February 9, 2022

MEMORANDUM

TO: **Council Members**

FROM: **Leslie Bach, Kris Homel and Patty O'Toole**

SUBJECT: **Fish and Wildlife Program Strategy Performance Indicators: Review and First Year Progress Report**

BACKGROUND:

Summary: Staff will provide and update on the work accomplished in 2021 on Part 1 of the Fish and Wildlife Program 2020 Addendum: Program Goals, Objectives and Strategy Performance Indicators.

Relevance: Under the Northwest Power Act, the Council is to adopt a program "to protect, mitigate and enhance fish and wildlife, including related spawning grounds and habitat, affected by the development, operation, and management of the hydroelectric facilities located on the Columbia River or its tributaries". The Council's Fish and Wildlife Program describes a framework for implementation that includes identifying and tracking program goals and objectives, and implementing strategies and measures that will lead to achieving the goals and objectives.

Background: During the 2020 Addendum process, the Council, in collaboration with regional fish and wildlife managers, identified a set of program goals and objectives that reorganized and supplemented the goals and objectives in the 2014 Program. These goals and objectives are tracked through time to evaluate program progress. Achieving the goals and objectives depends on implementing the program strategies described 2014/2020 programs, therefore the Council also needs an effective way to measure progress in implementing these strategies. During the Addendum process, the Council

and fish and wildlife managers identified a set of strategy performance indicators that can be used to track status and trends of ecological and biological conditions.

The 2020 Addendum called for the Council to convene a standing workgroup to provide guidance to the Council on compiling, assessing, tracking and reporting on the program goals, objectives and strategy performance indicators. It also called for the Council to begin reporting annually on the status of strategy performance indicators and progress toward objectives and goals. The first annual report is provided in Attachment 1.

More Info: Strategy Performance Indicator Workgroup

ATTACHMENT 1
Program Performance: Goals, Objectives, Strategy Performance Indicators
First Year Progress Report
February 1, 2022

Background

Part I of the 2020 addendum focuses on components of program performance and adaptive management, reorganizing and refining the program's goals and objectives, and identifying a preliminary set of strategy performance indicators (SPIs) to track and report on program progress.

The program's goals and objectives describe the desired changes in the environment and the biological performance that are needed to protect, mitigate and enhance fish and wildlife affected by the hydropower system (hydrosystem). In the addendum, some objectives are broader than, or derived from a source other than hydrosystem impacts. The Council used these targets as objectives when they met the following criteria: 1) they have been well developed by others in the region; 2) they clearly relate to the program goals; 3) implementing the program's measures will clearly be necessary to contribute to meeting these targets; and 4) the targets are relatively easy to understand and track.

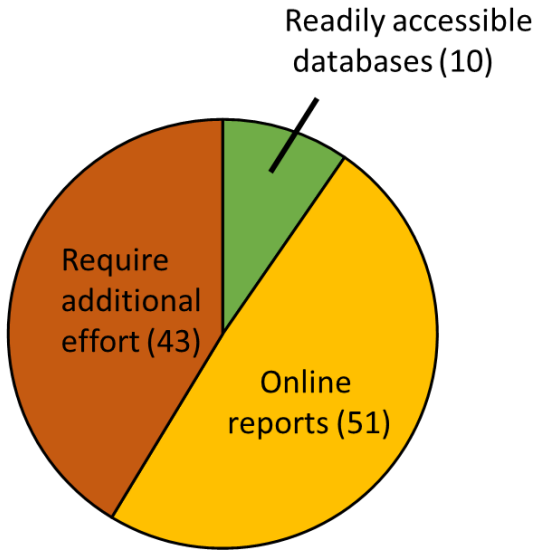
The preliminary SPIs identified in the addendum are not formally adopted into the program, but rather are intended to be used as tracking tools that can be refined and changed outside of an amendment process as better numbers or better indicators become available. The SPIs were developed through a series of collaborative workshops among Council staff and fish and wildlife managers during the 2020 amendment process. Numerous sources of information were used to inform the development of the SPIs; however a critical requirement was that they be based on currently available data.

The addendum called for the Council to convene a standing workgroup to provide guidance on compiling, assessing, tracking and reporting on the program goals, objectives and SPIs. The workgroup was also tasked with evaluating and refining the SPIs as needed. The addendum also called for the Council to begin reporting annually on the status of the SPIs and program progress, and to produce a comprehensive program performance report prior to beginning the next Program amendment process.

SPI Data Compilation

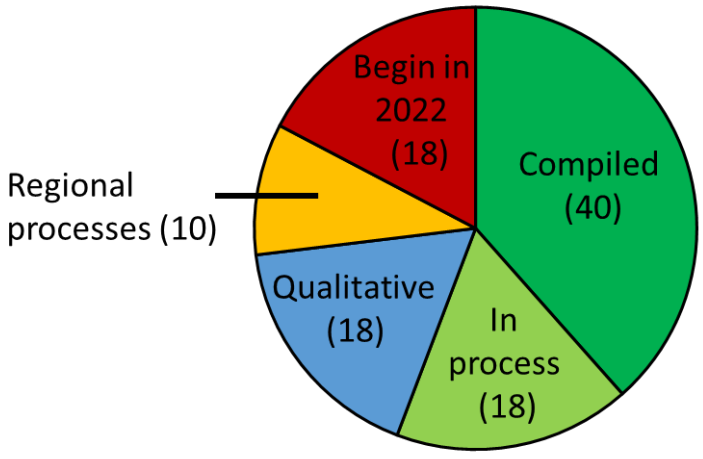
The addendum identified 104 SPIs for 18 Program Strategies. An initial assessment of the SPIs indicated that many of these SPIs contained multiple components, and that data availability varied within and among the SPIs. Only 10 of the SPIs were accessible through readily available databases, and another 51 were available through online reports, though not in a database form (see Figure 1). The remaining 43 required more time-intensive approaches to data compilation. For all of the SPIs, there were numerous decisions regarding the data, including time periods and locations of data, life stages and stocks to include, how to account for incomplete datasets, reporting format, frequency of updates, etc.

Figure 1. Data availability for 104 Strategy Performance Indicators.



