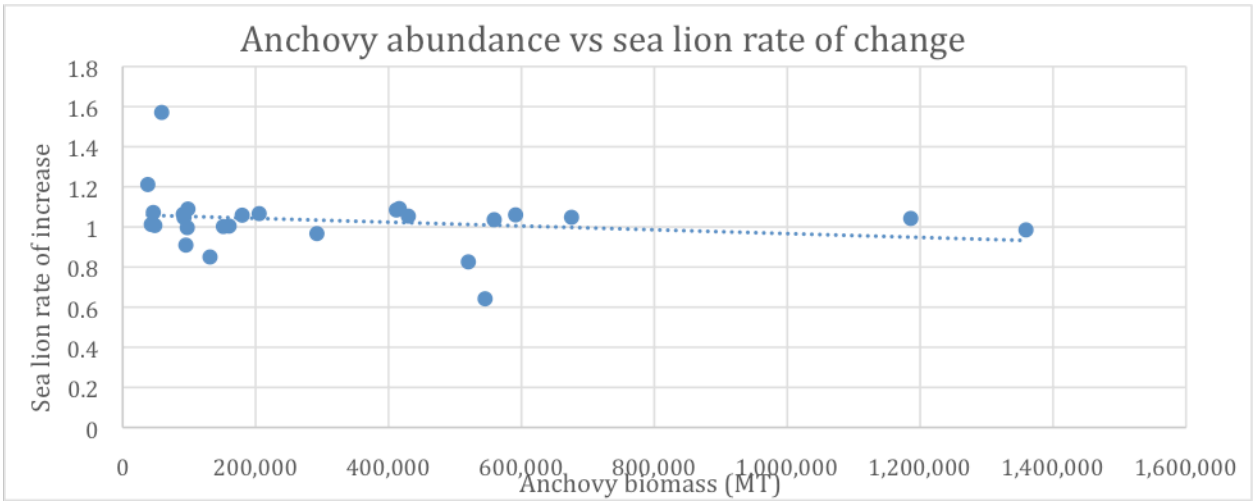
*The following information is from a manuscript by Hilborn, R., Amoroso, R, Bogazzi, E., Jensen, O.P.,Parma, A, Szuwalsky, C., Walters, C.J., in review. *When does fishing forage species affect their predators?* Fisheries Research (Amsterdam).
Compiled by Joel VanNoord, supervising scientist for the California Wetfish Producers Association.

Neither anchovy nor sardine abundance influences the rate of change in either Sea Lion or Brown Pelican populations.

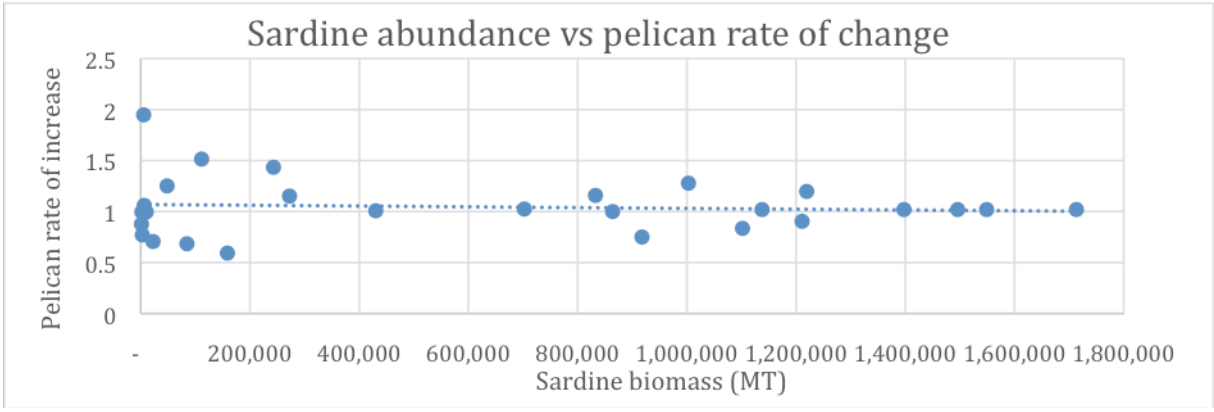
If anchovy or sardine populations controlled the growth rate of predators, we would expect an increasing population growth rate for predators with an increasing sardine or anchovy population. For example, the predator population would increase as more prey became available. Abundance data do not support this, however. We see a constant predator growth rate regardless of the population size of either anchovy or sardine.



