



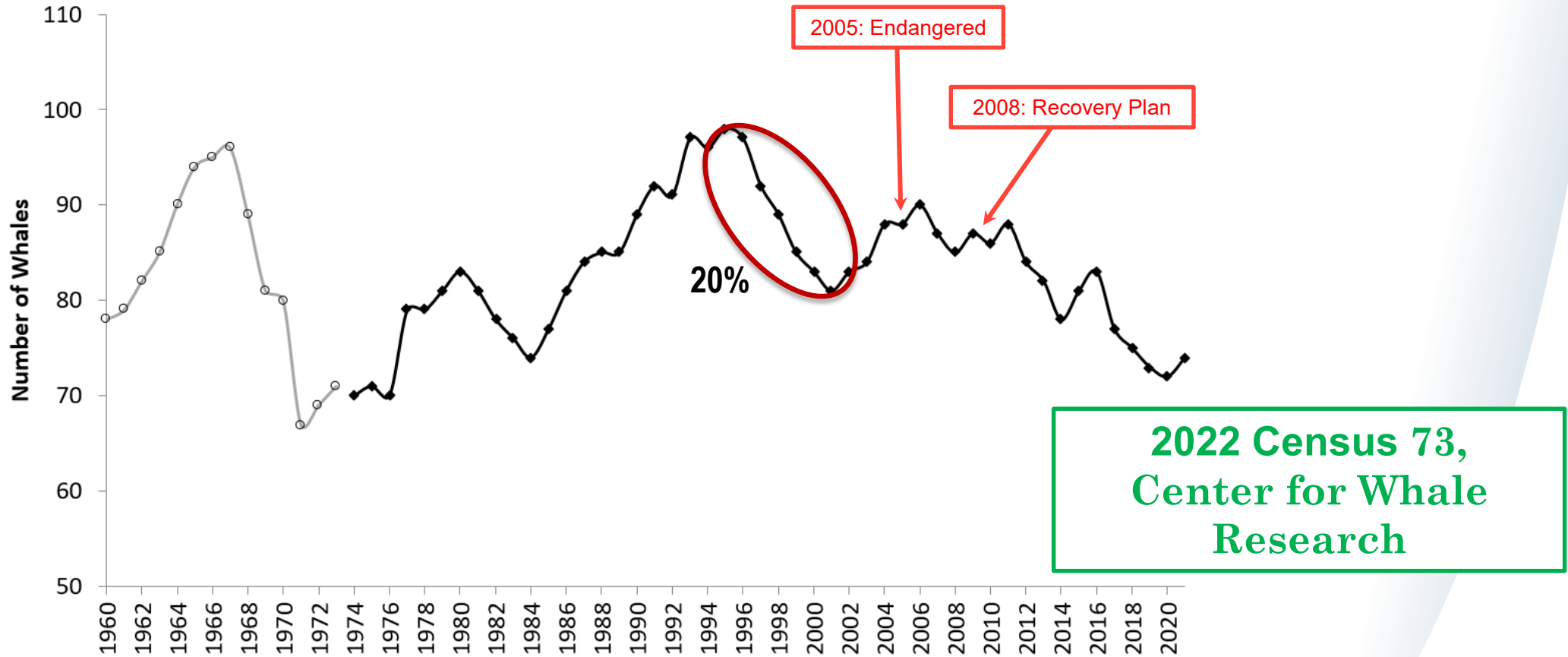
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Southern Resident killer whales, threats, and their Chinook prey



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NOAA National Marine Fisheries Service
Protected Resources Division

Southern Resident Killer Whale decline



Not ONE, but TWO New Babies in L Pod!

Center for WHALE RESEARCH
RESEARCH ENCOUNTERS OUTREACH ACTION ORCAS BLOG ABOUT DONATE

CWR MEMBER Login

It's a girl!

L94 and new calf L127

It's a boy!

L119 with new calf L126

Update: On July 3, 2023, Center for Whale Research researchers obtained photos and drone footage that confirmed that new calf L127 is female, and the next day obtained photos confirming that L126 is male.

Media Release: Center for Whale Research
Date: June 30, 2023
Not ONE but TWO New Babies in L Pod!

The Center for Whale Research (CWR) can confirm two new calves in the endangered Southern Resident killer whale population: L126 (mother L119) and L127 (mother L94). CWR researchers encountered the two calves during a survey of a group of whales containing members of J pod and the L12 subgroup in the Strait of Georgia on June 30, 2023.

L126 is L119's first calf, while L127 is L94's third. We estimate that both calves are at least two months old, and neither shows any immediate signs of illness or abnormality.

Both calves were very active and social while we observed them. The sex of the calves is still unknown, but CWR staff will attempt to get additional images of both calves in the coming days.

These are the first calves born in L pod since 2021 and the first calves born in the L12 subgroup since 2018. The first year is challenging for young whales, but we hope that both calves and their mothers can survive and thrive well into the future.

