

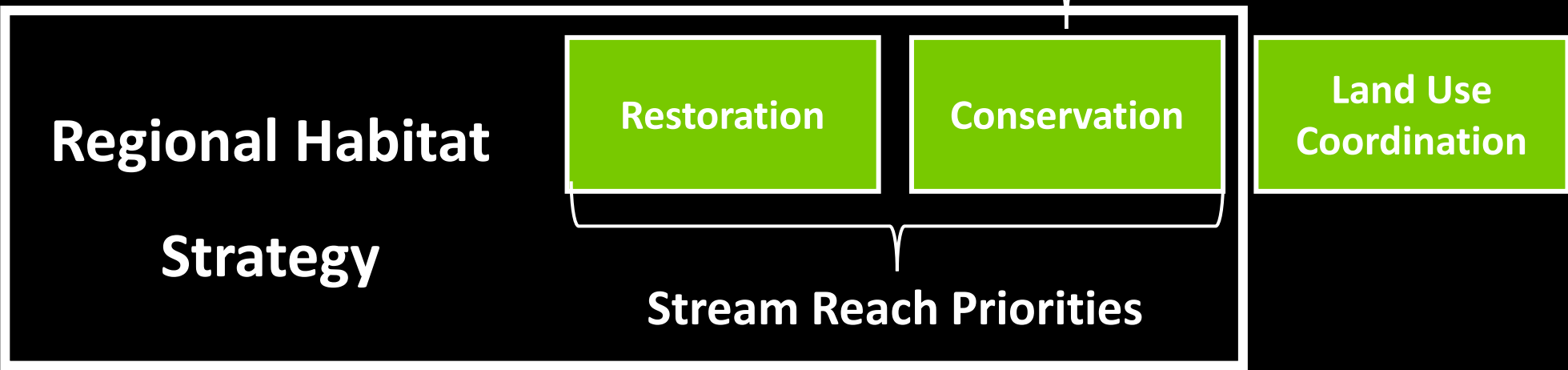
Lower Columbia Focused Investment Strategy for Habitat: Incorporating All-H Recovery Progress Into Future Habitat Investments



LCFR Board Meeting
October 6, 2023

Accounting for factors that may influence population responses outside of the target watershed is critically important for setting realistic expectations for a biological response (Bilby et al. 2022)