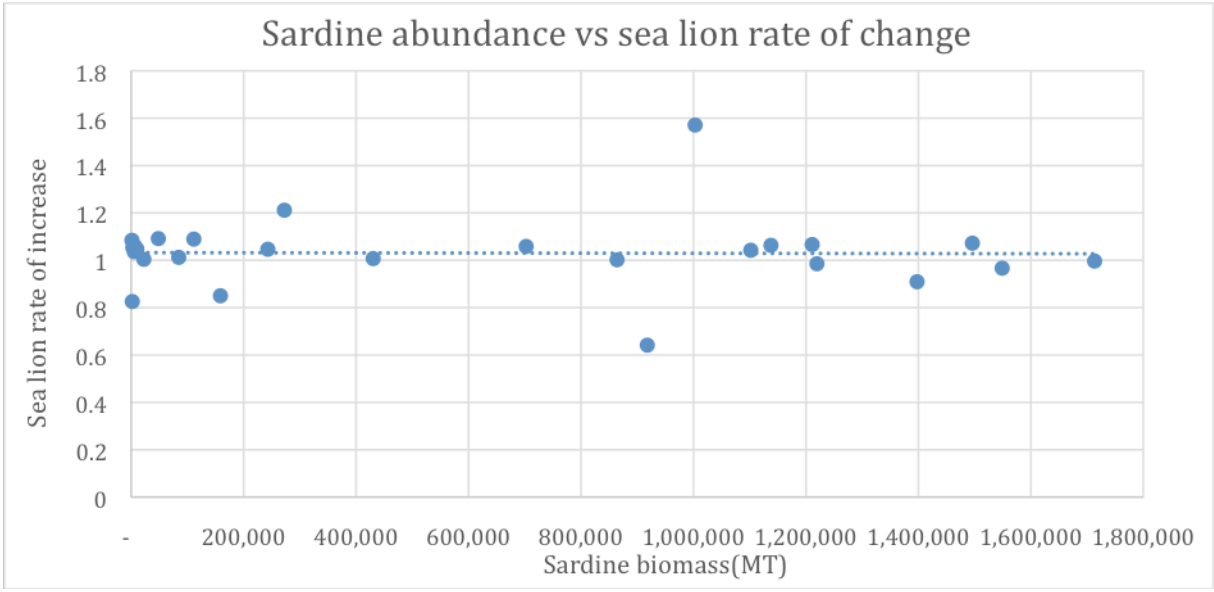
The estimated yearly biomass of the central subpopulation of northern anchovy ranged widely, from ~40,000 to nearly 1.4 million metric tons during the period from 1981-2009. Despite a wide range of anchovy prey available, the rate of increase of pelican nests remained unchanged during the same time period. A rate of change value of 1 indicates no change in the population. This pattern is similar for both predator and prey relationships, shown in the three graphs below.



The amount of anchovy prey available in the water also had little effect on the rate of change on the abundance of sea lion pup counts from 1981-2006.



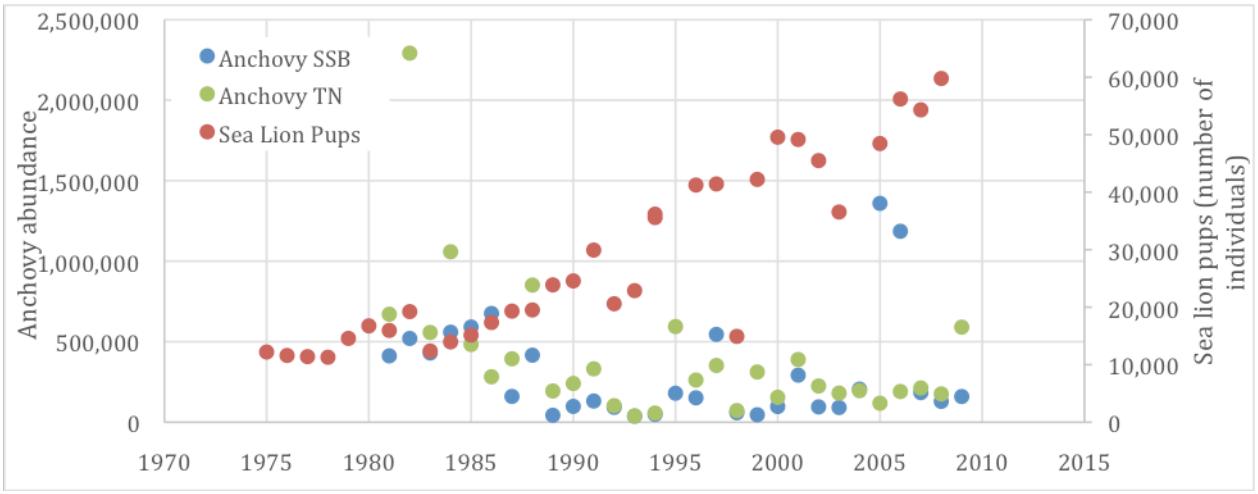
Sardine abundance ranged from < 7,000 to ~1,700,000 MT during the period from 1981-2007. Despite this wide range of estimated prey available in the water from year to year, the rate of change of pelican nests was not affected by this, meaning the growth rate was the same whether there were 7,000 MT of sardine, or 1,700,000 MT.