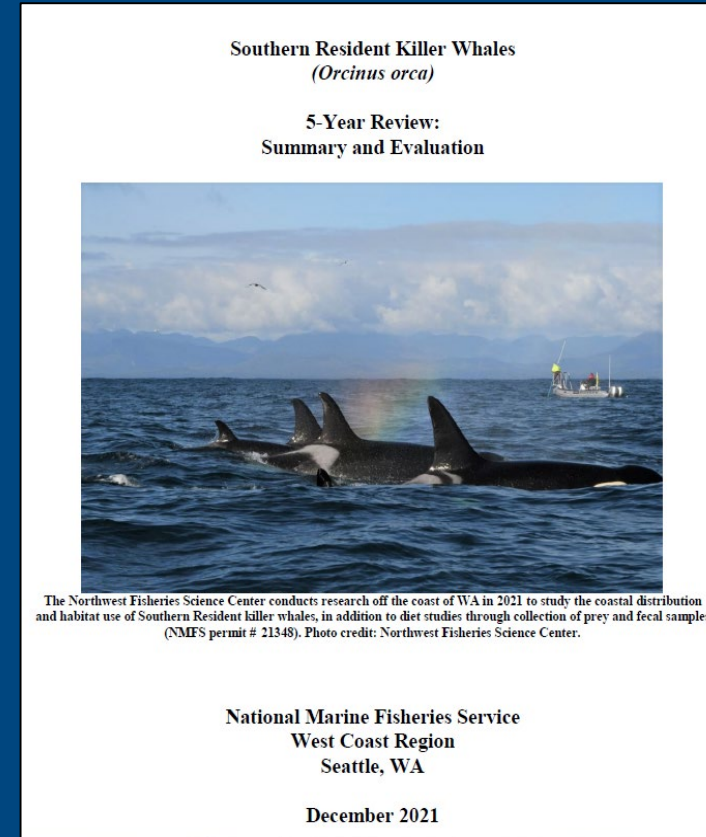
11:55 AM
7/17/2023

Recent SRKW CWR encounters August 18, 19 Haro Strait, Whirl Bay
Photos Copyright @ 2023 Center for Whale Research, Permit #21238



SRKW 5 ESA Year Review

- Endangered listing still accurate
- Population still facing decline, major threats still present (prey, vessels, contaminants/health)
- Many research advances:
 - Coastal diet & distribution during fall, winter, spring months
 - Behavioral and foraging impacts of vessels
 - Photogrammetry; body condition monitoring (SR3)

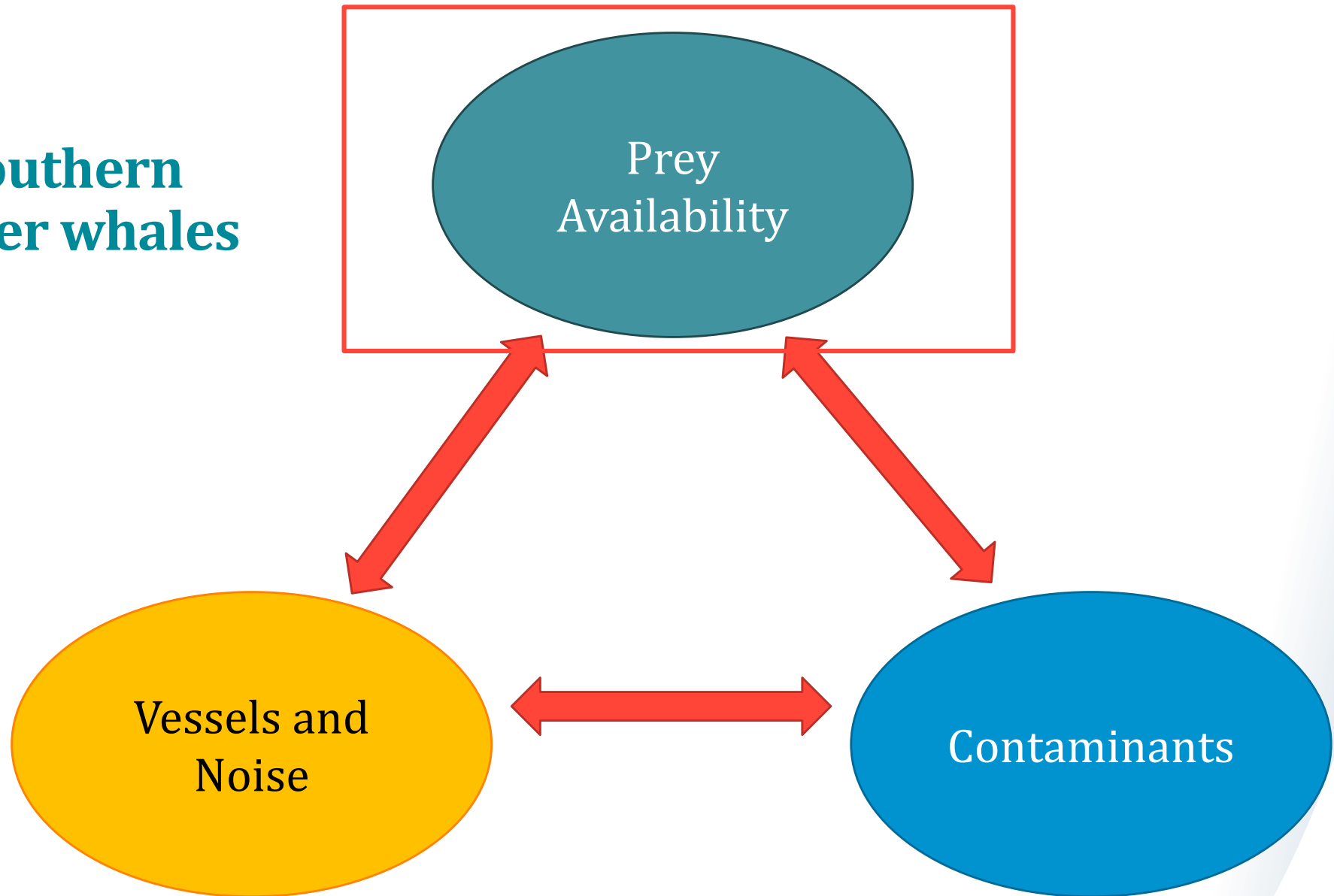


<https://www.fisheries.noaa.gov/action/5-year-review-southern-resident-killer-whales>