During 2021 we compiled the data for 40 SPIs that address seven of the 18 strategies (see Figure 2). Examples of the data organization and display can be found under the SPI 2020 Reporting section below. Another 18 SPIs in two strategies are in the process of being compiled and evaluated and will completed in 2022. We also determined that 18 of the SPIs are qualitative and can be summarized through general reporting. This covered another four of the 18 strategies. Ten SPIs that address two of the strategies will be developed as part of existing, ongoing regional processes; the SPIs associated with these regional processes are complex, and the work associated with organizing and compiling these data will likely require a year or more. The remaining 18 SPIs will be evaluated and addressed in 2022. We anticipate that some of these SPIs may not have data available at this time.

Figure 2. Status of data compilation for 104 Strategy Performance Indicators.



SPI Tracking and Reporting Tools:

The Council is using its Program Tracker tool to track how the program strategies are contributing to achieving the objectives and program goals and to report on program performance. We are updating the Tracker to provide detailed information on the objectives and strategy performance indicators, along with metadata and source references. The reporting will include relevant contextual information, such as climatic or ocean conditions, that are important for understanding the status and trends of the SPIs. The organization of the Tracker and associated web pages will be updated to align with the reorganization of the program's goals, objectives, and strategy performance indicators.

SPI Workgroup:

The Council convened a standing workgroup consisting of technical representatives from the tribes and the federal and state fish and wildlife agencies to provide guidance to the Council on compiling, assessing, tracking, and reporting on the program's SPIs. The workgroup is chaired by the Council's Fish and Wildlife Committee Chair. The workgroup developed a set of guiding principles in a "Workgroup Structure and Purpose Statement" that was accepted by all parties participating in the workgroup. The Workgroup reviewed the SPI datasets and provided input and feedback on indicator evaluation and reporting. In some instances, indicators had to be modified to either match the available data or to address inconsistencies in language. Any proposed changes were presented to the workgroup for approval. These changes are presented in Appendix 1. During 2021 there were 4 full workgroup meetings, as well as two subgroup meetings, one focused on resident fish and one focused on Lower Columbia white sturgeon:

Workgroup meeting #1, March 8, 2021: Discussed data sources and availability; identified key data and information questions; developed draft "Workgroup Structure and Purpose Statement"

Workgroup meeting #2, May 3, 2021: Reviewed draft data compilation and reporting for: Natural Origin Fish Abundance, Dam Counts, Adult Survival, Bull Trout Abundance, Caspian Tern Predation, Sea Lion Predation, Lake Trout removal. Revised Lake Trout removal SPI; finalized Workgroup Structure and Purpose Statement.

Workgroup meeting #3, September 13, 2021: Reviewed all SPIs for Water Quality and Mainstem Hydrosystem Flow and Passage Strategies and a portion of the SPIs from the Sturgeon strategy (18 SPIs); Workgroup proposed revisions to temperature and sturgeon SPIs; discussed a process for developing the natural and hatchery origin abundance SPIs incorporated from the NOAA Marine Fisheries Advisory Committee's (MAFAC) Columbia Basin Partnership Task Force; initial review of Program Tracker.

Resident Fish subgroup meeting, October 19, 2021: Reviewed all SPIs for Resident Fish (14 SPIs). Discussed data availability and potential location of additional information. Follow up contacts were provided.

Workgroup meeting #4, December 13, 2021: Reviewed refined SPIs as identified during Workgroup #3; reviewed SPIs from Water Quality and Mainstem Hydrosystem Flow and Passage Strategies in Program Tracker; Provided report out on resident fish subgroup meeting; Discussed progress report.

Lower Columbia River Sturgeon subgroup meeting, December 16, 2021: Reviewed the SPIs and revised reporting graphics, text and displays.