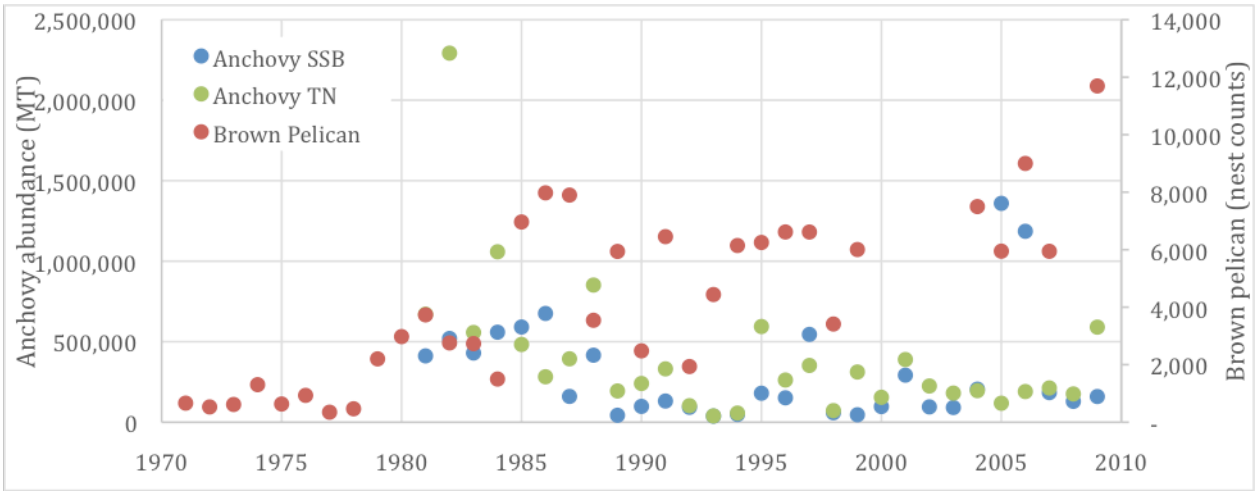
The amount of sardine prey available in the water also had little effect on the rate of change on the abundance of sea lion pup counts during the period from 1981-2006.

Predator populations increased while prey declined

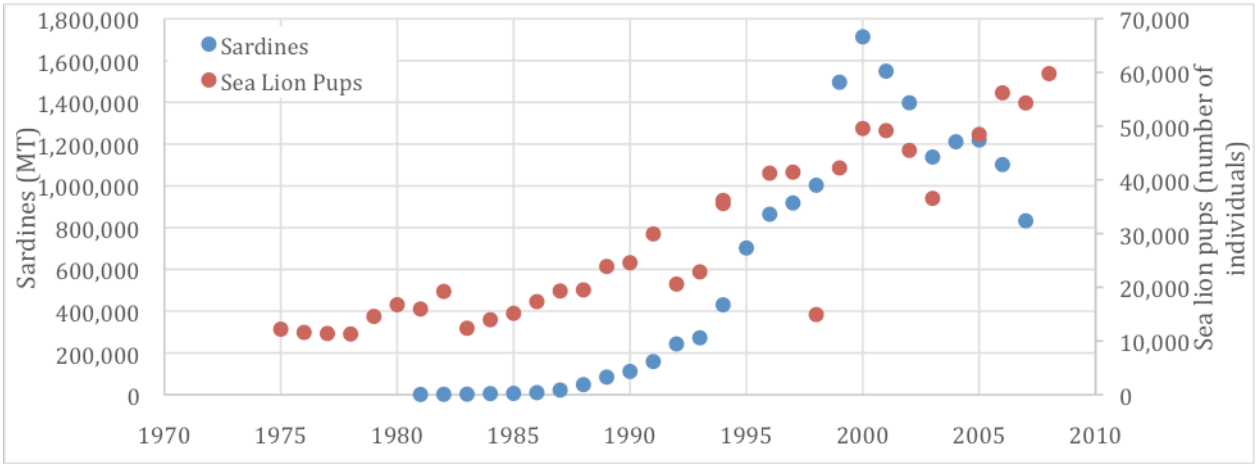
Sea Lion and Brown Pelican abundances have increased steadily from 1971 to 2009 despite declines and variability in anchovy and sardine populations. This is especially evident for anchovy populations, which seem to show an inverse relationship with sea lion pup counts. This shows a thriving predator population increasing over time, despite variability in prey populations and declines in anchovy abundance.