Abundance-Based Viability

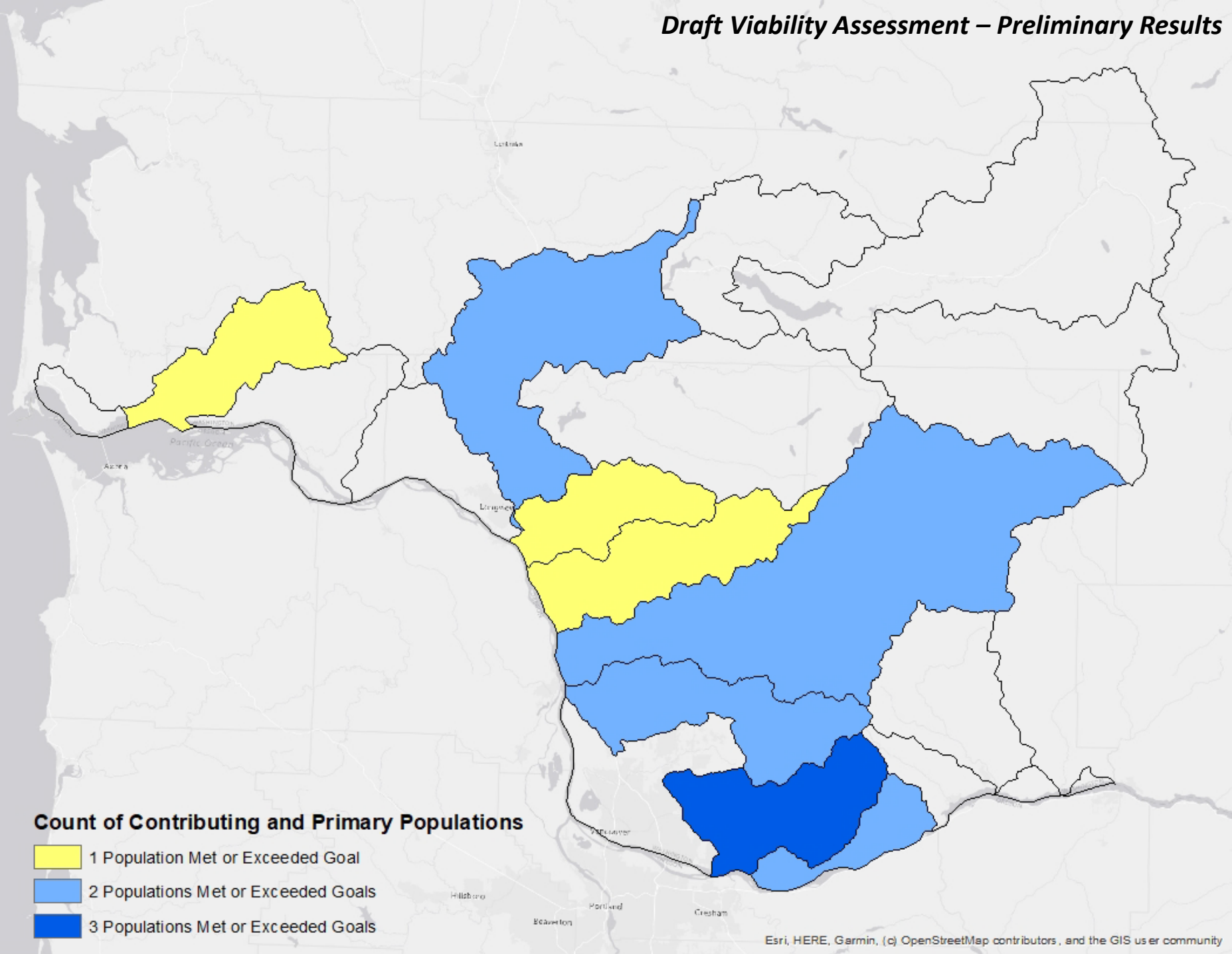


| | Spatial Structure | | |
|-----------------|--|--|--|
| pHOS | < 10% blocked habitat or >95% fish passage | 10% - 30% blocked habitat or 75 – 95% fish passage | > 30% blocked habitat or <75% fish passage |
| <30% or unknown | 0 | 1 | 2 |
| 30-50% | 1 | 2 | 3 |
| >50% | 2 | 3 | 4 |

| Strata | Population | @list | Goal | Abundance - Based | pHOS | % Blocked Habitat | Fish Passage | Number of Viability Downgrades | Final Viability |
|----------------|----------------------|-------|------|-------------------|------|-------------------|--------------|--------------------------------|-----------------|
| Coast | Grays/Chinook | VL | M+ | VL | 0.66 | <10% | N/A | 2 | VL |
| | Eloch/Skam | VL | H | VL | 0.73 | <10% | N/A | 2 | VL |
| | Mill/Ab/Germ | VL | H | VL | 0.85 | <10% | N/A | 2 | VL |
| Cascade | L Cowlitz | VL | M+ | M | 0.25 | <10% | N/A | 0 | M |
| | U Cowlitz | VL | VL | VH | 0.44 | >30% | 75-95% | 2 | M |
| | Toutle | VL | H+ | L | 0.60 | >30% | 0% | 4 | VL |
| | Coweeman | VL | H+ | M | 0.15 | <10% | N/A | 0 | M |
| | Kalama | VL | M | H | 0.68 | <10% | N/A | 2 | L |
| | Lewis | VL | H+ | H | 0.38 | <10% | N/A | 1 | M |
| | Salmon | VL | VL | VL | N/A | <10% | N/A | 0 | VL |
| | Washougal | VL | H+ | M | 0.53 | <10% | N/A | 2 | VL |
| | Lewis NF (late Fall) | VH | VH | VH | 0 | <10% | N/A | 0 | VH |
| Gorge | L Gorge | VL | M | VH | 0.07 | <10% | N/A | 0 | VH |
| | U Gorge | VL | M | L | 0.51 | <10% | N/A | 2 | VL |
| | White Salmon | VL | M | L | 0.32 | <10% | N/A | 1 | VL |