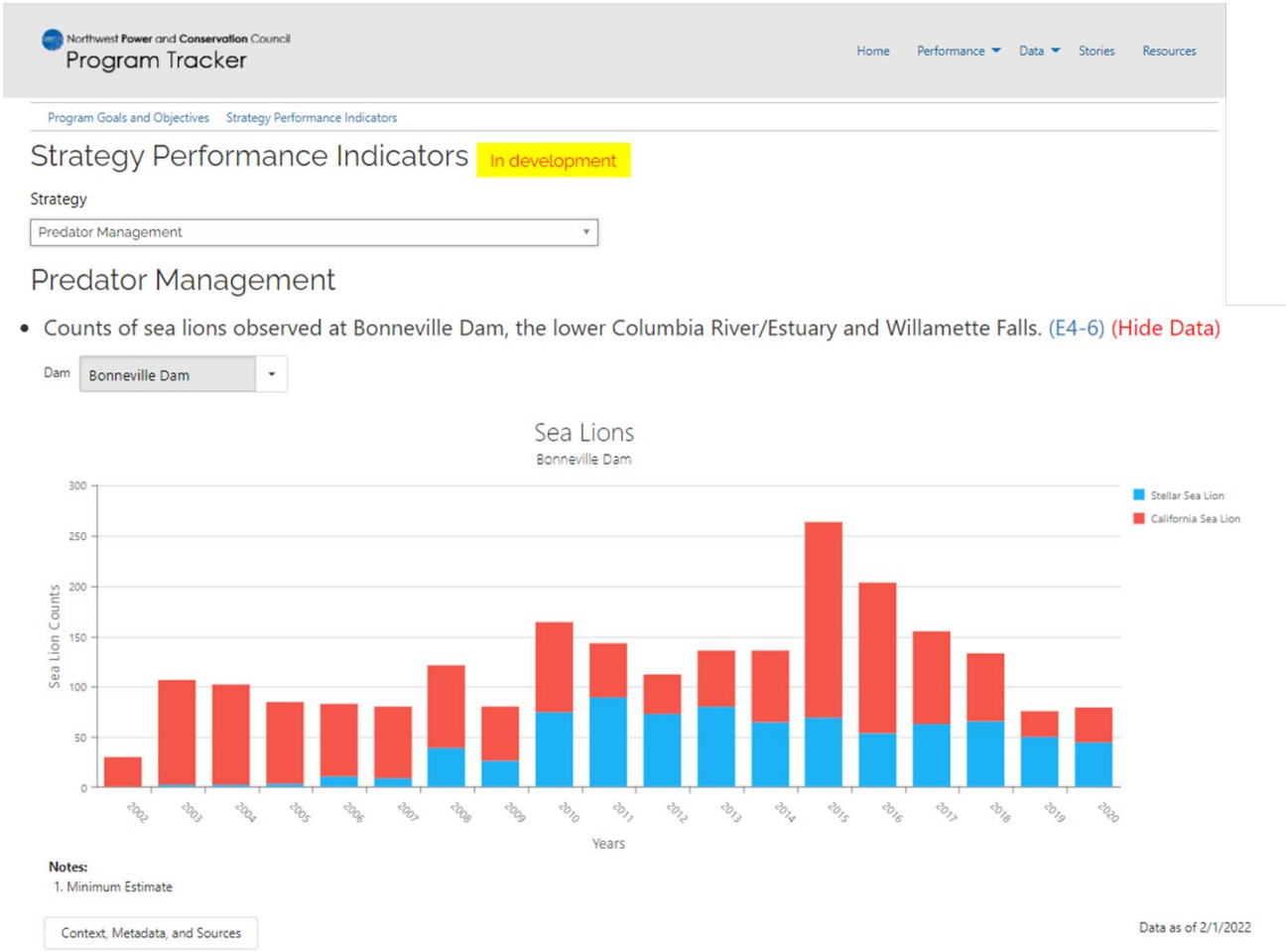
SPI Reporting 2021

In 2021 we compiled and organized quantitative data associated with SPIs in nine of the 18 strategies and tracked the qualitative SPIs associated with an additional four strategies. The data are being migrated to the Program Tracker, and the visual displays and option menus for each SPI are currently under development. The Program Tracker is operational for internal review but is not yet "live" and available for public viewing. Below are some examples of the datasets and reporting format for the completed SPIs. Given the dynamic nature of the datasets, and their multiple options, only example "screenshots" are displayed here.

Strategy: Predator Management:

Strategy Performance Indicator:

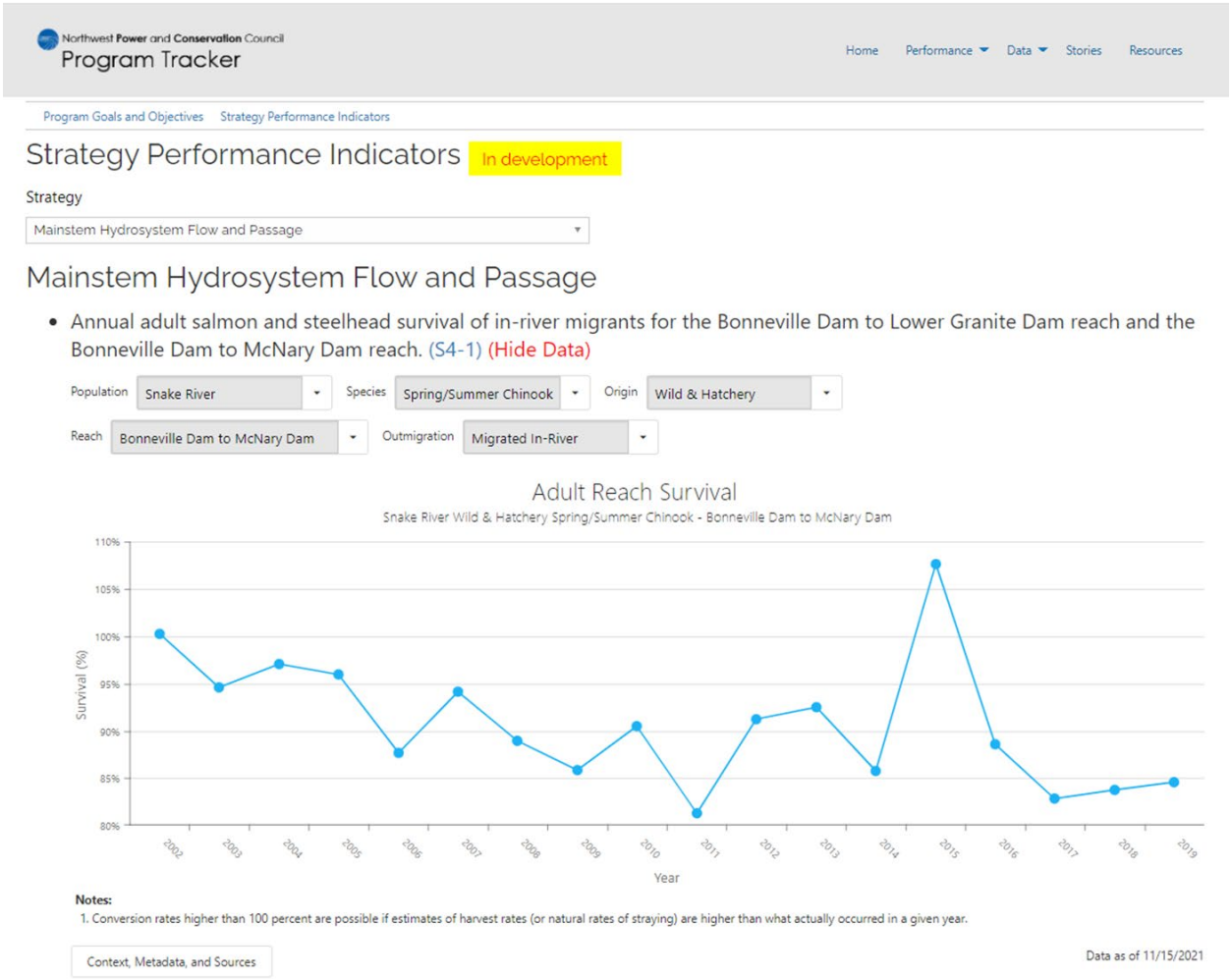
Counts of sea lions observed at Bonneville Dam, the lower Columbia River/Estuary and Willamette Falls. (E4-6)



