

Washington Fish and Wildlife Commission – SRKW/Hatchery Workshop #3



FISH and
WILDLIFE

September 8, 2023

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Workshop Series

Hatchery Production & SRKW Prey Availability

Workshop #1 (March 2023):

- Overview of the Washington State hatchery system and production

Workshop #2 (June 2023):

- Risks and benefits of hatchery production

Workshop #3 (September 2023):

- **SRKW recovery and population dynamics**

Workshop #4 (December 2023):

- Ecological interactions



Workshop Overview

- Southern Resident Orcas
 - Context
 - NOAA science
- Orca Task Force
 - History/context
 - Recommendations
 - Actions across threats
- Increasing hatchery production for SRKW
- FWC's 2018 decision, contextualized





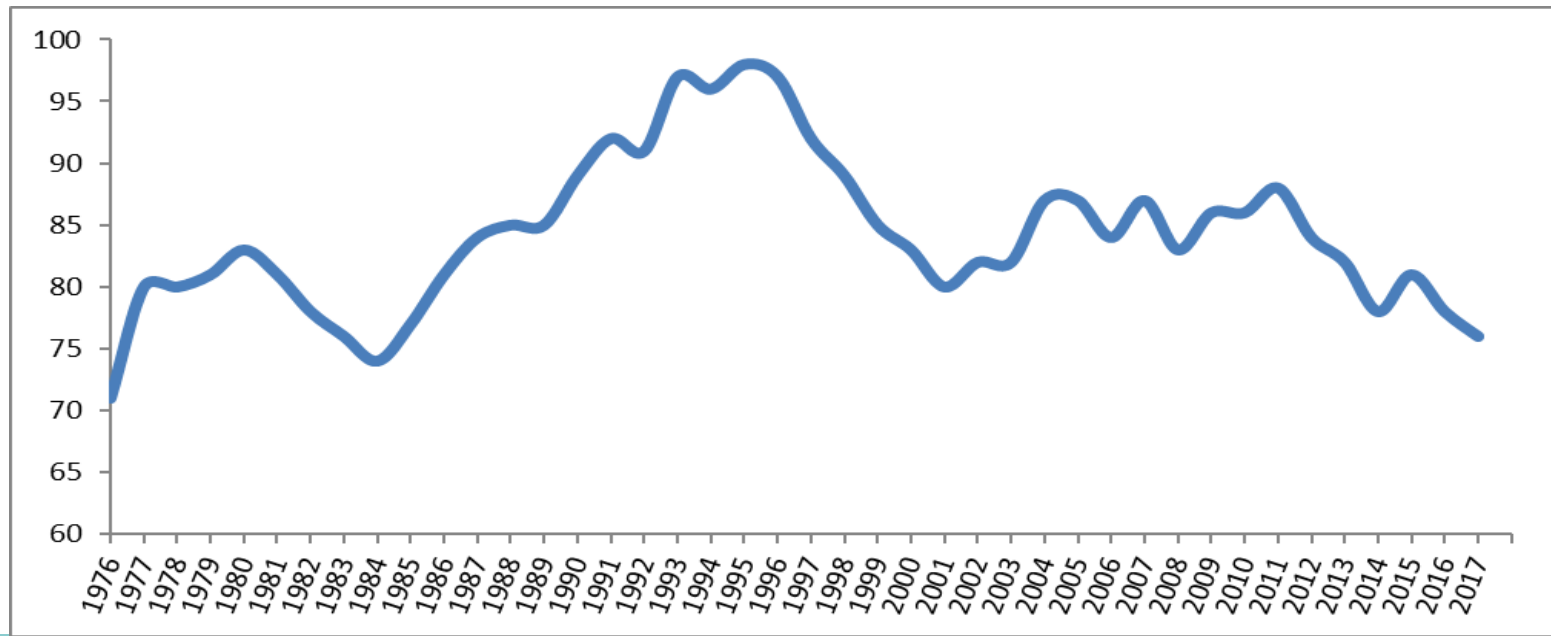
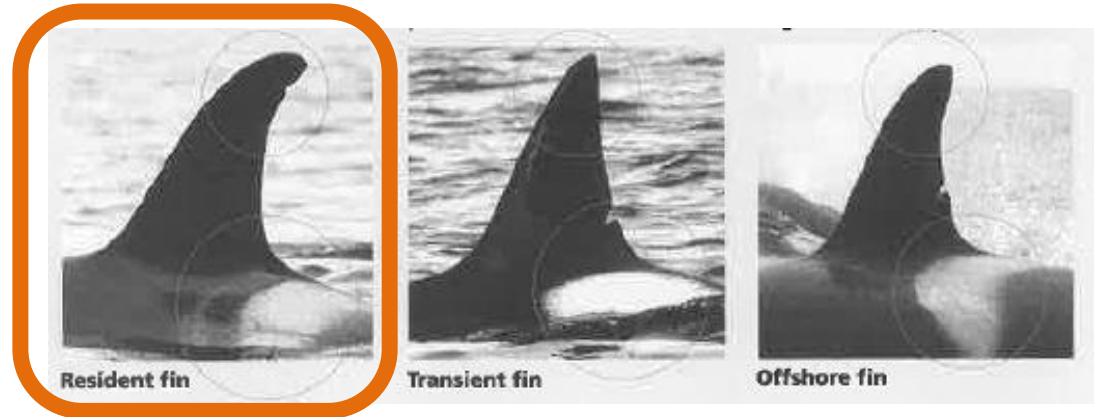
Background and Context