Draft Viability Assessment – Preliminary Results

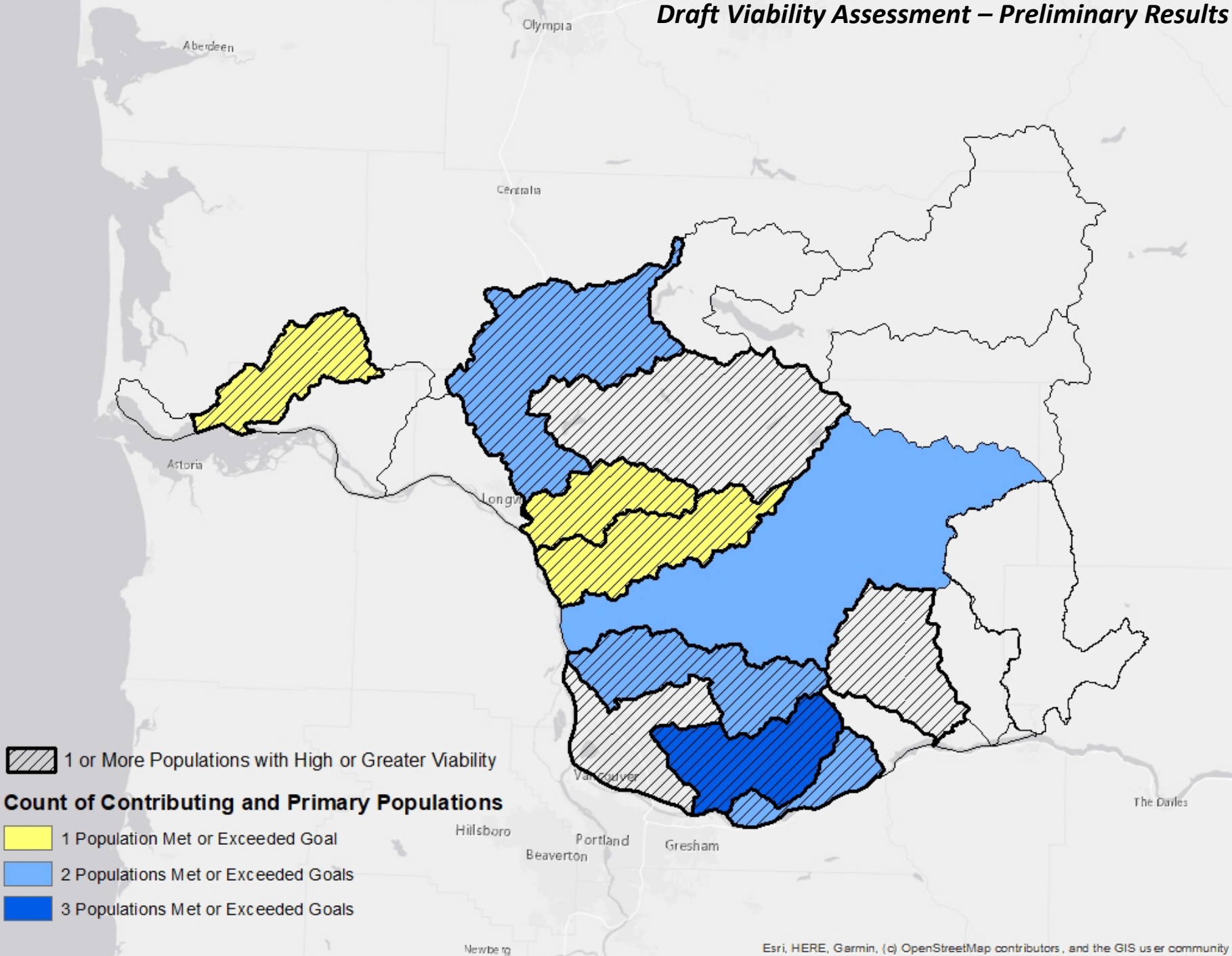
Draft Viability Assessment – Preliminary Results



