



NOAA
FISHERIES

Northwest
Fisheries Science
Center

Coordinating data to guide Federal ESA decisions

NOAA Fisheries and the CAX

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Overview

- NOAA Fisheries' data needs
- Collection and Review Process, Past and Present
- Coordinated Assessments data eXchange (CAX)
- Current data uses
- Data Citation
- Building on Success

Federal requirements I work under

- Endangered Species Act
 - Review the status of the ESU/DPS every 5 years
 - Recovery plan
 - Critical Habitat Designation
- OPEN Government Data Act
 - NWFSC Salmon Population Summary database
- Freedom of Information Act

NOAA Fisheries use of Best Available Data

- 2015 and 2020/2021 Status Review
- 2020 CRSO BiOp
- Section 7 consultations
- California Current Integrated Ecosystem Assessment

Data Coordination Methods post Technical Recovery Team

- TRTs established protocol and methods standards for the data available for the population during their tenure
- Contact Project Biologists, yearly, often for data at the redd/weir count level
- Check continuity from previous data to new data (QA/QC)
- Apply ICTRT expansion calculations to develop HLIs
- Format data for analysis and storage
- Document data sources, and any updates to protocols and methods (Two-pagers)
- Changes in Project Biologists often led to changes in methods, leading to divergent datasets

Current Data Coordination Methods

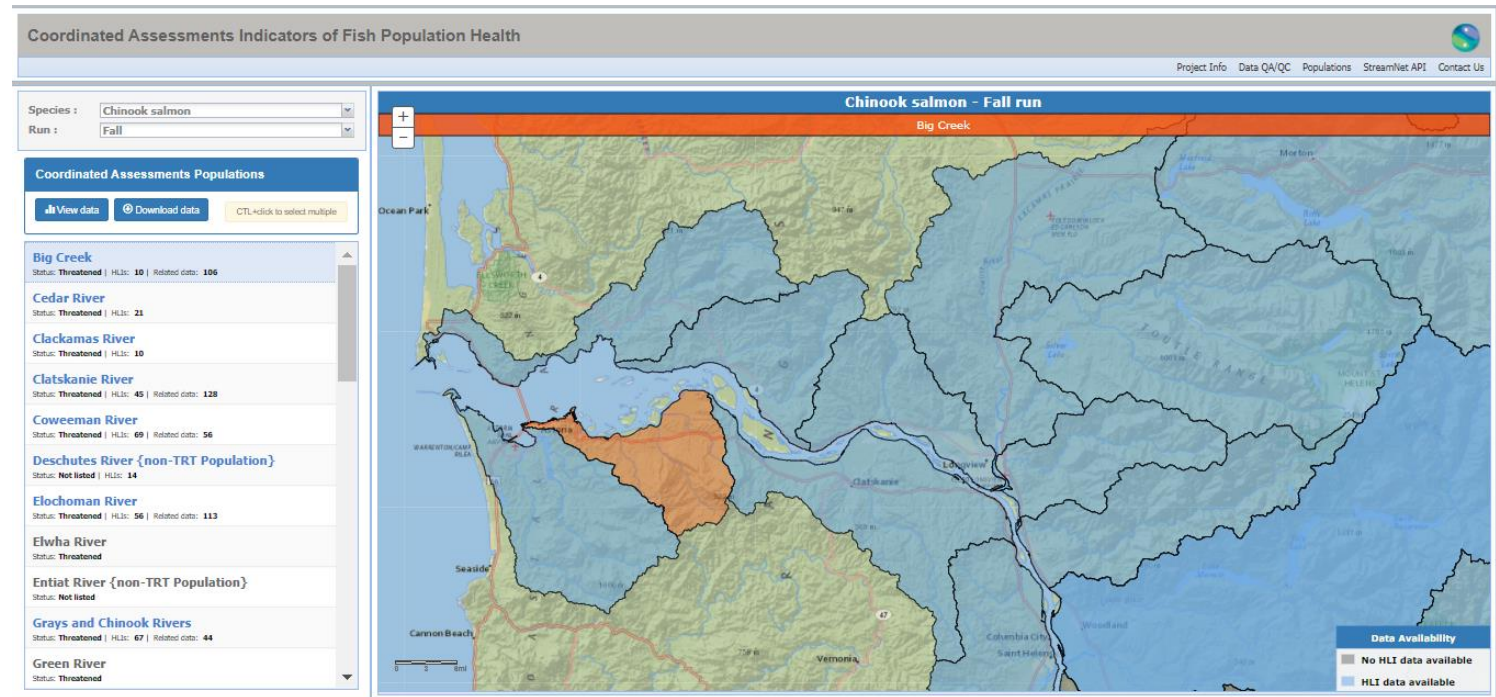
- Download the data available in CAX and review for data gaps and changes to previous data (QA/QC)
 - Data gaps – data not available through CAX, same as previous method
 - Contact Project Biologists
 - Check continuity with previous dataset protocol and methods
 - Run expansions
- CAX data QA/QC
 - Contact Data Steward/Project Biologist as listed in CAX for questions regarding changes to previous data
- Format data as needed for analysis and storage
- Document sources