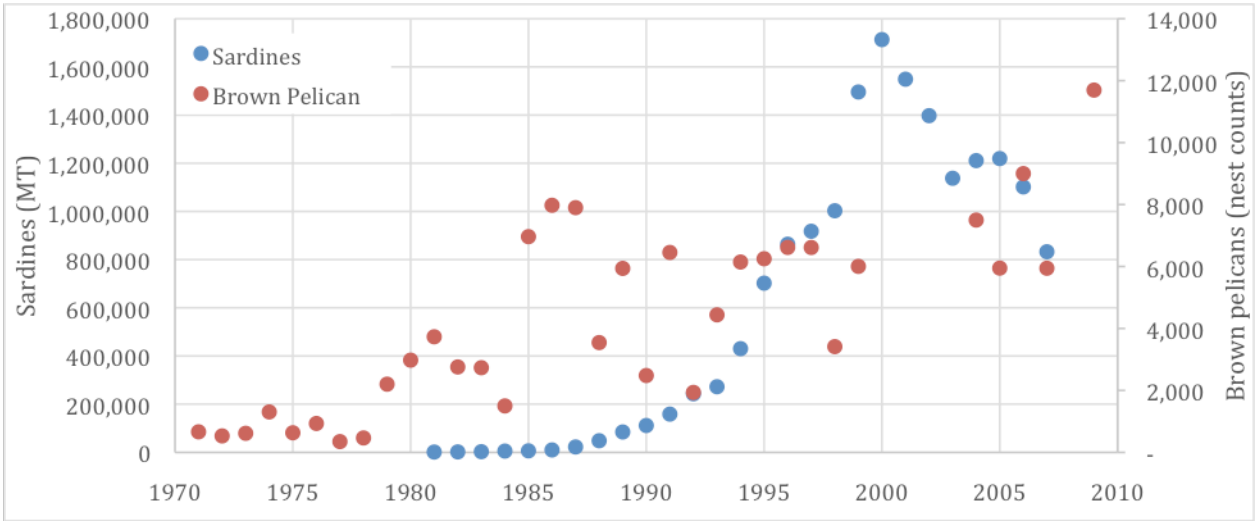
Sea lion pup counts increased dramatically from the 1970's to the present, despite an overall decrease in anchovy biomass available. The sea lion abundance increase is largely associated with the success of increased protections enacted with the 1972 Marine Mammal Protection Act. The major drop in sea lion pup counts seen in 1998 was largely attributed to warm ocean waters caused by the historically strong El Niño of 1997-98.SSB refers to spawning stock biomass, TN refers to total numbers.



Brown pelican nest counts were as low as 663 nests in the early 1970's. These low population levels are largely due to the widespread use of pesticides, such as DDT and dieldrin, which caused high hatching mortality due to a thinning of the egg shells. After the elimination of these pesticides, brown pelican nest counts rose dramatically during the 1980's to a high of ~12,000 nests in 2009, this is despite decreasing and variable anchovy population estimates, indicating that the population recovery was largely due to the removal of poisons from the environment, and not the availability of additional prey resources.



Sardine and sea lion pup counts were in sync from the 1980's through 2000, when the sardine population began to decline, largely due to a changing oceanographic regime. Despite this drop in sardine prey availability, sea lion pup counts continued to increase.

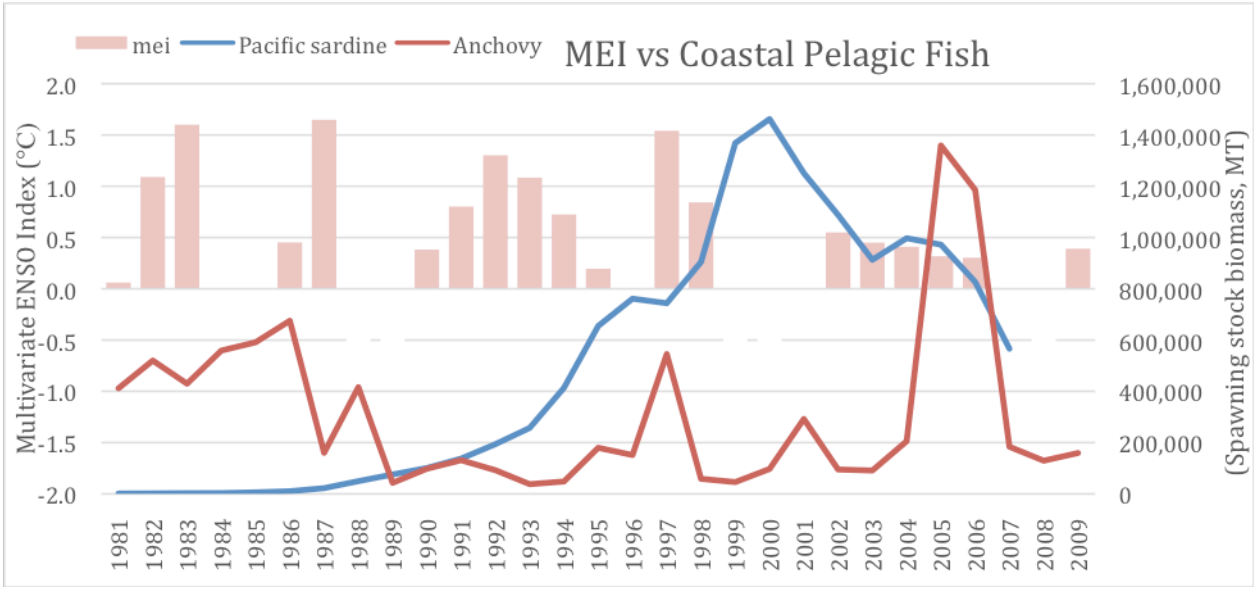


Brown pelican nest counts were very low in the 1970's, in large part to the widespread use of pesticides and such as DDT and dieldrin, which caused a thinning of pelican egg shells. After the elimination of these pesticides, brown pelican nest counts rose dramatically during the 1980's, a period when the sardine population was low. The brown pelican population then leveled off as the sardine population hit an estimated high in 2000 before dropping off again. Brown pelican nest counts were largely uninfluenced by sardine abundance.