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Threats to Southern Resident killer whales



Priority Actions

(1) Protect whales from harmful vessel impacts

(2) Target conservation of critical prey

(3) Improve knowledge of health and support emergency response

(4) Raise awareness and inspire stewardship

SPECIES in the SPOTLIGHT

Priority Actions 2021–2025



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NWFSC Vessels and Sound Research

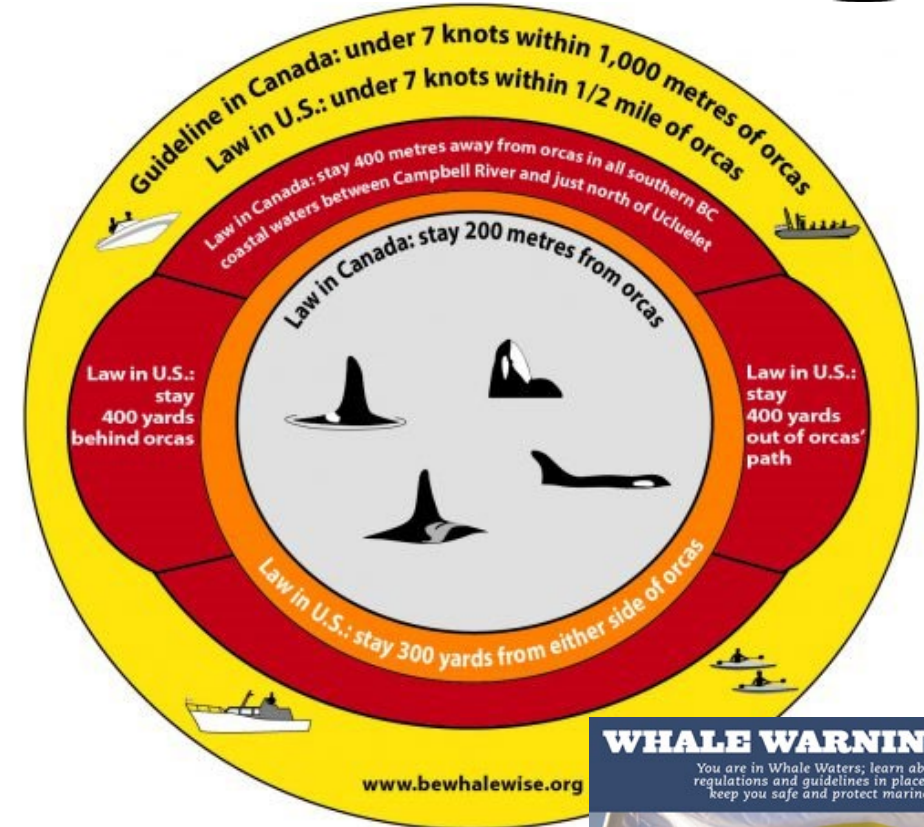
- Dtag program with DFO
(See Holt et al. 2021
<https://www.sciencedirect.com/science/article/pii/S0141113621001859?via%3Dihub>)
- Acoustic monitoring of whales with the Navy
- Monitoring soundscapes in Puget Sound
- Vessel monitoring data-Soundwatch



Be Whale Wise guidelines and regulations changes



- Increased distances
- Speed limits
- Turn off fish finders and echosounders
- Soundwatch/Straitwatch boater education and monitoring
- Enforcement
- Scoping for U.S. federal regulations update
- Working to align state, U.S. and Canadian rules



100 metres/yards no approach zone for all other marine mammals and keep 200 metres away from whales, dolphins or porpoises if

WHALE WARNING FLAG

You are in Whale Waters; learn about the regulations and guidelines in place to help keep you safe and protect marine life.



**THIS FLAG TELLS YOU
(AND LETS YOU TELL OTHERS)
THAT WHALES ARE NEARBY**

QUIET SOUND

- Voluntary slow down trial
- Oct 24, 2022-Jan 12, 2023
- 70% participation
- Overlap with SRKW sightings in the area
- Hydrophone monitoring 43% reduction in sound

