

# Washington Lower Columbia Barrier Inventory & Decision Support Tool Quick Guide





The Lower Columbia Estuary Partnership and Lower Columbia Fish Recovery Board worked with the Washington Department of Fish and Wildlife, NOAA Fisheries, counties, conservation districts, and other stakeholders to create a central resource of prioritized fish passage barriers across southwest Washington to support recovery of ESA-listed salmon and steelhead populations.

## HOW TO USE THESE DATA

The barrier inventory and decision support tool highlight culverts, tide gates and other fish passage barriers that could provide the greatest benefit to salmon and steelhead recovery if passage is improved. Barriers with higher scores are estimated to provide greater benefits than barriers with lower scores.

### Tier 1 barriers are the highest priority corrections in the region.

#### Multi-Species Tiers and Associated Scores

 Tier 1 (52 - 80 Points)	Tier 1 barriers block 130+ miles of salmon habitat, 12% of the total blocked habitat in the lower Columbia.
 Tier 2 (46 – 52 Points)	
 Tier 3 (40 - 46 Points)	Tier 2 barriers block another 115+ miles, an additional 11% of total blocked habitat.
 Tier 4 (<40 Points)	

### High Priority Barriers:

- block a large quantity of high-quality habitat
- block habitat for one or more salmon and steelhead populations of importance
- are located in areas without downstream complete blockages to fish passage

Barrier locations and prioritization scores are coarse-scale and may not reflect current on-the-ground conditions. The decision support tool is a first step in identifying fish passage needs. Assessing barriers and upstream habitat in the field is a critical next step before proposing a barrier correction project.

The web map highlights multi-species priorities and individual salmon and steelhead populations that may benefit from fish passage improvements at a particular barrier site. Different stakeholders may be interested in other correction priorities depending on where they work and funding program priorities. Potential application of this data include identification of:

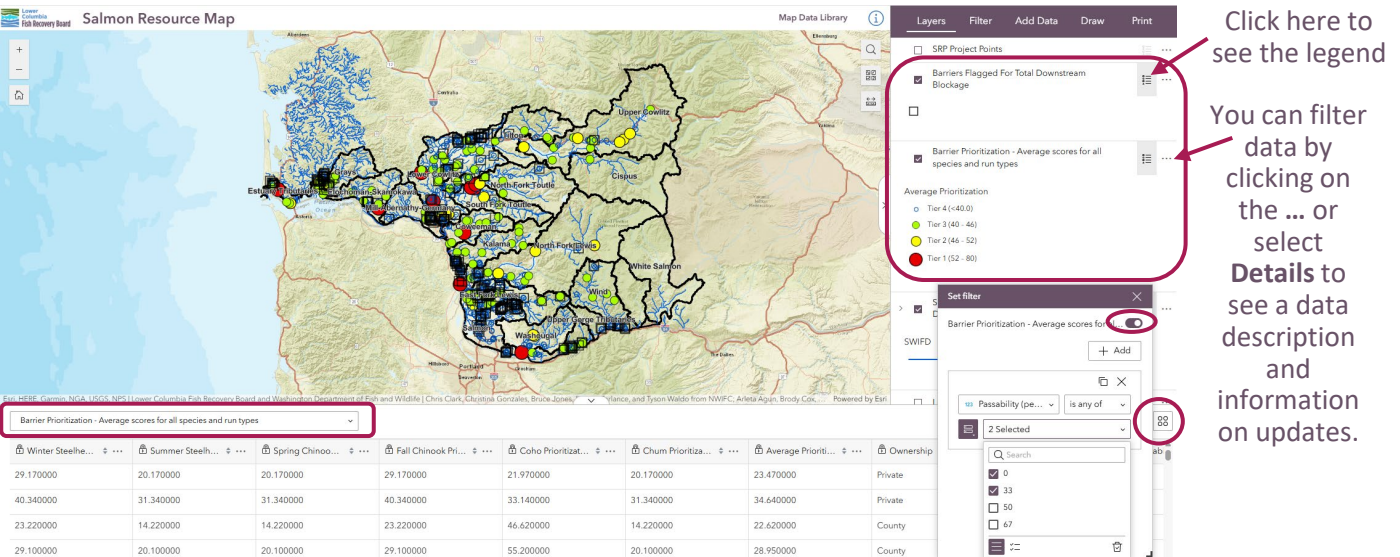
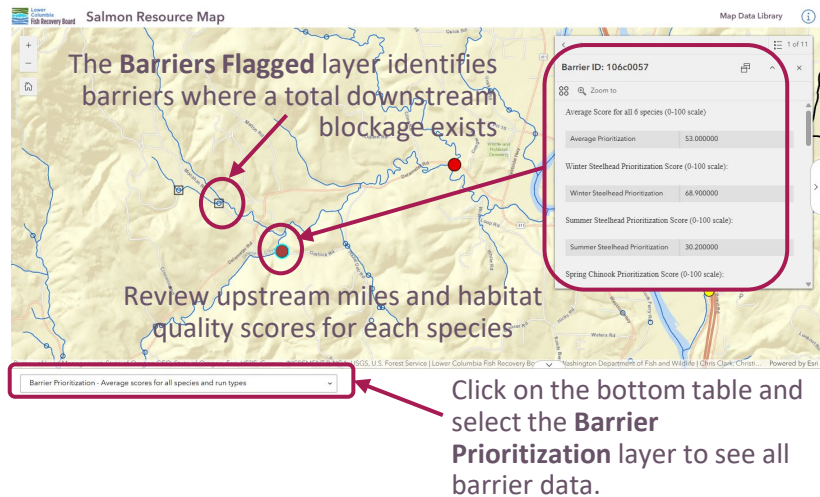
- Highest priority corrections for all salmon and steelhead within a particular county (add a county boundary layer to the web map)
- Highest priority corrections for a single species or population (filter by individual species “Prioritization Score” fields)
- Highest priority tide gate corrections (filter by “feature type”)
- Highest priority privately owned barrier (filter by “ownership”)
- Highest priority 0% passable barriers (filter by “passability”)
- Barriers that only have 100% fish passage rates downstream (filter by “downstream passability (minimum %)”)