Small coastal pelagic fish variability controlled by the environment

Anchovy and sardine are short-lived species that undergo periodic, asynchronous and large-scale population fluctuations that are driven by warm and cool phases of the El Niño Southern Oscillation and the Pacific Decadal Oscillation. We can see that in the time series below, where the anchovy population is initially high, drops, and begins to rebound. The sardine population is initially low, peaks in 2001, and begins to decline. This pattern has been ongoing long before the presence of commercial fishing. Lindegren et al. (2013) modeled the population fluctuation from the 1660's onward and found the same large-scale and asynchronous patterns of population expansion and contraction.

These patterns were concluded to be driven by both density-dependent and density-independent dynamics (Lindegren et al. 2013). Management of these stocks is precautionary, conservative, and successful. Fishing pressure is generally negligible compared to the large-scale effects of environmental forcing.



Notes and sources of data:

Data prepared by:
Hilborn, R., Amoroso, R, Bogazzi, E., Jensen, O.P.,Parma, A, Szuwalsky, C., Walters, C.J. submitted. When does fishing forage species affect their predators? Fisheries Research (Amsterdam).

Brown Pelican: data were extracted from a graph reported at
http://www.esasuccess.org/birds.shtml

California Sea Lion:
Carreta, J. V, Forney, K. A, Oleson, E., Martien, K., Muto, M. M., Lowry, M. S., Barlow, J., Baker, J., Hanson, B., Lynch, D., Carswell, L., Brownell Jr., R., Robbins, J., Mattila, D. K., Ralls, K. and Hill, M. C. 2011. US. Pacific Marine Mammal Stock Assessments: 2011. NOAA-TM-NMFS-SWFSC-448. 356 pp.

Pacific Sardine:
Hill, K.T., Dorval, E., Lo, N. C. H., Macewicz, B. J., Show, C. and Felix-Uraga, R.. 2007. Assessment of the Pacific Sardine Resource in 2007 for U.S Management in 2008 .NOAA-TM-NMFS-SWFSC-41. 157 pp.

Northern Anchovy:
Fissel, B. E., N. C. H. Lo, and S.E. Herrick. 2011. Daily egg production, spawning biomass and recruitment for the central subpopulation of northern anchovy 1981–2009. CalCOFI Rep. 52:116-129.

Lindegren, M., Checkley, D.M. Jr., Rouyer, T., MacCall, A.D., Stenseth, N.C. 2013. Climate, fishing, and fluctuations of sardine and anchovy in the California Current. PNAS. 100:33, 13672-13677.

Abundance of anchovy and sardine correspond to the best estimates of the spawning biomass expressed in metric tons. In the case of the California Sea Lion, the preferred time series of abundance correspond to pups counts. For Brown Pelican, we used the number of nests as a proxy for abundance.

Rate of change for predators was calculated by subtracting the log of next year's abundance from the log of the current year's abundance estimate, divided by the number of years between counts, and then taking the exponentiation of that. So that,

$$Rate\ of\ Change = e^{\log abund.\ y2 - \log (abund.y1)}{y2-y1},$$

Where e is the exponential, abund.y2 is predator abundance in the subsequent year, abund.y1 is predator abundance in the current year, y2 is the subsequent year, and y1 is the current year.

Mr. Herb Pollard, Chair
And Members of the Pacific Fishery Management Council
7700 NE Ambassador Place #200
Portland OR 97220-1384

RE: Agenda Item G.4. Anchovy Stock Assessment and Management Measures

Comments on "Egg and Larval Production of the Central Subpopulation of Northern Anchovy in the Southern California Bight."