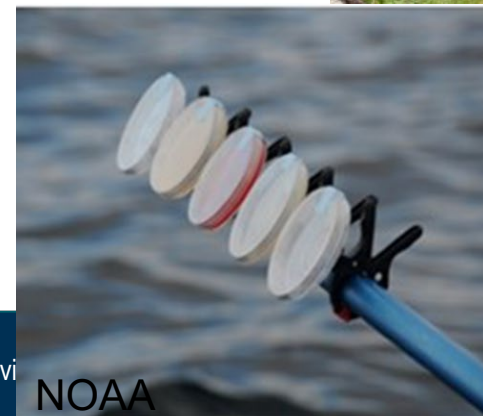


Ongoing Health Projects

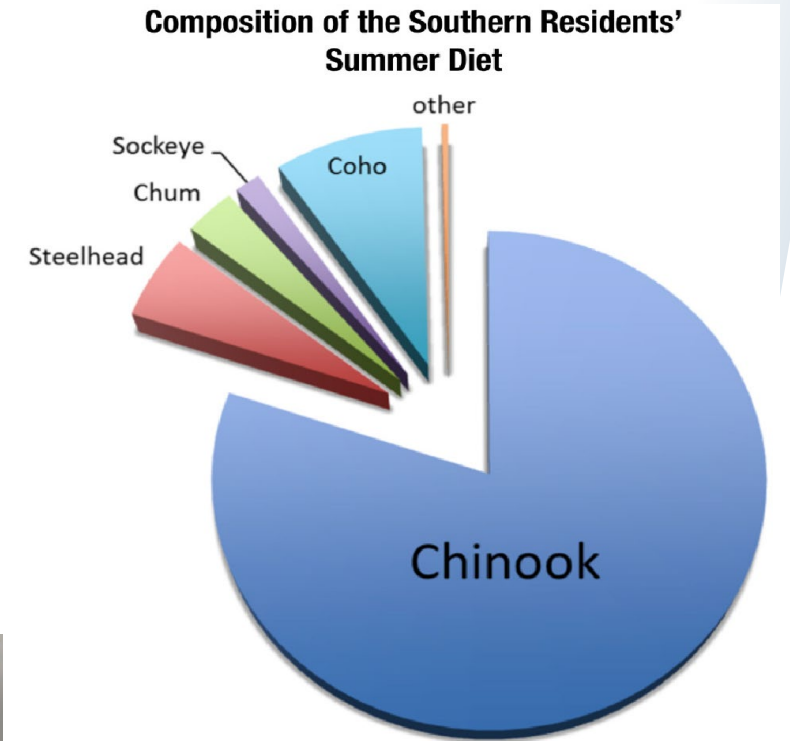
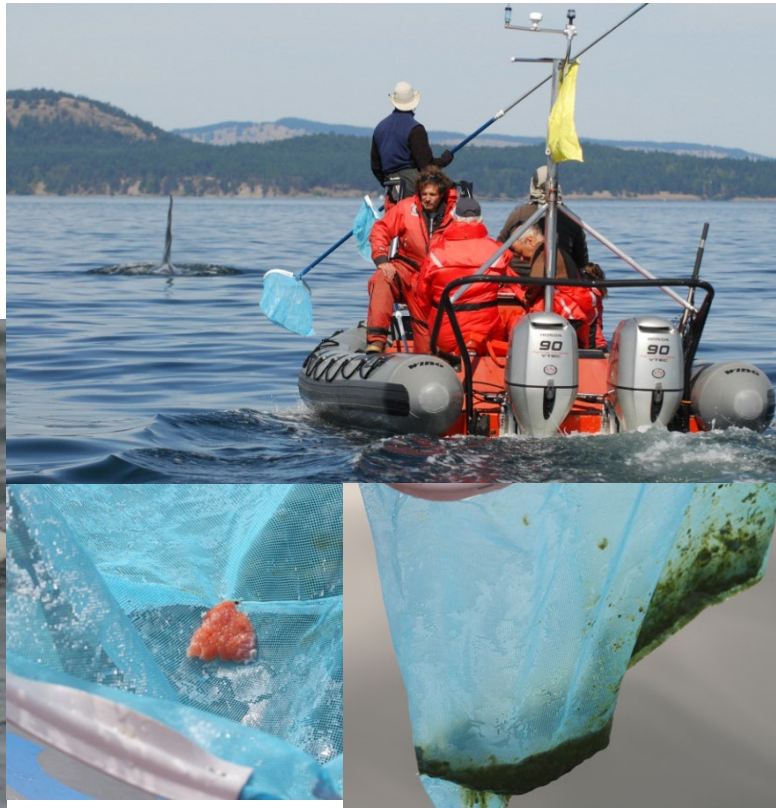
- Develop health assessment database
- Breath and fecal sampling
- Track animals of interest
- Genome mapping/inbreeding (see [Kardos et al. 2022](#))
- Skin changes (see [Gaydos et al 2023](#))
- Stranding investigations (See [Raverty et al. 2021](#))
- Photogrammetry (See Stewart et al. 2021 “Survival of the fattest”
<https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecos2.3660>)

[New SeaDoc Society video](#)