Orcinus orca

Southern Residents

West coast transients

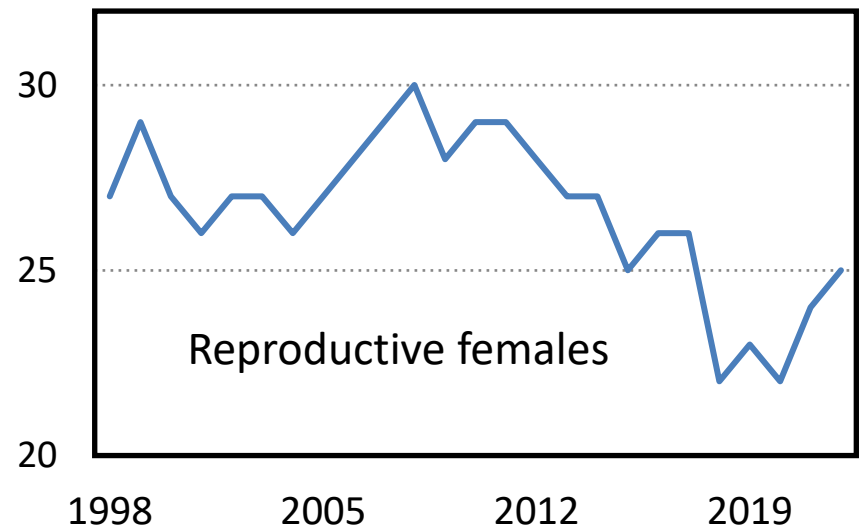
Offshores



Natural History



- Long-lived, delayed maturity
- Low reproductive rate
- Complex social structure
- Prey specialization