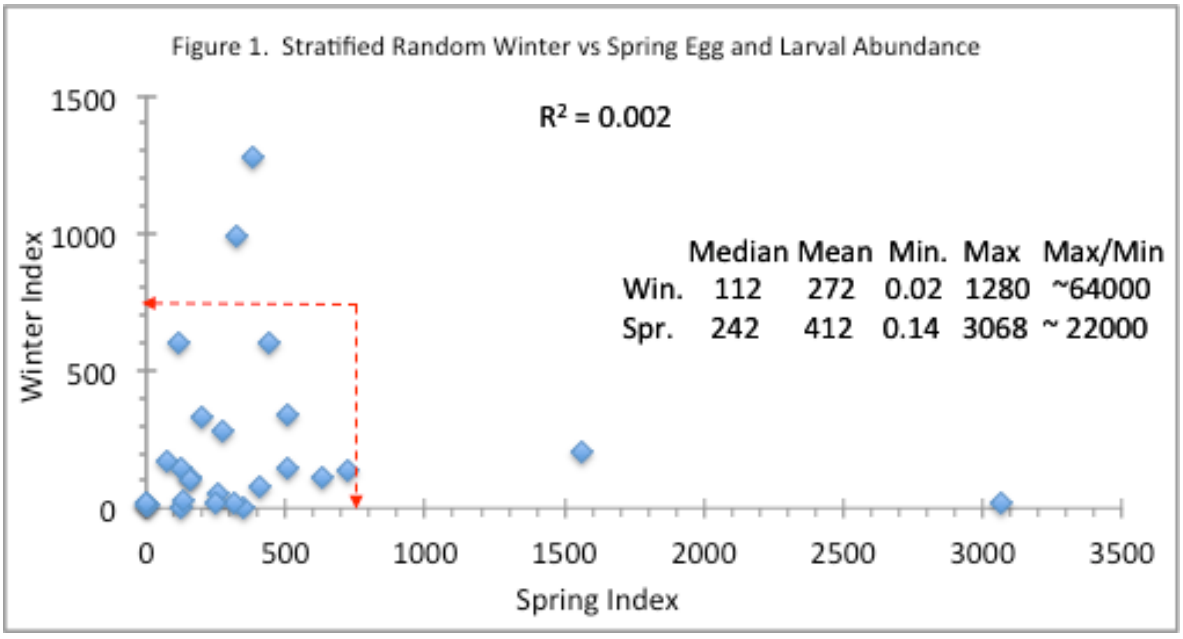
By Richard H. Parrish
September 8, 2016

PRIMARY COMMENTS:

1. The analysis, re-analysis and re-re-analysis of the data from the egg and larval surveys shows that the time series are not much changed by the various analytical procedures (their Figure 4). It would have been interesting to see if the simple raw number time series were significantly different from the various analyses.

2. Given the close agreement between the several analyses the principal question becomes do these time series accurately explain the population variations in the central stock of northern anchovy? Luckily we have two independent estimates of the reproductive output for most of the years in the time-series (i.e. the winter and spring surveys). If the egg and larval surveys accurately estimate the reproductive output the two time series should have a reasonably high correlation between them.

Unfortunately the correlation between the two time series is extremely low (R^2 =0.002); essentially the two time series are totally independent (Figure 1). If the egg and larval surveys are going to be used to estimate the spawning output and population size of the central stock; which time series should be used? Is it reasonable to expect that adding two uncorrelated time series of eggs and larval together will result in an accurate estimate of spawning output?



The means and medians of the spring time series are roughly twice the size of the winter time series and the range of values for both time series are huge (Figure 1.). Both time series have more than four orders of magnitude variation in their indices. The winter's largest value is ~64,000 times the smallest value; with the spring time series the largest value is ~ 22,000 times the smallest (Figure 1).

The two time series have extremely high variation, no correlation with each other and each has two outliers where the indices are greater than 750. None of the outliers has a high index for the corresponding time series (Figure 1).

3. The original CPSMT (of which I was a member) decided that the egg and larval surveys were not accurate enough to be used to calculate the spawning biomass of the central stock and the stock was therefore not managed on an annual basis. This has apparently remained unchanged as the present analysis states "they are not suitable for estimating the biomass of the anchovy stock" (page 12).

4. The generally low numbers of eggs and larvae since 2008 suggests that the reproductive output, and the associated spawning biomass, has been at a low level in recent years. The spring indices in 2005 and 2006 suggest that there was a very large spawning biomass in these years in Southern California. Unfortunately the winter surveys do not confirm this as the 2005 winter index was very low (15.57) and there was no winter survey in 2006. California landings of anchovy showed little increase in the 2005-6 period of high spring egg and larval indices with landings in 2001, 2008 and 2015 all being higher than the 2005 or 2006 landings. Apparently the California fishery is too small to respond to large biomass increases or to be used as an index of the anchovy population size, and the egg and larval indices in the report have not been converted to biomass so it is impossible to tell if the landings exceed biomass estimates.

5. Egg production per unit weight is highly age-dependent in northern anchovy (Parrish et al, 1986). Data from 65,565 aged anchovy from the 1966-80 California fishery and 54,457 aged anchovies from the 1966-83 California Sea Survey Program showed that 2+ year-old anchovies produce 3.8 times as many eggs per gram body weight as one-year-olds (derived from their Table 3). Therefore if the biomass is primarily composed of a single year class, biomass estimates derived from egg and larval survey will be less than one third of the actual biomass when the year class is age one.

The fact that the annual egg and larval abundance estimates rose by nearly an order of magnitude from 2004 to 2005 and fell by more than an order of magnitude from 2005 to 2007 should convince anyone that real time management of the central stock of anchovy based solely on the egg and larval estimates do not even allow the determination of the year-class of the super abundant cohort.

6. The most important implication of the re-re-analysis is that IF we accept that the egg and larval indices are even marginally accurate, then there is no management plan that will maintain the central stock of northern anchovy at a high or even modest population levels. The population has so much year-to-year variation that accurate estimates of the egg and larval production will have little value a year later and almost no value 2-3 years later.