<https://www.youtube.com/watch?v=8U0kC3qFkhQ>

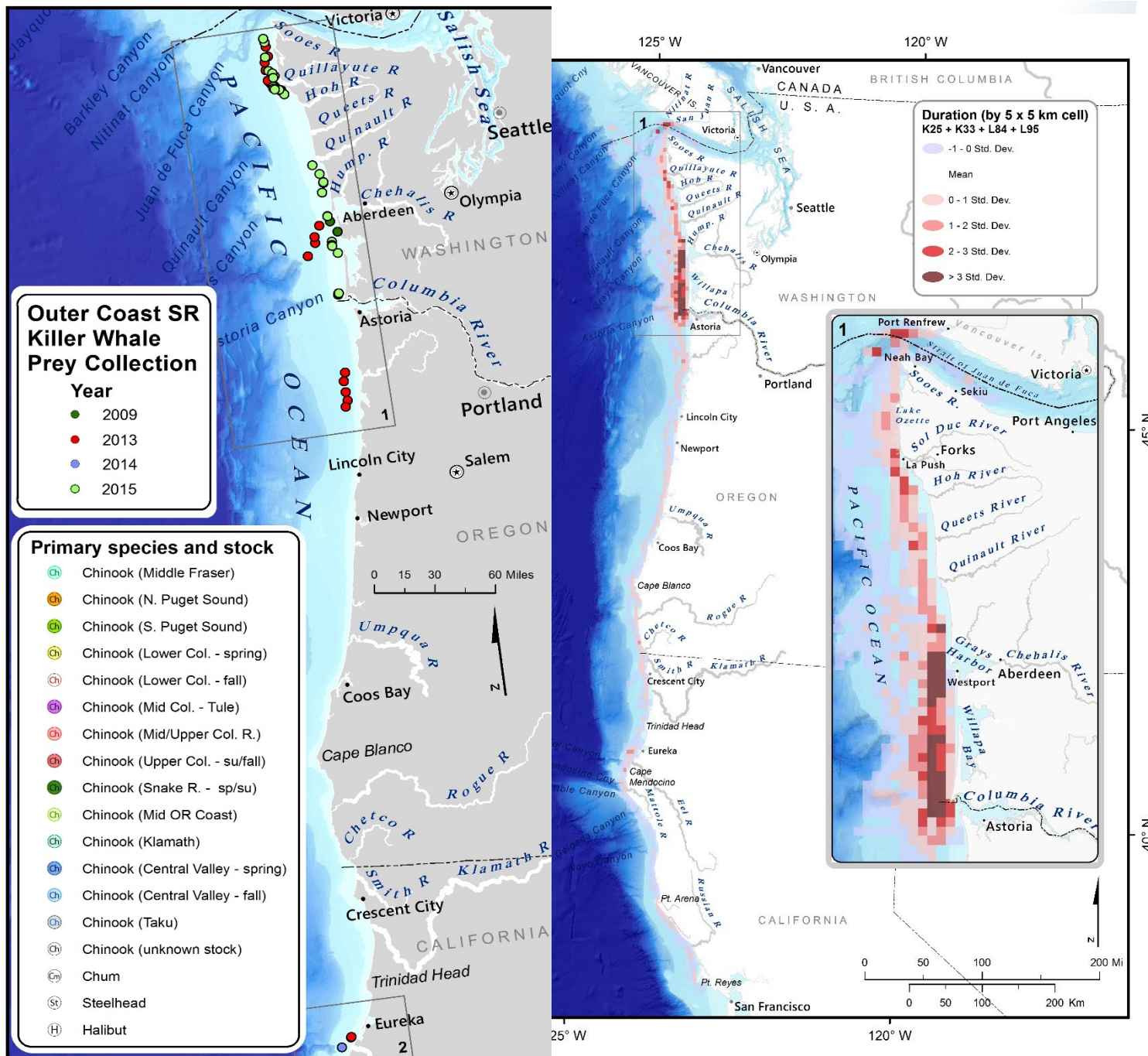
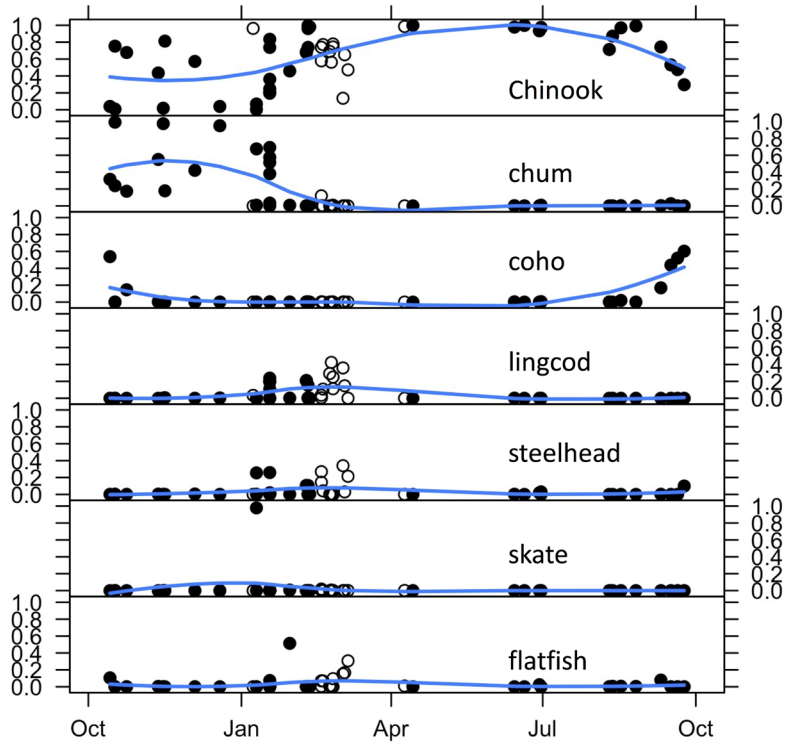