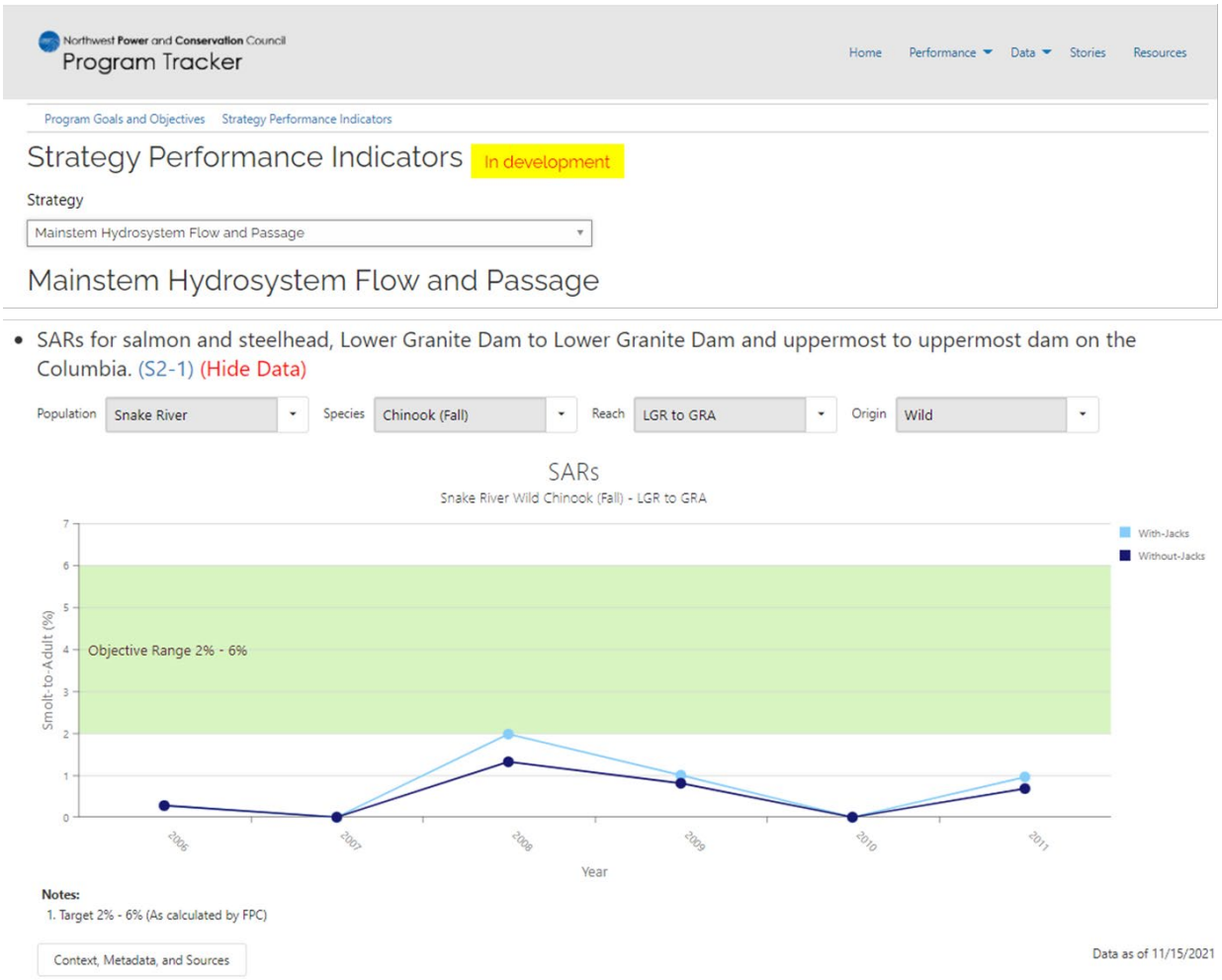
Strategy: Mainstem Hydrosystem Flow and Passage

<u>Strategy Performance Indicators:</u>

Annual adult salmon and steelhead survival for the Bonneville Dam to Lower Granite Dam reach and the Bonneville Dam to McNary Dam reach. (S4-1)



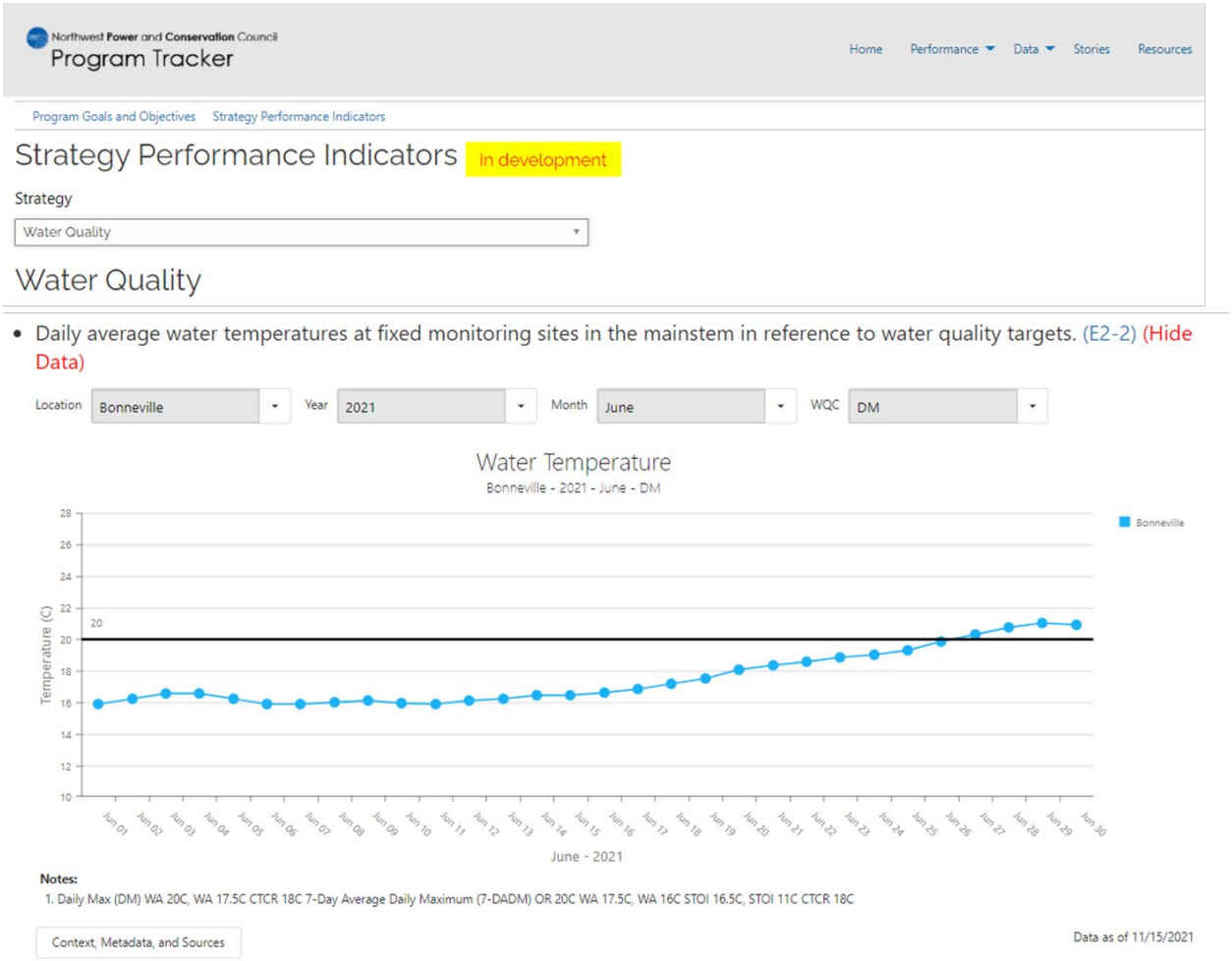
SARs for salmon and steelhead, Lower Granite Dam to Lower Granite Dam and uppermost to uppermost dam on the Columbia. (S2-1)