SECONDARY COMMENTS:

7. The re-re-analysis notes that the egg and larval surveys are not timed to match the period of maximum anchovy spawning. This may be a major problem that cannot be solved or even assessed with historical data.

8. The winter surveys occur before the peak of anchovy spawning and the spring surveys occur after the peak of spawning. The statistics of the winter and spring time series (Table 1) show that eggs and larvae are a bit more than twice as abundant in the spring. Although the information is not presented to show this, it is likely that a significant amount of the difference between the winter and spring abundance estimates is that the winter surveys are taken during a period when spawning output is increasing and the spring surveys are taken during a period when it is decreasing. This implies that there would be considerably more larvae in the spring survey than the winter survey.

9. There are seven years in which either the winter or spring surveys were not taken, and therefore the 'annual' time series, which was created by simply adding the two time series together, is highly biased. On average, which means almost nothing in northern anchovy egg and larval abundance, the years missing the winter cruise would be about two thirds of the expected ' annual' time series. The years missing the spring survey would be about one third of that expected.

10. The issue of the conversion of egg and larval indices is not brought up in the report. This is a non-trivial issue and considerable thought and preliminary analyses would have to be made before the indices could be transformed into biomass estimates.

Example of 58 similar emails received by the advanced Briefing Book deadline

Dear Chair Herb Pollard and Council Members,

I am writing today to urge the Pacific Fishery Management Council at the upcoming November 2016 meeting to request that NOAA Fisheries establish a schedule for completing a new, scientifically rigorous, stock assessment for the northern anchovy central subpopulation. A stock assessment is long overdue with the last one performed 20 years ago. Because of this current fishing quotas for this species are set based on old, outdated information. We ask that the new stock assessment be done within a reasonable time frame (1-2 years) and, when completed, be immediately used to manage anchovy stocks in Federal waters off the West Coast.

In the meantime we ask the Council to use the best available scientific information to establish a lower catch limit for the central subpopulation of northern anchovy prior to the start of the 2017 fishing season. This will help prevent overfishing and ensure adequate food resources for predators including seabirds, marine mammals, and larger fish species.

Anchovies are the single most important prey species for seabirds in West Coast waters and recent evidence suggests that anchovy stocks have plummeted over the past several years. Because of this, millions of seabirds nesting along the Pacific have suffered. Brown Pelicans, in particular, have experienced catastrophic breeding failures in recent years because of this decline in their favorite food.

Please take the necessary steps to protect anchovy stocks and the many species that depend on them to survive.

Thank you for your consideration.

Sincerely,

Erich Reeder

Deborah Jaques
375 3rd St.
Astoria, Oregon 97103
(503) 298-0599
djaques.pel@charter.net

October 18, 2016

Mr. Herb Pollard, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

Re: Fishery for the northern subpopulation of northern anchovy

Dear Chair Pollard and Council Members,

I am writing to express concern about the fishery for the northern subpopulation of northern anchovy. I am an independent seabird biologist living in Astoria, Oregon and have tracked distribution and abundance of brown pelicans in the non-breeding range as part of various projects since 1986. The 2016 fishery in the Columbia River estuary raised a number of issues, including potential local depletion of prey resources for dependent predators such as pelicans, and conflicts with seabird/salmon management plans. I expressed some of my concerns in the attached Guest Column for the Daily Astorian and hope you can accept and include that article as a public comment for the November meeting briefing book.

Thank-you,

Deborah Jaques

THE DAILY ASTORIAN
THE COLUMBIA-PACIFIC REGION'S NEWS SOURCE SINCE 1873

Guest Column: Anchovy fishery riddled with conflict

By Deborah Jaques For The Daily Astorian
Published on October 3, 2016 8:30AM

DEBORAH JAQUES/SUBMITTED PHOTO

Pelican swarm around a fishing boat near a Hammond jetty in the Columbia River.

The Daily Astorian article ("Anchovies pick up where sardine left off in Astoria" Sept. 20) painted a pretty rosy picture about the uptick in local commercial anchovy harvest. I was also initially excited to see fish going up the conveyor belt on the Riverwalk; it's nice to see a fishing town at work.

The people at Sea-A and fishing crew from Kodiak are friendly and show pride in their work and product. Our anchovy wealth has also been reflected by the magnificent seasonal occurrence of marine birds and mammals feasting in our Columbia River Estuary, including brown pelicans and humpback whales again.

After being astonished to see that the new anchovy purse seiners were actually fishing in the river as far up as the bridge among the Buoy 10 fishermen, returning salmon, surfacing whales and foraging seabirds, I got an uneasy feeling and investigated further. I did internet research, listened in on the recent Pacific Fisheries Management Council Meeting, and contacted state officials and salmon fishermen.

As it turns out, this year's Columbia River anchovy fishery is riddled with conflicts. It is a massive extraction of these forage fish, unprecedented in decades, primarily for export to Asian markets.