Threats to Southern Resident orca recovery



Too much noise & disturbance

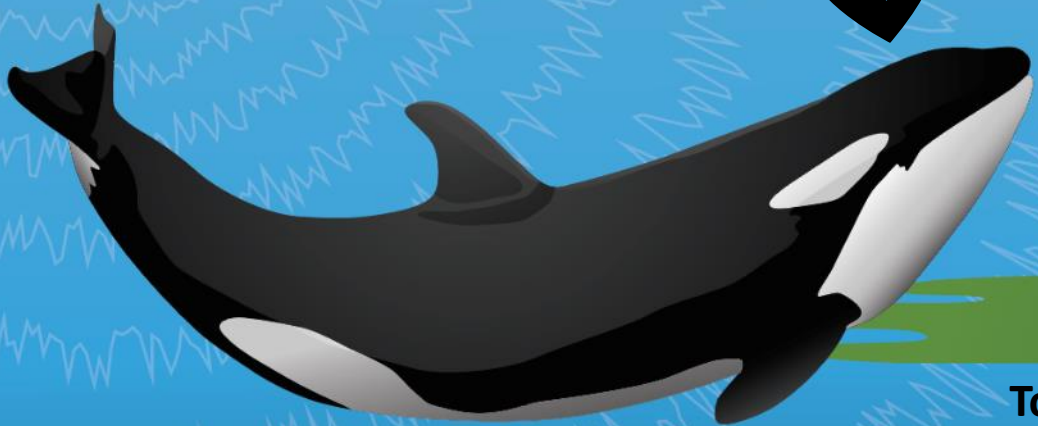
Inbreeding



Human population growth



Too much pollution



Too few fish



Climate change

Threats: Contaminants

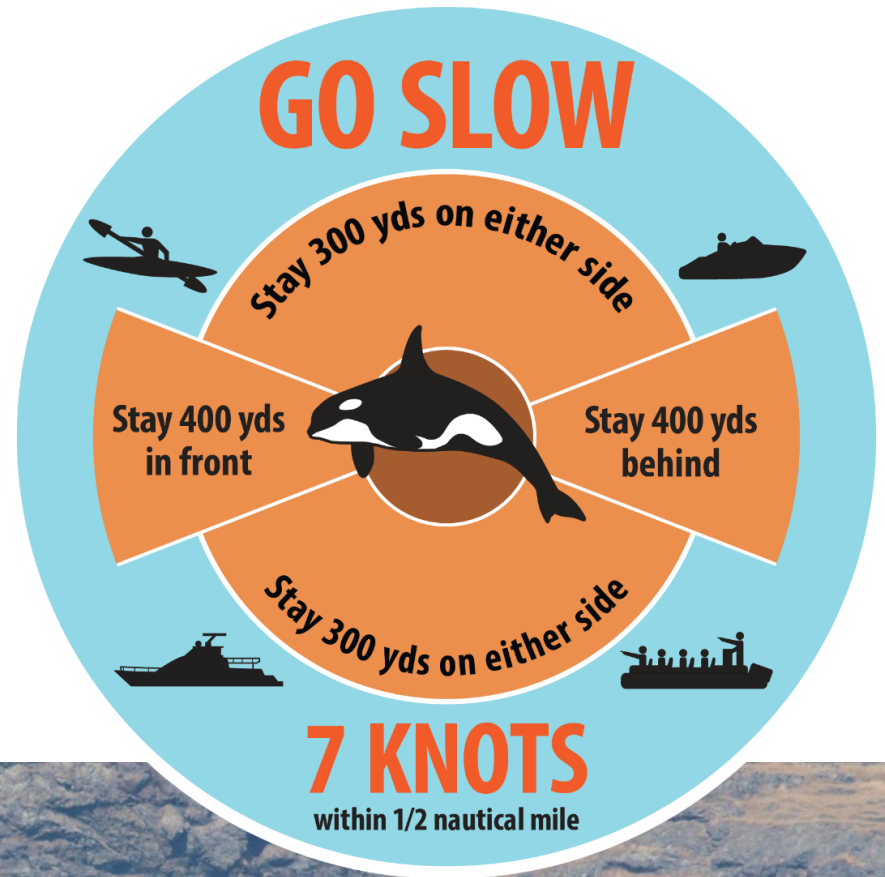


- Bioaccumulation
- Urban distribution
- Typically chronic and sub-lethal
- Oil spills
- Contaminated prey



Threats: Vessels

- Noise
 - Movement
 - Communication
 - Foraging
- Physical disturbance
- Ship strike



Threats: Prey

- Reduced availability
- Reduced size
- Altered run timing





NOAA presentation on science around SRKW threats



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Questions & Discussion

on SRKW population, threats, & science



Break: 15 minutes



**GSRO Presentation on the Orca
Task Force history, OTF
recommendations, and state
action on SRKW recovery**



WDFW Hatchery Production Increase for SRKW & Commission Action

FW Commission 2018 SKRW Prey Initiative

Friday, September 07, 2018
Question #1 from Terms of Reference: "What risks does the Commission's 2018 Prey Initiative identify and what protections does it propose or provide from adverse effects on wild Chinook