Coordinated Assessments data eXchange (CAX)

Select Species and Run to view Populations
OR

Download complete CAX database

- Data Exchange Standards
 - NOSA
 - RPerS
 - SAR
 - JuvOut
 - PreSmolt
 - PNI



The value of data over time

- Data is generally collected and reported on in a yearly manner due to funding calendars and requirements, but we use trends to track current status due to complex life cycles
 - 5, 10, and 15yr trends
- Historical datasets
 - Columbia Basin Partnership Task Force process included considering what fish populations looked like before impacts from European colonization
- Data continuity
 - Methods change
 - Data collectors change

Data changes - Versioning

- Recent years are considered preliminary
- Rounding differences
- Changes to historical data
 - Precision? Accuracy?
 - Cost/benefit analysis

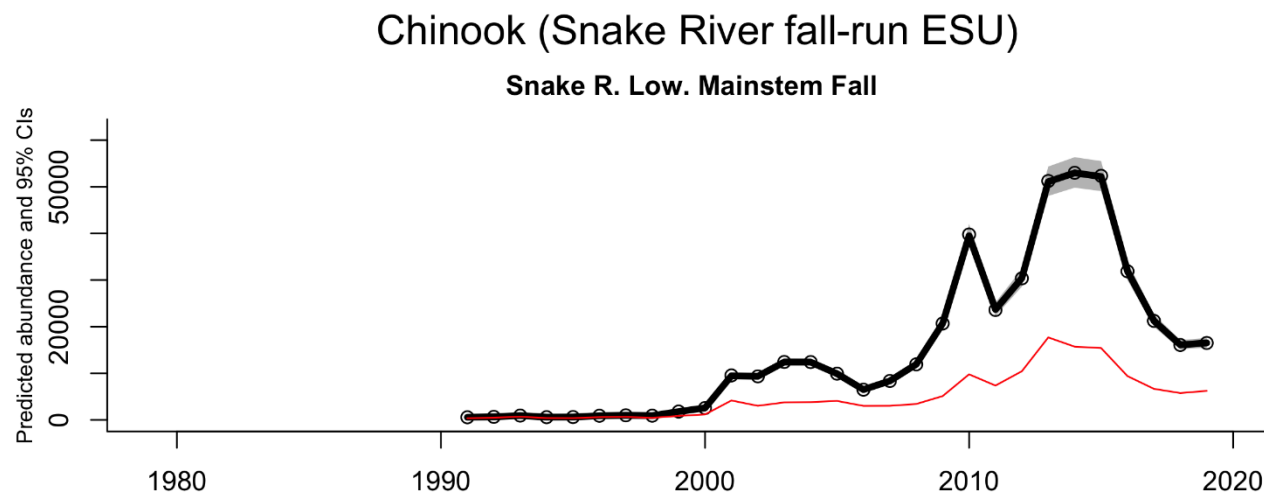
CAX Natural Origin Spawner Abundance (NOSA) evaluation

- Continuity within
 - POP_fit, notes
 - Same, partial, multiple
 - Best_Value
 - Yes/No
 - Method number



Viable Salmon Population Indicators

- Spawner abundance or escapement
- Percent Hatchery/Natural Origin Spawners
- Age data for productivity calculations
- Natural Origin returns taken for broodstock