At this scale, the fishery is potentially harmful to our local ecosystem, established local bait fishing businesses, ESA-listed salmon stocks, and is directly counter to state and federal efforts to reduce salmonid predation by seabirds. The anchovy take limits are not based on current scientific data regarding stock size; fisheries managers are only guessing at the ability of the stock to support the allowable catch. Since these fish have been a relatively untapped resource for commercial fishermen, absence of a stock assessment was not a pressing issue until market conditions changed, and the small, but mighty, fleet from Alaska came in to exploit the stock at its center of abundance.

This is taking place in the midst of unusual oceanographic conditions that may be constricting the range of anchovy and creating unusual densities of mature, egg-bearing fish in estuarine waters.

'Last resort'

Anchovy have been described as a fishery of 'last resort' by the California Wetfish Producers Association. Something to turn to after other species decline and fisheries are shut down. Following the closure of the West Coast sardine fishery, increased pressure on anchovy was fully expected. According to some analyses, the central stock of anchovy based off southern and central California has plummeted largely due to environmental change, yet fishing has continued.

The profit on harvest per ton of anchovy is Oregon is higher than it is in California, so it is not surprising that some purse seine boats shifted efforts north. The efficiency of the fleet to capture their daily capacity in our estuary is increased by the use of the use of spotter planes, cues from pelicans, predictability of bait-fish movement with the tides, shoreline and freshwater boundaries, and ability to transfer excessive catch from one boat to another in relatively calm waters.

This new anchovy fishing effort has been described by a local salmon fishermen as akin to "shooting fish in a barrel," as well as a "train-wreck in motion." Until recently, the Oregon fishery has taken place in the absence of an observer program to monitor bycatch, including ESA-listed salmon.

Harvest limits

The Pacific Fisheries Management Council sets federal harvest limits for coastal pelagic fish species and has set the acceptable biological catch for the northern stock, from San Francisco to the Canadian border, at 9,750 metric tons. This year that quota may be met over a period of a few months, and nearly all of it will have come from one place, our Columbia River estuary and mouth waters.

States have the right to reduce federally allowable take within their waters.

The state of Washington places priority on the ecosystem value of marine forage species. To protect the food web and existing small bait fisheries, the Washington Department of Fish and Wildlife years ago adopted regulations that impose daily and weekly possession limits for anchovy. The limits preclude development of the type of large-volume fishing operations that are taking place in Oregon this year. Washington rules limit the catch, possession or landing of anchovy to 5 metric tons daily and to 10 weekly.

Just one of the three new boats working the Columbia this year has been aiming for about 85 tons per day, as reported in the Daily Astorian. The accumulated tonnage of catch to date is not publicly available due to confidentiality concerns.

The Oregon Department of Fish and Wildlife was apparently caught off-guard by this year's anchovy fishery and is moving forward on temporary adjustments to the rules, partly in response to testimony at the recent Pacific Fisheries Management Council meeting where concerns were raised about ESA-listed salmon and local depletion of prey resources for dependent predators.

Cormorant cull

Meanwhile, in a few days, federal Wildlife Services agents will resume shooting double-crested cormorants in the Columbia River in response to a mandate from the NOAA under the guise of the ESA. The ODFW is one of the many state and federal agencies that developed and support the seabird control plan.

The bellies of the dead birds will probably mostly contain northern anchovy, but nobody will be looking at that.

The culling continues a now nearly 20-year-long campaign against birds, originally designed to reduce Caspian tern consumption of salmon smolts upriver and encourage greater reliance on northern anchovy in the estuary. Our government agencies are now allowing depletion of this same northern anchovy breeding stock, so it theoretically follows that breeding terns and cormorants may increase consumption of salmon in the coming years, which could result in more birds being killed and displaced.

How much sense does a large-volume commercial anchovy fishery make in light of the millions of tax payer dollars invested in controversial cormorant and tern control measures? These measures also result in harassment of brown pelicans and other nontarget animals that are not fairly disclosed.

The anchovy stock based off of the Columbia River is clearly critical to many marine wildlife species who migrate thousands of miles annually to feed on the fish in late summer-fall. Over 80 percent of all brown pelicans surveyed by the USFWS in Oregon and Washington occurred within the Columbia River Estuary in mid-September this year. Pelicans tend to know where the anchovy are.

The warm water Blob and other ocean anomalies that reduce productivity, have probably only led to greater importance of our estuary to fish and wildlife in the California Current system. Please contact the ODFW marine resources department and the Pacific Fisheries Management Council if you want urge more thoughtful stewardship and long-term protection measures for northern anchovy and the rich biodiversity that depends on it.

Public comments to Oregon Department of Fish and Wildlife are accepted at odfw.info@state.or.us

Public comments to the Pacific Fisheries Management Council are accepted at pfmc.comments@noaa.gov

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Why is Oregon allowing such an extensive harvest of anchovy in the Columbia River Estuary? We spend enormous amounts of money and effort trying to restore salmon and then spend more killing birds that may eat salmon smolt. But then we allow depletion of a species of fish that the birds and other marine wildlife would likely eat instead. Unknown is the salmon loss from the anchovy purse seiner bycatch. This policy seems shortsighted and likely harmful.

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