Strategy: Water Quality

<u>Strategy Performance Indicator:</u>

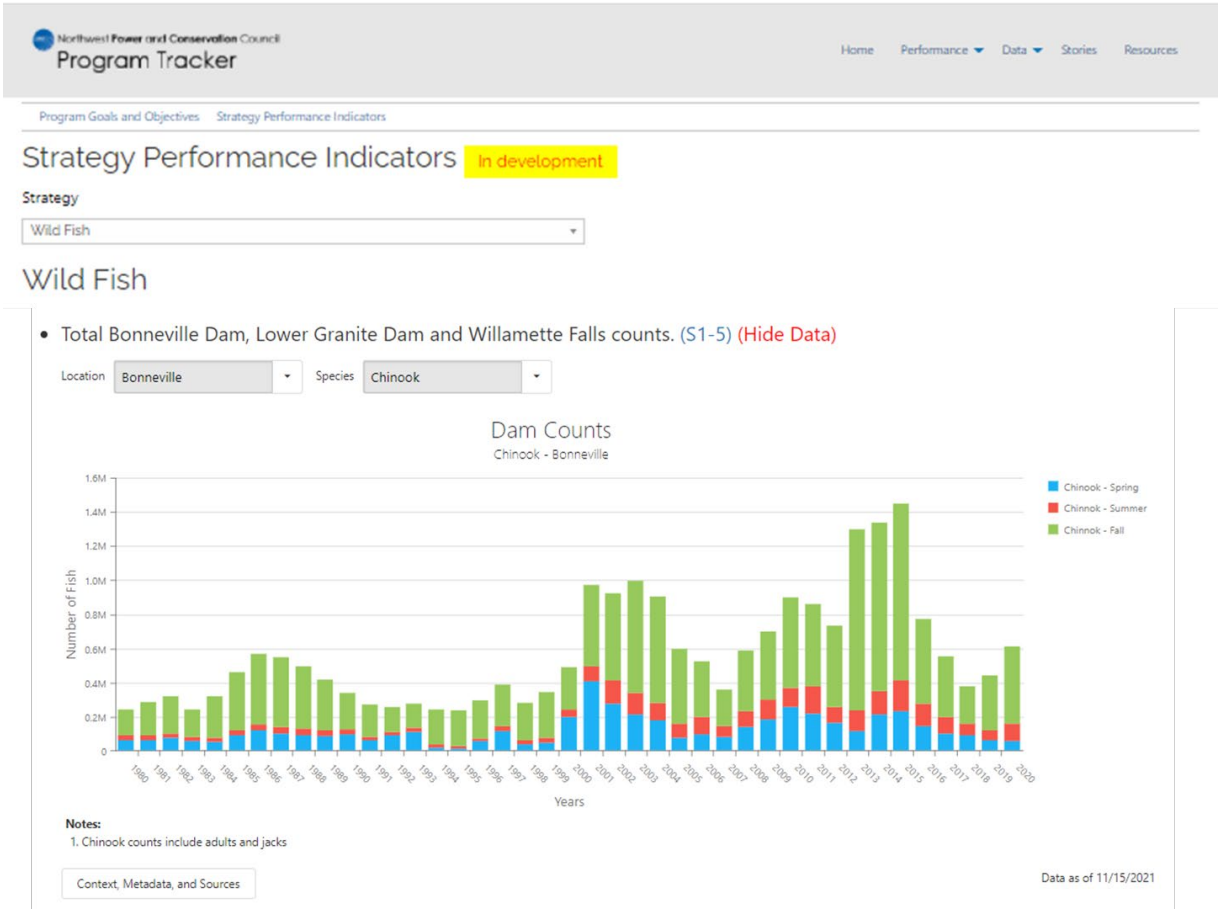
Number of days above lethal fish temperatures for each species at fixed monitoring sites in the mainstem. (E2-2) (*Note change in indicator text as shown in screenshot, below*)



Strategy: Wild Fish

Strategy Performance Indicator:

Total Bonneville Dam, Lower Granite Dam and Willamette Falls counts. (S1-5)



SPI Workplan 2022

In 2022 we will address the remaining SPIs. This will likely require topic-specific subgroup and individual meetings with fish and wildlife managers and data stewards to identify data sets and discuss data availability and limitations. We will also hold at least two SPI workgroup meetings to review the additional SPI datasets and discuss their display in the Program Tracker. In 2022 the Tracker will be launched on the Council's website, and will be linked to other program performance and program progress reporting pages on the website. A critical element to be completed prior to launching the Tracker on the website is to develop metadata and context information for each SPI. This will be the focus of work in the first quarter of 2022. In 2022 we will begin reporting on the status and trends of the SPIs as well as the current state of the Program goals and objectives.