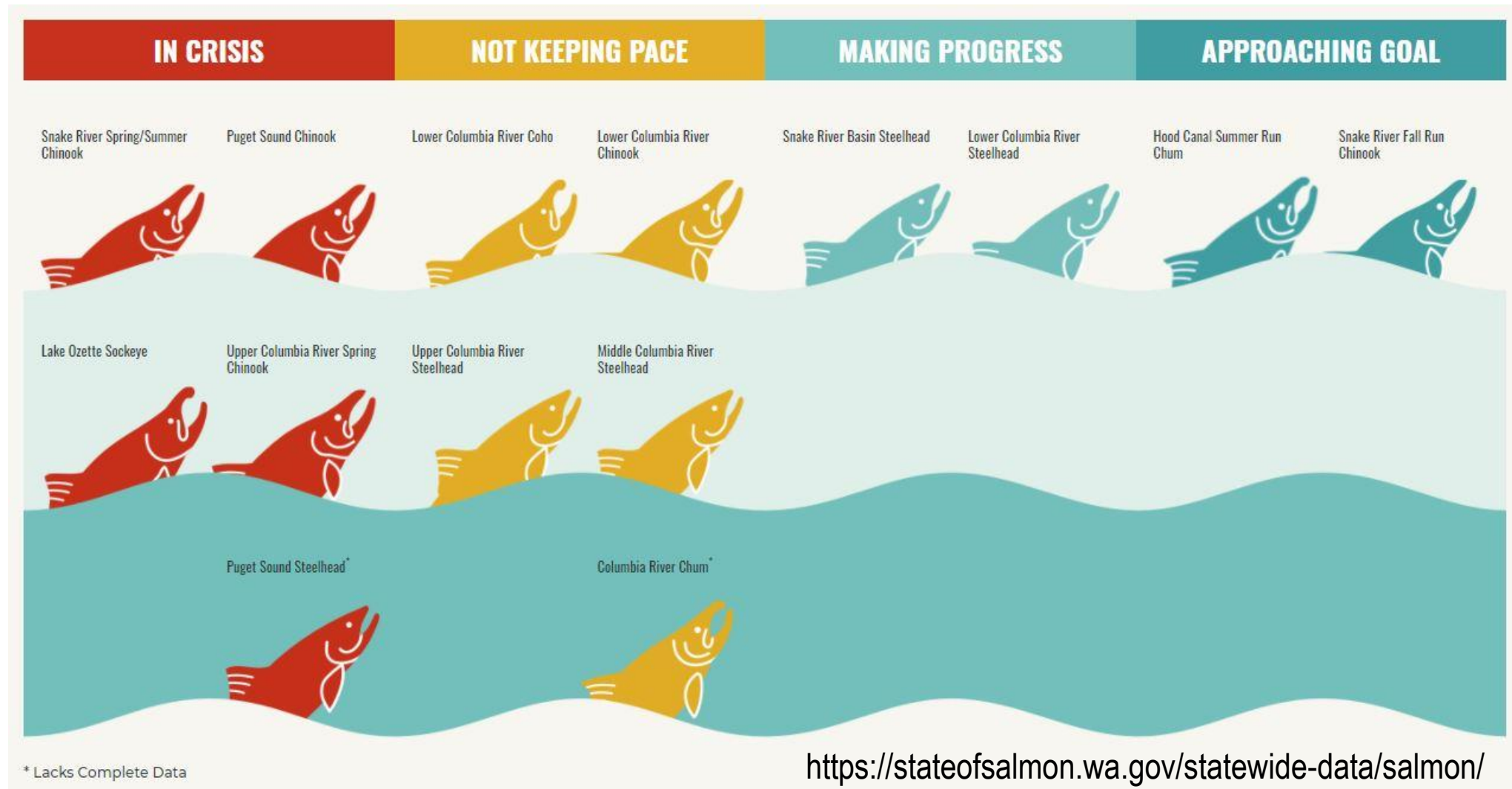
CAX data uses I support

- 2015 Status Review
- 2020 CRSO BiOp
- 2020/2021 Status Review
- California Current Integrated Ecosystem Assessment

- NWFSC staff publications
 - Crozier climate papers
 - Buhle age sample modeling

- PhD work – current request is from a student at OSU looking into how restoration investment is related to salmon recovery