Southern Resident primary prey: Chinook salmon

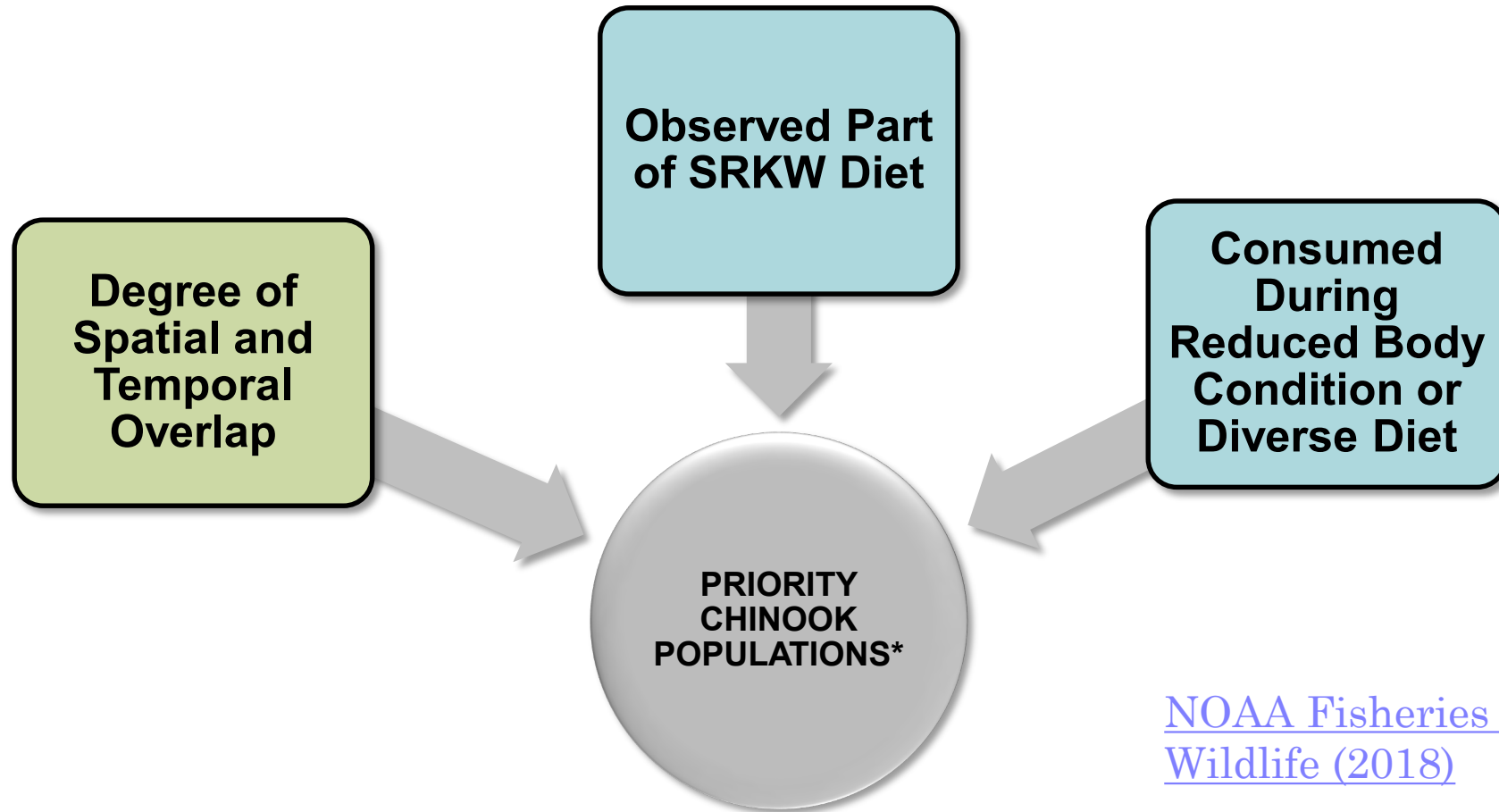


From Hanson et al. 2010

Paper on winter/coastal diet published
 March 2021 (See Hanson et al. 2021
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247031>)