Appendix 1. Revisions to Strategy Performance Indicators

Indicator	Revision
R1-1 / R3-1: Predator management Annual average catch rate of Lake Trout in Upper Priest, Flathead, and Pend Oreille lakes.	Changed indicator to reflect data availability. New text says: "Status of current-year Lake Trout juvenile and adult abundances (increasing, decreasing or stable) in Pend Oreille, Priest Lake, Flathead Lake, and the Yakima Subbasin relative to the most recent 5-year average at each site."
E4-6: Predator management Counts of sea lions observed at Bonneville Dam, the lower Columbia River, estuary and Willamette Falls. Compare trend to determine if the impacts are decreasing over time.	New text says: "Counts of sea lions observed at Bonneville Dam, the lower Columbia River/ estuary and Willamette Falls."
E4-7: Predator management Proportion of the adult salmon and steelhead run consumed by sea lions in the lower Columbia River and estuary, with emphasis on upper Columbia spring Chinook and wild Winter Steelhead.	New text says: "Percentage of the adult salmon and steelhead run consumed by sea lions in the lower Columbia River, with emphasis on upper Columbia spring Chinook and wild Winter Steelhead."
E2-2: Water Quality Number of days above lethal fish temperatures for each species at fixed monitoring sites in the mainstem	New text says: "Daily average water temperatures at fixed monitoring sites in the mainstem in reference to water quality targets."
E2-3: Water Quality Number of days of spawning temperatures between 12C and 18C for Columbia River (downstream of McNary Dam) white sturgeon.	New text says: "Daily average water temperatures downstream of McNary Dam in reference to spawning temperature range for Columbia River white sturgeon."
E2-4: Water Quality Percent exceedance of state and tribal water quality temperature standards at fixed monitoring sites in the mainstem	Merged with E2-2
E2-5: Water Quality Total dissolved gas (TDG) exceedances during spill events at Dworshak, Libby, Grand Coulee, Hungry Horse, Albeni Falls dams, and at other Columbia River and Snake River dams. Compare to the following standards:	New text says: "Total dissolved gas (TDG) during voluntary spill events at Dworshak, Libby, Grand Coulee, Hungry Horse, Albeni Falls dams, and at other Columbia River and Snake River dams compared to the applicable standard."
E3-1: Mainstem Hydrosystem Flow and Passage Seasonal flows at specified Columbia and Snake River dams.	New text says: "Seasonal flows at specified Columbia and Snake River dams with associated target flows from BiOp."
E3-2: Mainstem Hydrosystem Flow and Passage Travel time for salmon and steelhead – Lower Granite to Bonneville Dam and uppermost dam to Bonneville	New text says: "Travel time by release date for salmon and steelhead – Lower Granite to Bonneville Dam and uppermost dam to Bonneville Dam."
E3-5: Mainstem Hydrosystem Flow and Passage Reservoir elevation and retention times at storage reservoirs.	New text says: "Reservoir elevations at mainstem reservoirs."

S3-1: Mainstem Hydrosystem Flow and Passage Powerhouse encounter rates, Lower Granite to Bonneville Dam and uppermost dam to Bonneville Dam.	New text says: "Probability of powerhouse passage from Lower Granite Dam to Bonneville Dam." In the box at the side, define PITPH and link this to the CSS report section where methods are described.
S3-2: Mainstem Hydrosystem Flow and Passage Annual juvenile salmon and steelhead system and reach survival.	New text says: "Juvenile salmon and steelhead reach survival by release date."
S4-1: Mainstem Hydrosystem Flow and Passage Annual adult salmon and steelhead survival for the Bonneville Dam to Lower Granite Dam reach and the Bonneville Dam to McNary Dam reach.	New text says: "Annual adult salmon and steelhead survival of in-river migrants for the Bonneville Dam to Lower Granite Dam reach and the Bonneville Dam to McNary Dam reach."
S4-2/ S3-4: Mainstem Hydrosystem Flow and Passage Number of direct mortalities of salmon and steelhead juveniles and adults at projects.	New text says: "Number of direct mortalities of salmon and steelhead juveniles at projects."

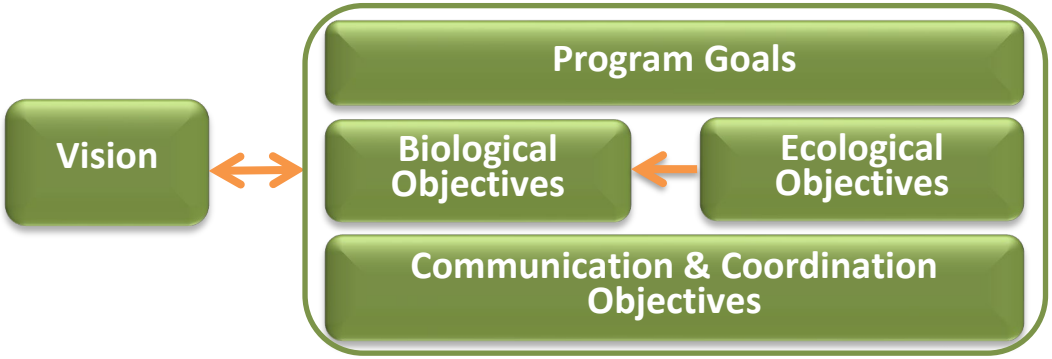
Addendum Part I: Goals, Objectives, and Strategy Performance Indicators