Count of Contributing and Primary Populations

- 1 Population Met or Exceeded Goal
- 2 Populations Met or Exceeded Goals
- 3 Populations Met or Exceeded Goals

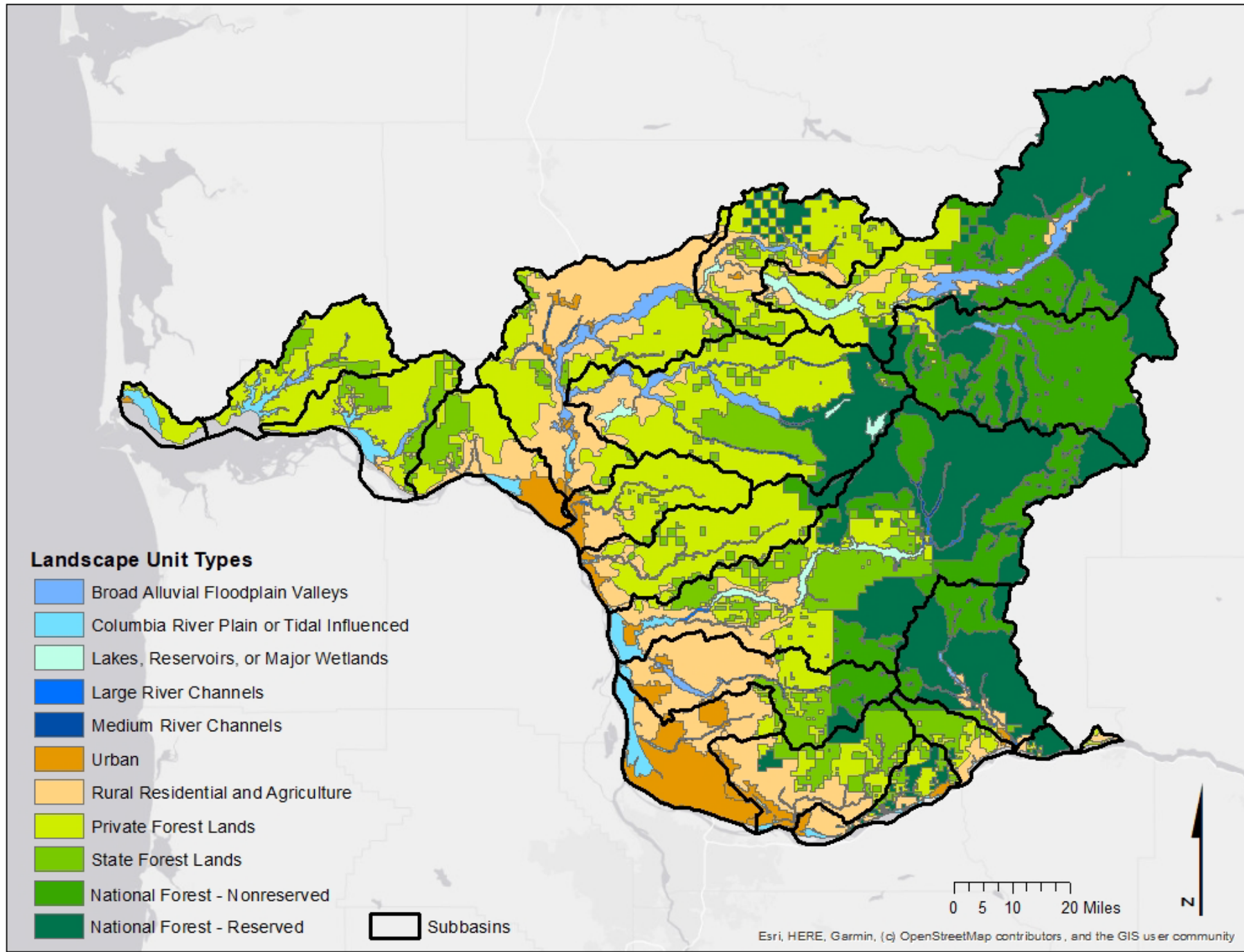
Draft Viability Assessment – Preliminary Results