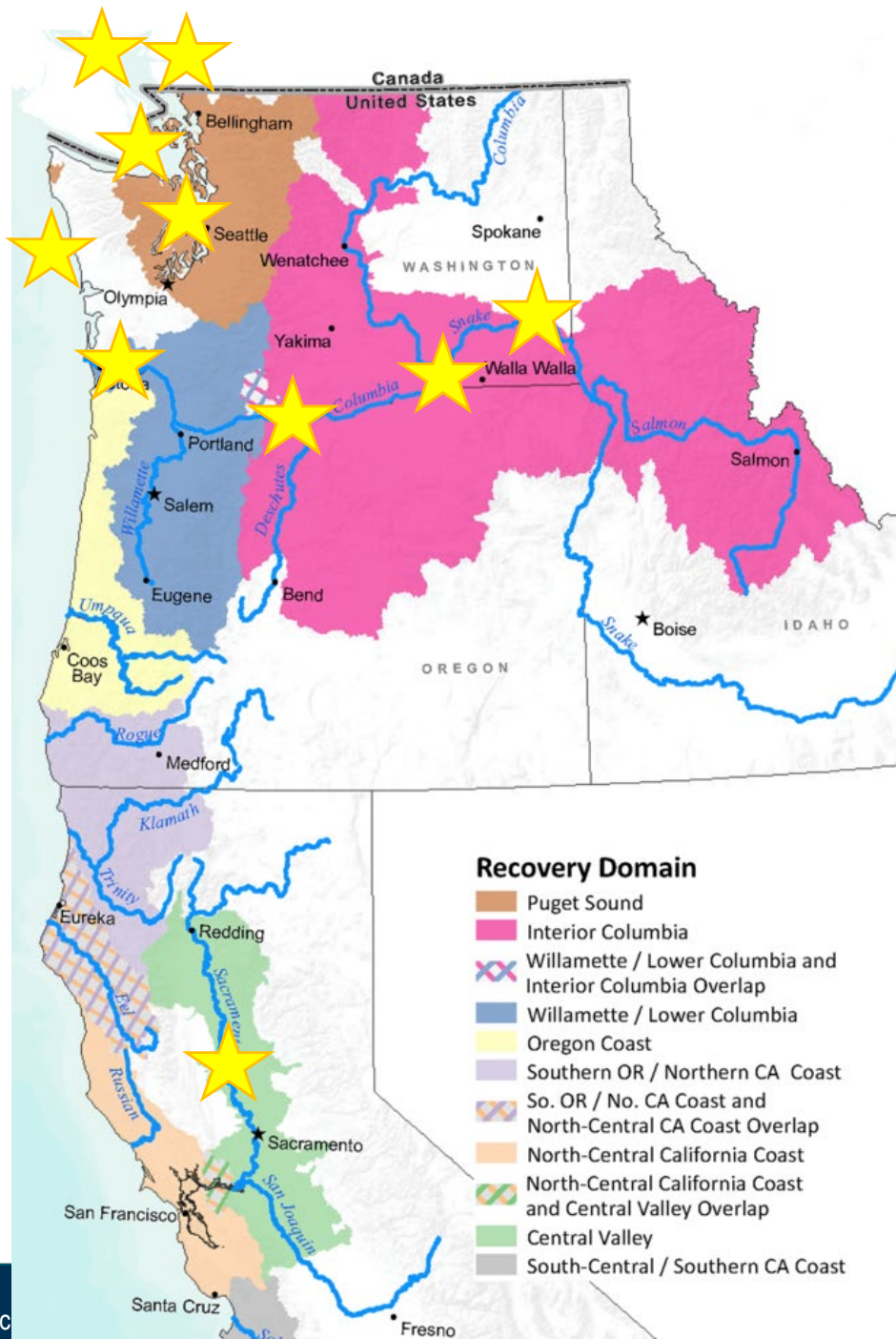


Southern Resident killer whale priority Chinook stocks



* Chinook Population is generally defined here to be a Chinook stock, ESU, or a run within a stock or ESU

ESU / Stock Group	Run Type
Northern Puget Sound	Fall
Southern Puget Sound	Fall
Lower Columbia	Fall
Strait of Georgia	Fall
Upper Columbia & Snake Fall	Fall
Fraser	Spring
Lower Columbia	Spring
Middle Columbia	Fall
Snake River	Spring-Summer
Northern Puget Sound	Spring
Washington Coast	Spring
Washington Coast	Fall
Central Valley	Spring
Middle & Upper Columbia Spring	Spring
Middle & Upper Columbia Summers	Summer



Recovery Domain

- Puget Sound
- Interior Columbia
- Willamette / Lower Columbia and Interior Columbia Overlap
- Willamette / Lower Columbia
- Oregon Coast
- Southern OR / Northern CA Coast
- So. OR / No. CA Coast and North-Central CA Coast Overlap
- North-Central California Coast
- North-Central California Coast and Central Valley Overlap
- Central Valley
- South-Central / Southern CA Coast

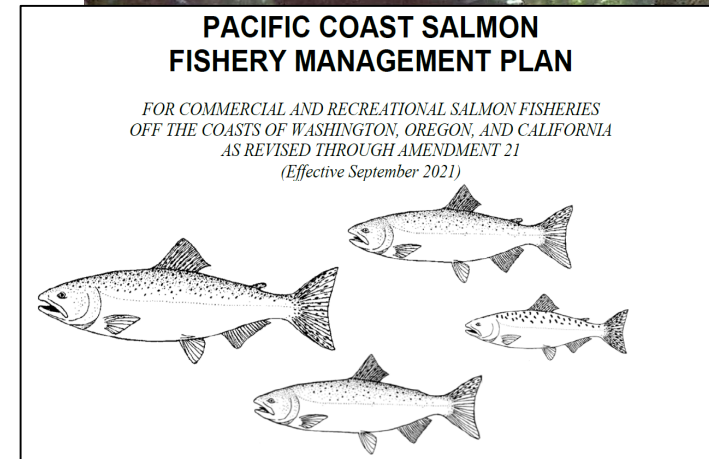
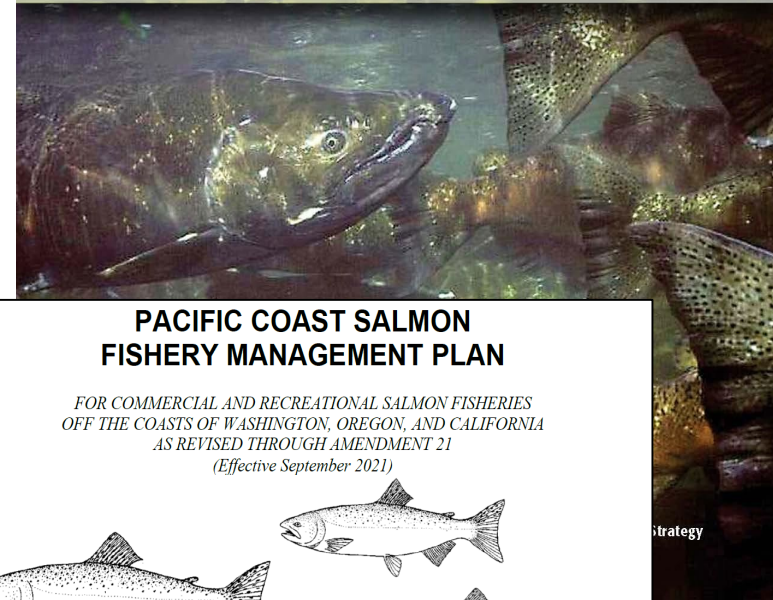