Council Meeting

February 16, 2022

Program Framework

Fish and Wildlife Program
Program Performance and Adaptive Management



Program Framework

Program Framework

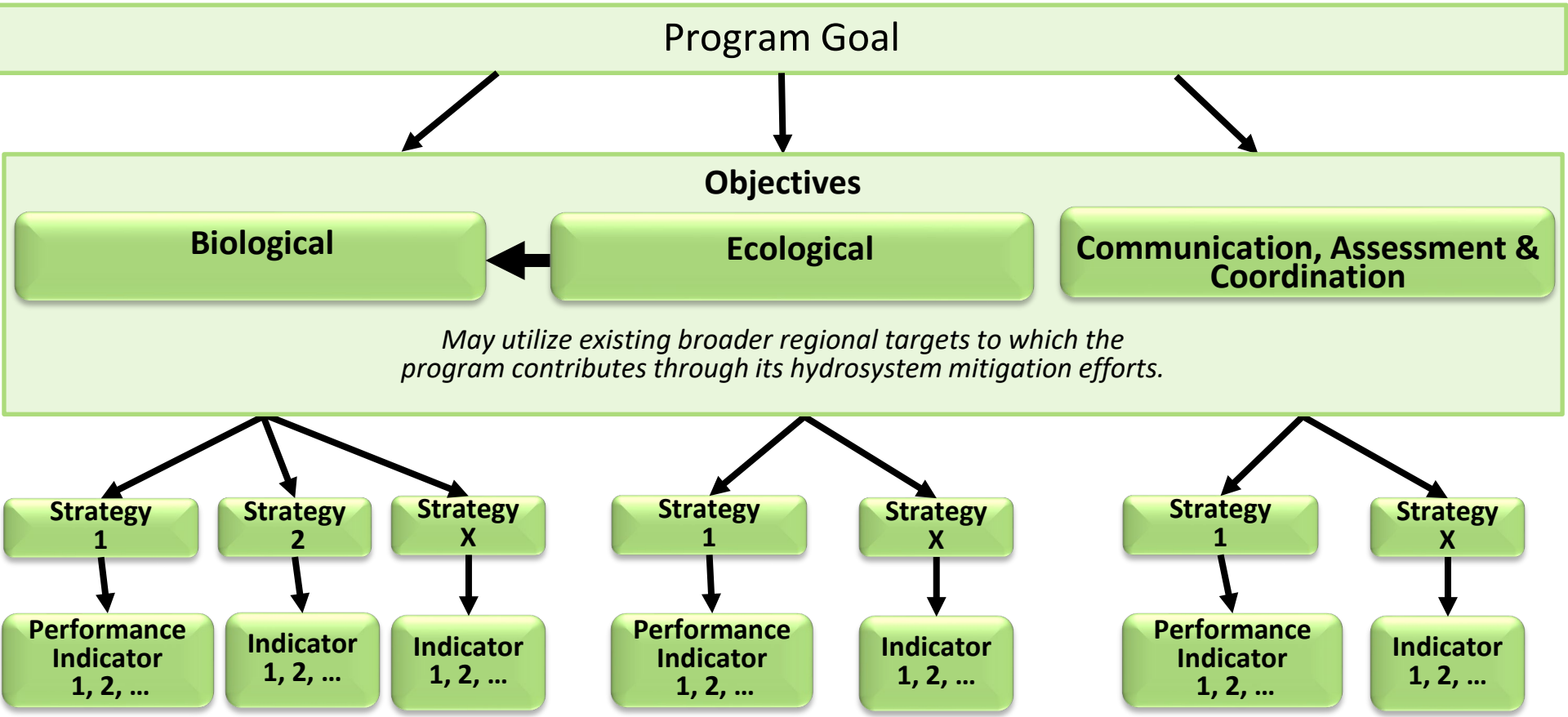
2020 Fish and Wildlife Program Addendum

*The program's **goals** and **objectives** are consistent with the Act and with the program's vision, describing the changes in the environment and the biological performance that are needed to achieve the vision.*

All the program's strategies ... contribute to achieving the program's goals and objectives... The Council needs an effective way to measure progress in implementing these strategies.

*...this addendum identifies a set of **strategy performance indicators** that can be used to assess progress in implementing the program strategies and improve the ecological and population conditions of the focal species.*

Goals, Objectives and Strategy Performance Indicators



Goals, Objectives and Strategy Performance Indicators

Addendum Part I: Goals and Objectives

- Anadromous salmon and steelhead: returns, SARs, survival standards
- Sturgeon: abundance, distribution, diversity, productivity
- Lamprey: abundance, passage
- Resident salmonids: self-sustaining populations, habitat (miles and acres)
- Wildlife: acres and HUs
- Ecological objectives: flow, habitat, water quality
- Communication, coordination objectives

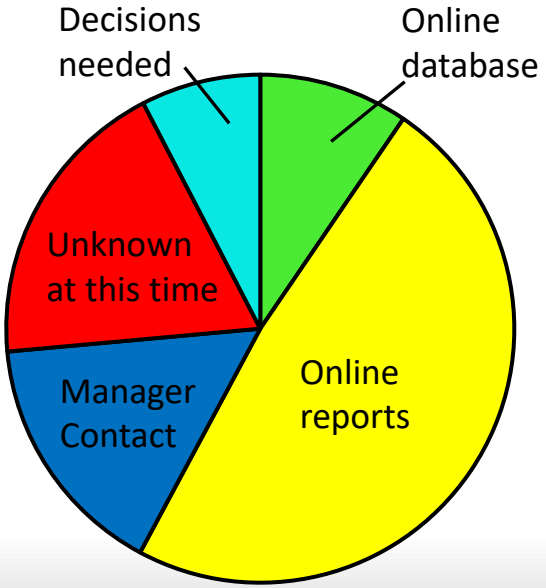
Strategies listed in Part I of the 2020 addendum

- Habitat
- Non-native and Invasive Species
- Predator Management
- Protected Areas and Hydroelectric Development and Licensing
- Water Quality
- Climate Change (*uses indicators from other strategies*)
- Estuary
- Plume and Nearshore Ocean
- Mainstem Hydrosystem Flow and Passage
- Wildlife
- Fish Propagation and Hatchery
- Wild Fish
- Anadromous Fish Mitigation in Blocked Areas
- Resident Fish Mitigation
- White Sturgeon
- Pacific Lamprey
- Eulachon
- Public Engagement

Strategy Performance Indicators – 2020 Addendum

- Council and partners identified 105 SPIs for 18 strategies in the Program (based on currently available data)
- Initial assessment: some data readily accessible; other data requires time investment; some not available
- Will be linked to the Program Tracker
- SPI Workgroup to provide guidance

Data availability distribution for all strategies combined



Approach

1. Identify data sources/ availability (w/ consultants)
2. Convene work group
3. Prioritize list of indicators
4. Hold work group meetings to review each set of indicators, identify data sources, appropriate data display, review or modify indicator as needed
5. When indicators finalized, incorporate data into Council's Program Tracker webtool
6. *Repeat steps 4 and 5 for each set of indicators*

2021 accomplishments- Establishing and convening a workgroup

From 2020 Addendum:

As part of the focus on program performance in part I, the Council committed to "…convene a standing workgroup to provide guidance to the Council on compiling, assessing, tracking, and reporting on the program goals, objectives and strategy performance indicators. The workgroup will also continue to identify, evaluate, and refine strategy performance indicators over time.