# Washington Lower Columbia Barrier Inventory & Decision Support Tool Quick Guide – Salmon Resource Map



## REVIEW INDIVIDUAL BARRIERS

1. Click on the **Barrier Prioritization data layer** to see the fish passage points on the Salmon Resource Map.
2. Click on individual points to review barrier priority metrics, including the multi-species score (**Average Prioritization**), percent **passability**, and species-specific **upstream effective habitat gain** and **habitat quality** scores calculated using estimates of fish distribution and Intrinsic Potential models.



## FILTER BARRIER LAYER

1. Select the **Barrier Prioritization** layer from the table drop down menu.
2. Click on the **Actions** icon and then select **set filter** from the drop down menu.
3. Turn the Barrier Prioritization layer on in the set filter pop up and click the **+Add** button to select **clause** (a single field filter) or **clause set** (a multiple field filter).
4. Select the field(s) you want to filter.
5. Click on the Barrier Prioritization data layer to see the filtered fish passage points on the Salmon Resource Map.

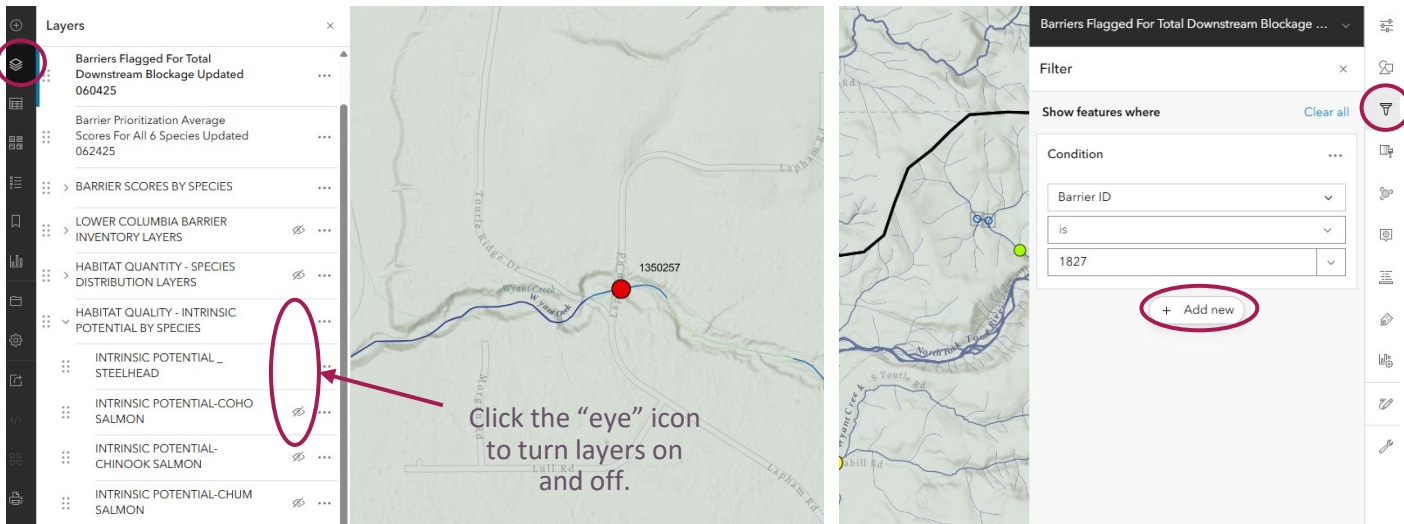
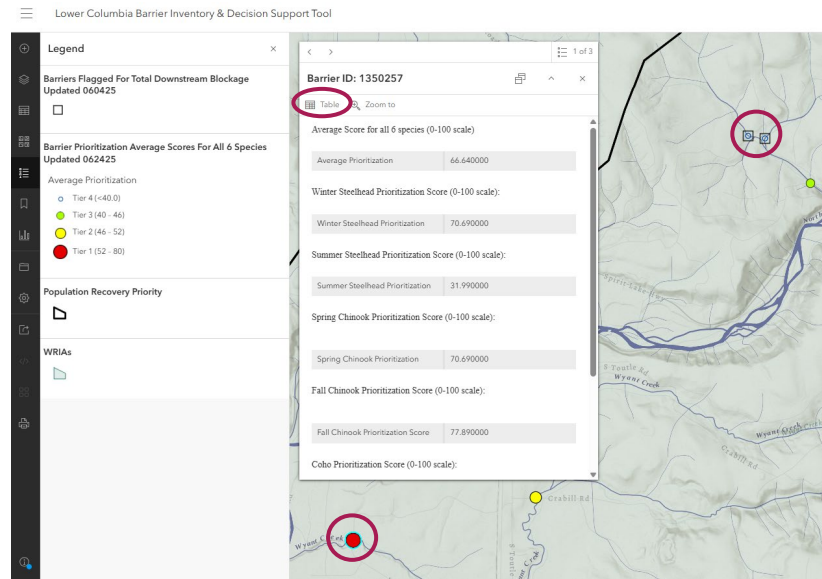
The Salmon Resource Map identifies jurisdictional boundaries, land cover conditions, restoration projects, and watershed boundaries to provide landscape context for barrier corrections.