B. Salmon Hatcheries: Conservation, Fishery Enhancement, and Prey Availability - Decision

Commissioner McIsaac made the following motion and it was seconded by Commissioner Holzmilller:

I move that the Commission adopt the following general policy intent and guidance for the primary purpose of proposing enhanced Chinook salmon abundance for the benefit of SRKW recovery, acknowledging that there will also be secondary fishery benefits. This general policy intent is provided to Commission and Director representatives on the Southern Resident Killer Whale Task Force for guidance as they comply with the Governor requests under the Executive Order, and to the Director to include as a separate funding proposal for consideration in the Governor's proposed budget, at this point in those processes.

1. **At a high policy level, the Commission proposes a significant enhancement in Chinook salmon abundance, via increases in releases from hatchery programs, approximating 50 million smolts beyond 2018 status quo releases. This is to include approximately 30 million from Puget Sound locations and approximately 20 million from Columbia River locations.**

Commissioner Thorburn made a motion to amend the motion by removing items 2, 4, 5
Commissioner Kehoe seconded the motion, the motion passed.

The main motion, as amended, was then voted on and passed as well.

Governor Jay Inslee
Excerpts from
March 14, 2018

EXECUTIVE ORDER 18-02

SOUTHERN RESIDENT KILLER WHALE
RECOVERY AND TASK FORCE

Implement Immediate Actions to Benefit Southern Resident Killer Whales

- Washington Department of Fish and Wildlife (WDFW) with review from the Governor's Salmon Recovery Office (GSRO) and the Puget Sound Partnership (PSP)—By July 31, 2018, identify the highest priority areas and watersheds for Southern Resident prey in order to focus or adjust, as needed, restoration, protection, incentives, hatcheries, harvest levels, and passage policies and programs.

Establishment of the Southern Resident Killer Whale Task Force



From 2018 – 2021 there were seven directives for WDFW to increase prey for SRKW

1. Governor Inslee Executive Order 18-02
2. FWC 09/07/2018 Motion (“2018 Prey Initiative”)
3. 2018 Orca Task Force Report
4. 2019 Final Orca Task Force Recommendations (Recommendation #6)
5. Legislative Proviso FY 2019
6. Legislative Proviso FY 2020 and FY 2021
7. FWC Anadromous Salmon and Steelhead Hatchery Policy (C-3624) – Guideline #6

The directives also included other tasks:

- Sustainable fisheries and stock management
- Habitat protection, restoration efforts, and recovery plans
- Prey increases should consider
 - Best available science
 - Available habitat
 - HSRG hatchery standards
 - Adaptive management



Question #2 from Terms of Reference: What other reviews have been done on the proposed increase in hatchery production? What did they find?

- **Hatchery Scientific Review Groups (HSRG)**

- 32 Programs proposed and reviewed
- 19 supported
- 7 not supported
- 6 recommended additional analysis

* In June 2018 FWC suspended HSRG recommendations (Guidelines 1, 2, & 3) in C-3619 (Original Hatchery Policy)

- **Co-managers reviewed proposals**

- HGMPs revised, submitted to NOAA for consultation where applicable
- 24 programs moved forward

- **Received support letter from NOAA Fisheries**

- NOAA supported increasing hatchery production to benefit SRKW
- Held judgement pending review and approval of revised HGMPs