Washington's use of CAX data - State of the Salmon



Data Citations

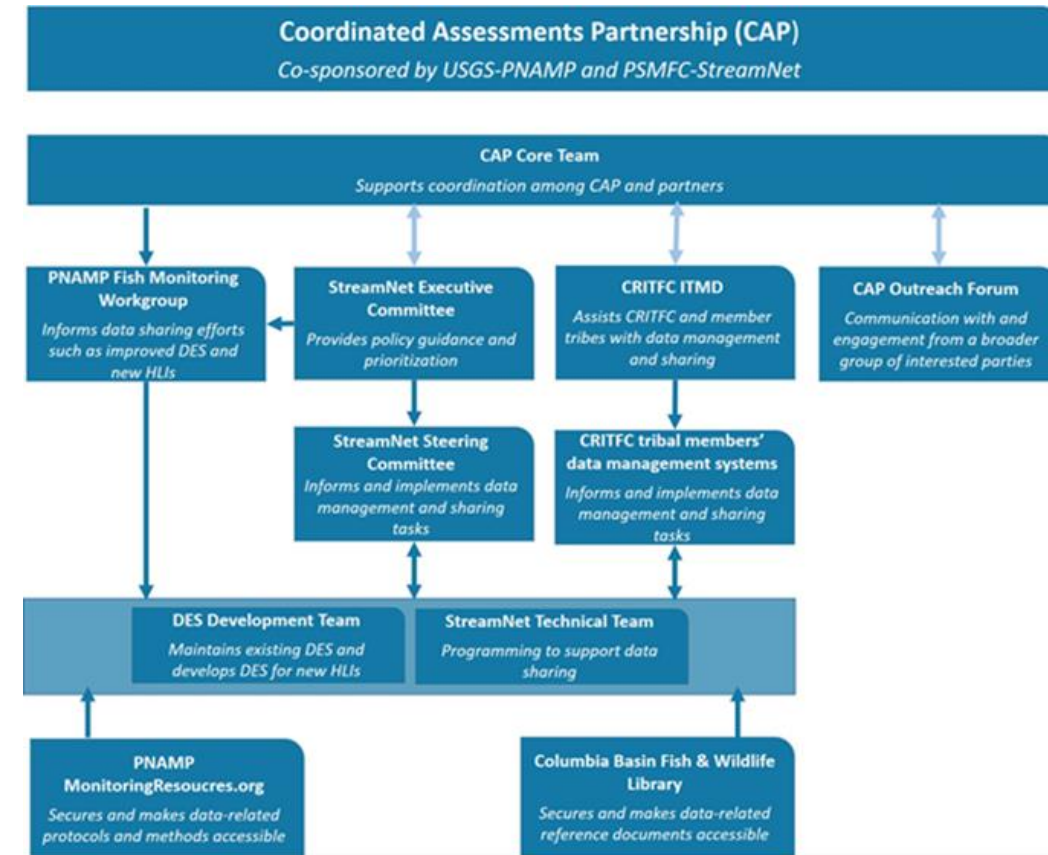
- Should include:
 - Data type and time frame
 - Data generator (Tribe/Agency level)
 - Protocol and methods location
 - Access date, data version
- White paper - Citing Aquatic Monitoring Data Sets, Olson, et al 2019
- Current practices

BiOp 2020 Data Citations

- Interior Columbia Steelhead and Chinook Natural Origin Spawner Abundance Dataset (1949-2018). Spawner abundance data. Confederated Tribes and Bands of the Yakama Indian Nation, Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Shoshone Bannock Tribe, and Confederated Tribes of the Colville Reservation. Protocol and Methods available at <https://fortress.wa.gov/dfw/score/score/>; <http://odfwrecoverytracker.org/metadata/>; <https://www.monitoringmethods.org/Protocol/Details/159>; <https://www.cbfish.org/Document.mvc/Viewer/P148516>; <https://www.monitoringmethods.org/Protocol/Details/235>. Accessed from www.cax.streamnet.org vers Feb 13 2020 10:00PM by Mari Williams, NOAAF NWFSC/OAI.
- East Fork South Fork Salmon River summer Chinook, Secesh River summer Chinook, and Snake River Lower Mainstem fall Chinook Natural Origin Spawner Abundance Dataset (1949-2018). Spawner abundance data. Nez Perce Tribe, with data contributions from Washington Department of Fish and Wildlife and Idaho Power Company. Protocol and methods available at <https://www.cbfish.org/Document.mvc/Viewer/P165414>; <https://www.cbfish.org/Document.mvc/Viewer/P164600>. Personal communication with Mari Williams, NOAAF NWFSC/OAI Dec 2019.

Coordinated Assessments 5 Year Plan – expanding on success

- Collaborative process to share standardized fish information representing tribes' and, federal and state agencies' best available information
- Supports regional reporting and decision-making by natural resource managers and regulators.
- Relies on collaboratively developed Data Exchange Standards (DES) to support data flow between partners and the CAX
- The Plan is reviewed annually by StreamNet Executive Committee to ensure alignment with regional priorities and changed as needed if regional priorities change



<https://www.streamnet.org/wp-content/uploads/2020/10/Five-Year-Plan-for-Coordinated-Assessments-rev20200902-Final.doc>

Additional dataflow through CAX and HGMP and PCSRF

- Hatchery Fish indicators development initiated 2021 (HCAX)
 - collaborative process to identify and share key salmon and steelhead hatchery indicators (HLIs)
 - relies on hatchery biologists/managers to inform HLI development and data experts to flow data
 - Depending on indicators selected these could support HGMP and PCSRF reporting
 - See HCAX details: <https://www.pnamp.org/project/hatchery-data-sharing-hcax>
- Future data categories being considered for development for regional needs that will need engagement by appropriate experts (e.g., biologists, managers, data coordinators)



Bull Trout



Carrying Capacity



White Sturgeon



Other Fish



Hatchery Fish

Questions? Suggestions?