# Washington Lower Columbia Barrier Inventory & Decision Support Tool Quick Guide – Estuary Partnership Map



## REVIEW INDIVIDUAL BARRIER INFORMATION

1. Click on individual points to review **prioritization scores** for each species and run type.
2. Click on the **table** icon in the pop-up to see all metrics for an individual barrier.
3. Note barriers flagged with squares – these are sites with downstream barriers.
4. Click on the **Layers** icon on the left tool bar to turn on other data layers, or to add your own.



## FILTER DATA LAYERS

1. Click on the layer you want to filter in the **Layers** list.
2. Click on the **Filter** icon on the right-hand side tool bar.
3. Click **Add New** and filter by any of the fields included for a data layer. For the Barrier Prioritization layers, consider filtering by individual **Barrier ID** values, **passability (percent)**, or **Record Update Date** to only see new or revised data.

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## WATERSHED PRIORITIES

Barrier priority tiers indicate the relative importance of correcting individual fish passage barriers. Cumulative benefits of fish passage corrections may provide greater benefits when concentrated in particular watersheds or focused on particular salmon and steelhead populations.

Addressing Tier 1 and Tier 2 barrier priorities in the Estuary Tributaries, Grays, Lower Cowlitz, and East Fork Lewis subbasins may be more likely to lead to population level benefits than other barrier correction projects.

Coho salmon habitat is blocked by fish passage barriers more than any other species.

Barriers with passage ratings of 0 – 33% block more than 20% of anadromous habitat in the Estuary Tributaries and Grays River, Lower Cowlitz, East Fork Lewis, and Salmon Creek subbasins.

## LEARN MORE ABOUT THE PROJECT

Learn more about the project online: [Estuary Partnership project page](#).

## ANNUAL BARRIER PRIORITIES UPDATES

The barrier inventory and decision support tool will be updated annually to reflect new information on completed barrier corrections, passage rates and any changes in salmon and steelhead distribution estimates.

### UPDATE DATA

Coordinate with WDFW and RCO to ensure any recently corrected or surveyed barriers are reflected in WDFW's Fish Passage and Diversion Screening Inventory.

### ACCESS NEW DATA

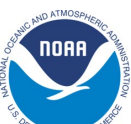
Download new data from WDFW's Fish Passage and Diversion Screening Inventory.

### SHARE NEW DATA

Re-run decision support tool and update published barrier inventory and prioritization scores.

## HAVE FEEDBACK OR QUESTIONS ABOUT THE PROJECT?

Reach out to Keith Marcove ([Kmarcoe@estuarypartnership.org](mailto:Kmarcoe@estuarypartnership.org)) and Amelia Johnson ([Ajohnson@lcfwb.gen.wa.us](mailto:Ajohnson@lcfwb.gen.wa.us)). You can also fill out the [project feedback form](#) if you notice specific errors or omissions with the data set. We will use submitted feedback when updating the inventory and priorities over time.



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