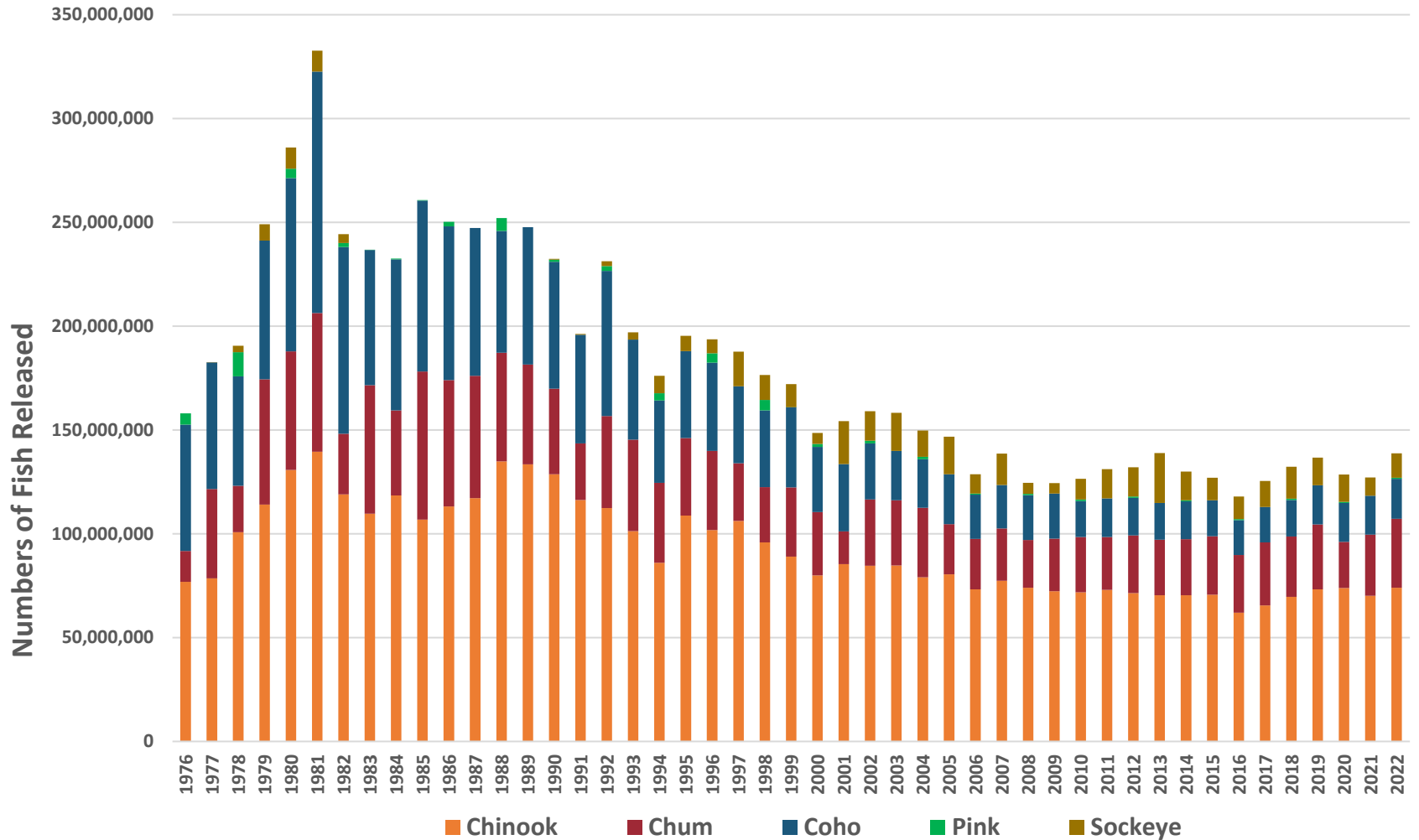
Prey Initiative – Adaptive Management

- Initiated or expanded coded wire tag (CWT) programs.
 - Implement robust monitoring and evaluation (M&E) program for Puget Sound, Lower Columbia, and Coast, based on on-going funding from the legislature.
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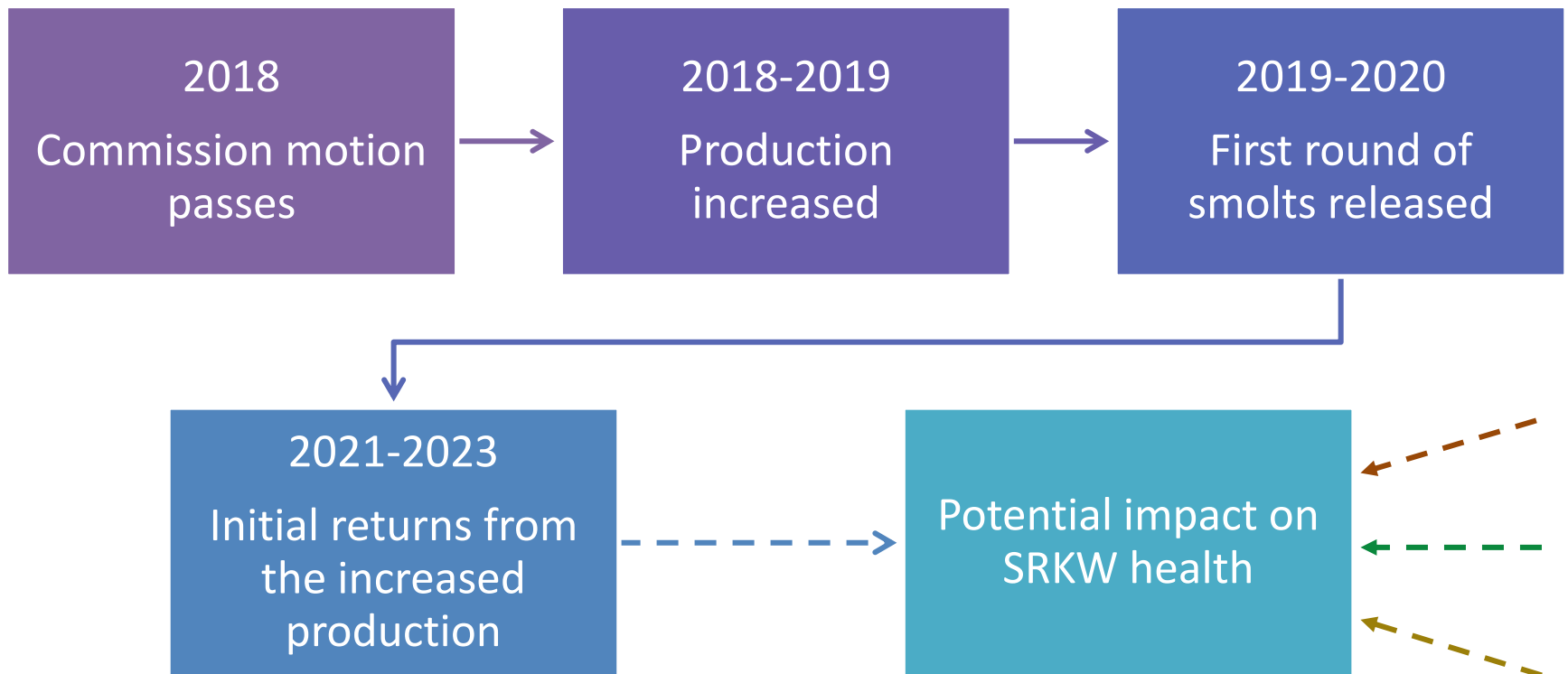
- Better estimates of straying and pHOS from prey initiative increases.
- Robust estimates of smolt to adult return rates.
- Compare survival estimates among different release size groups.
- Compare different hatchery program contributions to fisheries.
- Improved estimates of age structure hatchery returns



Hatchery Production Levels – All Species



Timeline





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Workshop #4

Guiding Questions

- What are SRKW foraging and migration patterns, including the species and stocks of salmon within each species, how well are they known, and how do they vary, or how have they varied, in recent years?
- How might differences in hatchery-reared fish and wild fish affect SRKW foraging patterns and success?
- How have changes in hatchery Chinook salmon production aligned with the changes in status of the SRKW population, with focus on the period of SRKW population increase from 1976 to the mid 1990's, and separately the period of SRKW decline from the mid-1990's to the present?
 - What have been the changes in adult wild Chinook abundance destined for Puget Sound/Salish Sea areas, and separately for Columbia River areas, during the same two focus periods?
- How are Washington's Chinook salmon populations affected by SE Alaska fisheries?