Conservation of prey

- Ongoing **diet/distribution research** inland & coastal waters
- Coordinate with ongoing **salmon recovery efforts** to increase prey abundance; prioritize actions for grants (NFWF, PCSRF)
- **Prioritize stocks** to inform management and recovery of salmon
 - Priority Chinook Stocks Report
 - Habitat restoration
 - Hatchery production
 - Harvest management
 - Predation
 - Climate



Puget Sound Salmon Recovery Plan



Pacific Salmon Treaty

- Prey increase program
- Conservation hatcheries
- Habitat restoration

<https://www.fisheries.noaa.gov/feature-story/increased-hatchery-production-aims-boost-chinook-salmon-endangered-killer-whales>



PFMC Ad Hoc Workgroup



Photo: Holly Fearnbach, SR3, SeaLife Response, Rehabilitation and Research

In April 2019 Council tasked an Ad-Hoc Workgroup with reassessing the effects of Council-area ocean salmon fisheries on Southern Resident Killer Whales

- The Workgroup included representatives from West Coast tribes; the states of California, Oregon, Washington, and Idaho; the PFMC; and NMFS' West Coast Region, Northwest Fisheries Science Center, and Southwest Fisheries Science Center.
- Multiple public comment opportunities



Main Takeaways – Workgroup Risk Assessment



Photo: J Pod, J. Ford and S. Steven.

- The Workgroup report suggests that Chinook salmon abundance North of Falcon (NOF) (North of Cape Falcon OR to Canada border) is more consistently important to SRKW than abundance in South of Falcon (SOF) areas.
- Whales are observed in the NOF in all seasons and likely have some direct overlap with the fisheries every year, whereas there is likely limited overlap in some years SOF.

PFMC (June 2020) SRKW Workgroup Report 1



Pacific Fisheries Management Council Action-Amendment 21

- Sets NOF Chinook salmon abundance threshold
- Triggers management actions

<https://www.pcouncil.org/november-2020-decision-summary-document/#Salmon>

<https://www.fisheries.noaa.gov/feature-story/amended-plan-leaves-more-salmon-endangered-killer-whales-low-return-year>

PACIFIC FISHERY MANAGEMENT COUNCIL	Habitat Issues Pacific Halibut Salmon Management Groundfish Management Coastal Pelagic Species Management Highly Migratory Species Management Administrative Matters
Council meetings +	Southern Resident Killer Whale Endangered Species Act Consultation – Final Action
Fishery management plans +	The Council adopted a final preferred alternative to address the effect of Council-area ocean salmon fisheries on the Chinook salmon prey base of Southern Resident Killer Whales.
Electronic monitoring	The Council adopted the arithmetic mean of the seven lowest years of pre-fishing Chinook salmon abundance in the area North of Cape Falcon (1994-1996, 1998-2000, and 2007, currently estimated at 966,000) as a management threshold.
Habitat	When a year's pre-season abundance projection falls below the established threshold, the following management actions will be implemented through annual regulations:
Pacific halibut	<ul style="list-style-type: none">• Reduce quotas for non-treaty fisheries North of Falcon to not exceed the value generated by a regression analysis of historic time-step 1 Chinook abundance and non-treaty Chinook quotas.• No more than 50 percent of the non-treaty commercial troll Chinook salmon quota will be assigned to the spring (May-June) period.• Close the expanded area of the Columbia River control zone as described to salmon retention from the start of non-treaty ocean salmon fisheries until June 15.• Close the Grays Harbor control zone to salmon retention from the start of non-treaty ocean salmon fisheries until June 15.• Delay the start of the commercial troll fishery between Cape Falcon and the Oregon/California border until April 1.• Close the Oregon and California waters of the Klamath Management Zone to commercial and recreational salmon fisheries from October 1 through March 31 of the following year.• Increase the duration of the Klamath Control Zone area expansion beginning September 1 through March 31 of the following year.• Close commercial and recreational salmon fisheries in the Monterey management area from October 1 through March 31 of the following year.
Navigating the Council +	
News & events +	
Fishing communities and tribes	
Council actions	
Resources & archives +	



Conclusions

- Actions to address all threats
- Prioritization based on Southern Resident killer whale life history leads to more targeted actions
 - Closures of specific areas/times instead of blanket closures, actions targeted at specific stocks (hatcheries, habitat restoration), grant funding priorities (NFWF, PCSRF), vessel regulations and guidelines
- Constructive interagency collaborations lead to actions that balance Southern Resident recovery, access for fishing communities, and salmon recovery



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Thank you!

Questions?



NMFS permit #19091