2021 accomplishments- Workgroup structure and purpose statement

- Provide guidance to the Council on compiling, assessing, tracking, and reporting on the program goals, objectives and strategy performance indicators
- Technical representatives from the Tribes and State and Federal fish and wildlife agencies within the Basin
- Chaired by Council Member Jeff Allen; staffed by NPCC
- Open to public to attend and observe but not directly participate; non-members may be invited to present information

2021 accomplishments- Workgroup meetings and tasks

2021 Meetings:

- Four full Workgroup meetings:
  - March
  - May
  - September
  - December
- Resident fish subgroup meeting
- Lower Columbia sturgeon subgroup meeting

Tasks:

- Identify data sources and data gaps
- Refine indicators
- Review the Program Tracker
- Guide data summary and reporting
- Provide feedback for evaluating goals, objectives and indicators

Types of Decisions: Time period, location, life stages, stocks included, how to display, reporting format, frequency of updates, etc.

Status of data collection for SPIs

- Habitat
- Non-native and Invasive Species
- Predator Management
- Protected Areas and Hydroelectric Development and Licensing
- Water Quality
- Climate Change (*uses indicators from other strategies*)
- Estuary
- Plume and Nearshore Ocean
- Mainstem Hydrosystem Flow and Passage
- Wildlife
- Fish Propagation and Hatchery
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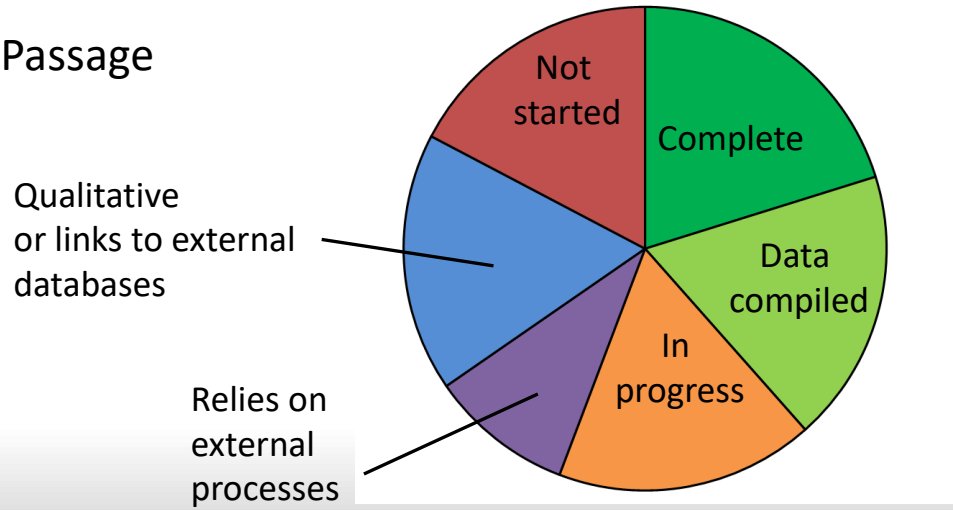

SPI Examples

- Habitat
- Non-native and Invasive Species
- Predator Management
- Protected Areas and Hydroelectric Development and Licensing
- Water Quality
- Climate Change (*uses indicators from other strategies*)
- Estuary
- Plume and Nearshore Ocean
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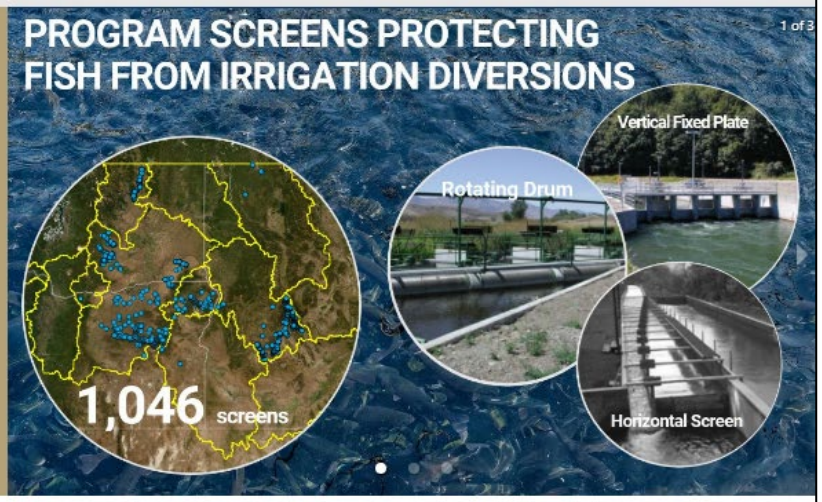
- White Sturgeon
- Pacific Lamprey
- Eulachon
- Public Engagement

Northwest **Power** and **Conservation** Council
Program Tracker

Home | Performance | Data | Stories | Resources

Assessments

(Some Text on modules in this section)



Tracking the Program In development

Program Goals and Objectives

Strategy Performance Indicators

2022 SPI Workplan

Compile data for remaining SPIs:

- Ongoing, basin-scale processes
- Specific meetings and discussions with managers; direct data delivery
- Review and compile from regional databases, e.g., Cbfish, FPC, DART

Add context, metadata, and notes to each indicator on Tracker

- Drafted by Council and QW
- Approved by workgroup

Report on SPIs:

- Annual progress report due December
- Status and trends of SPIs