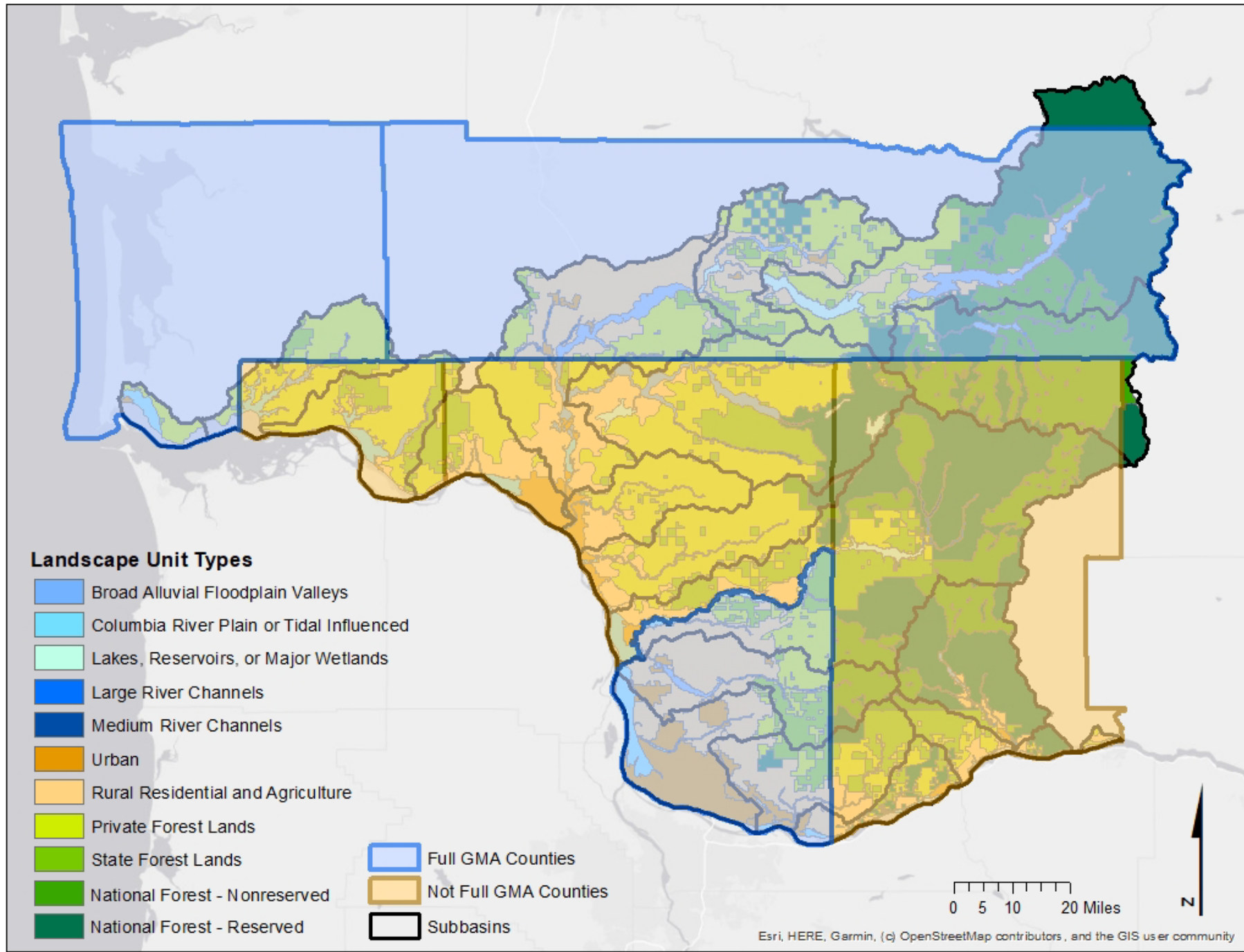


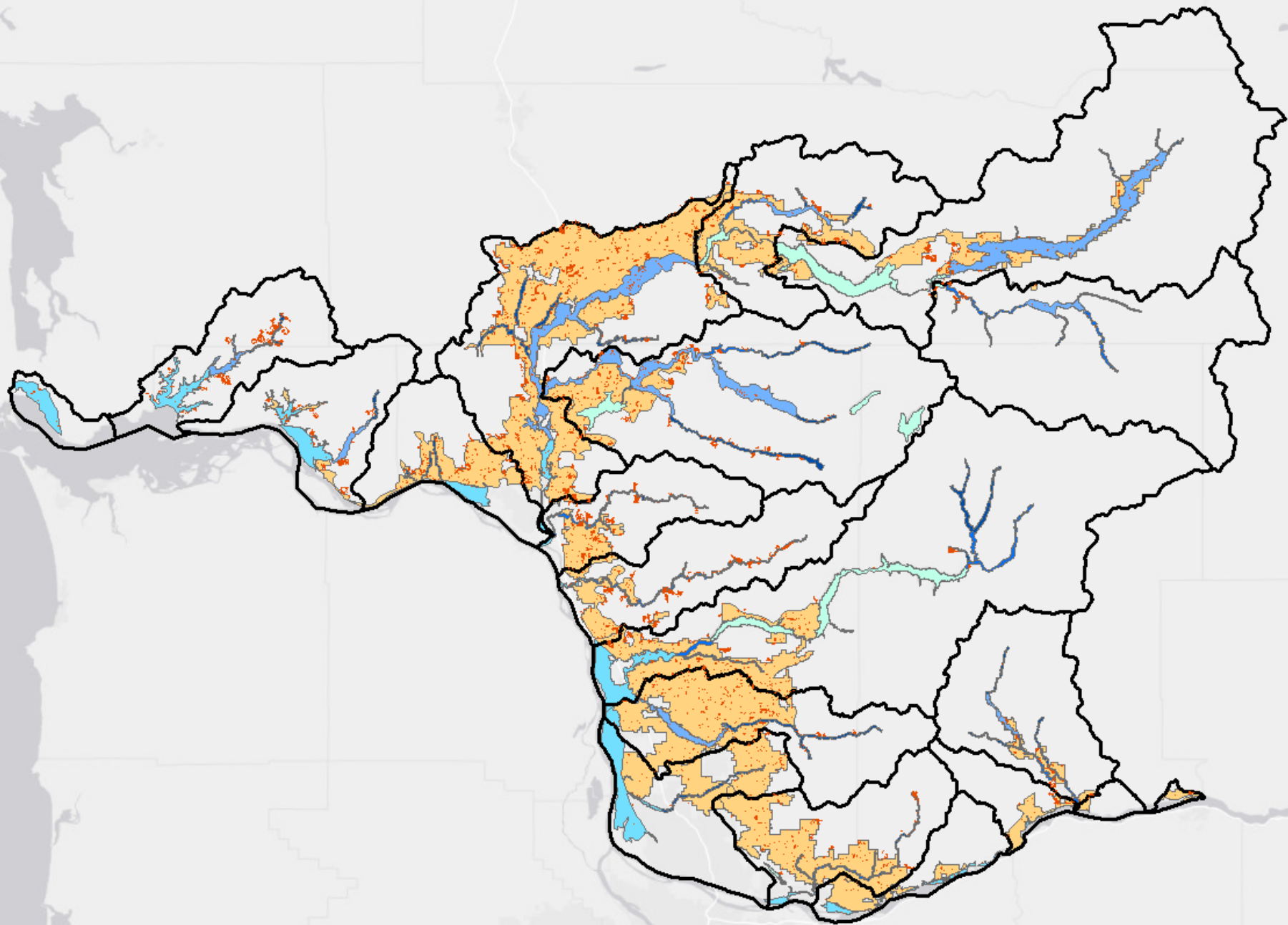
FISH Approaches

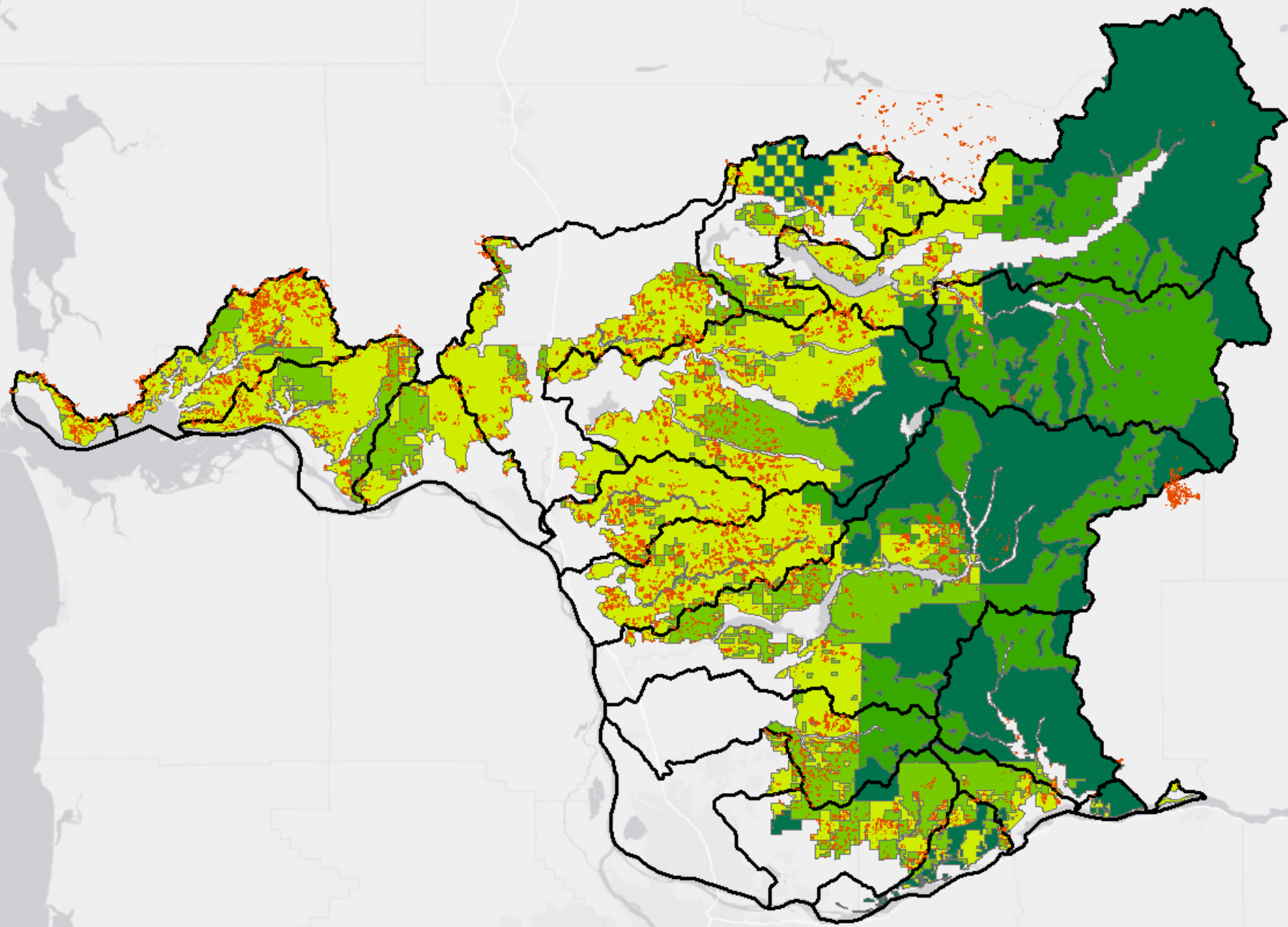
- **Strongholds** - protect populations at high and very high viability through conservation measures and habitat improvements to increase resiliency
- **Strongholds Expansion** - protect and restore populations with the highest likelihood of success to achieve to high and very high viability
- **Species Synergy** – invest in subbasins where multiple high priority populations may benefit

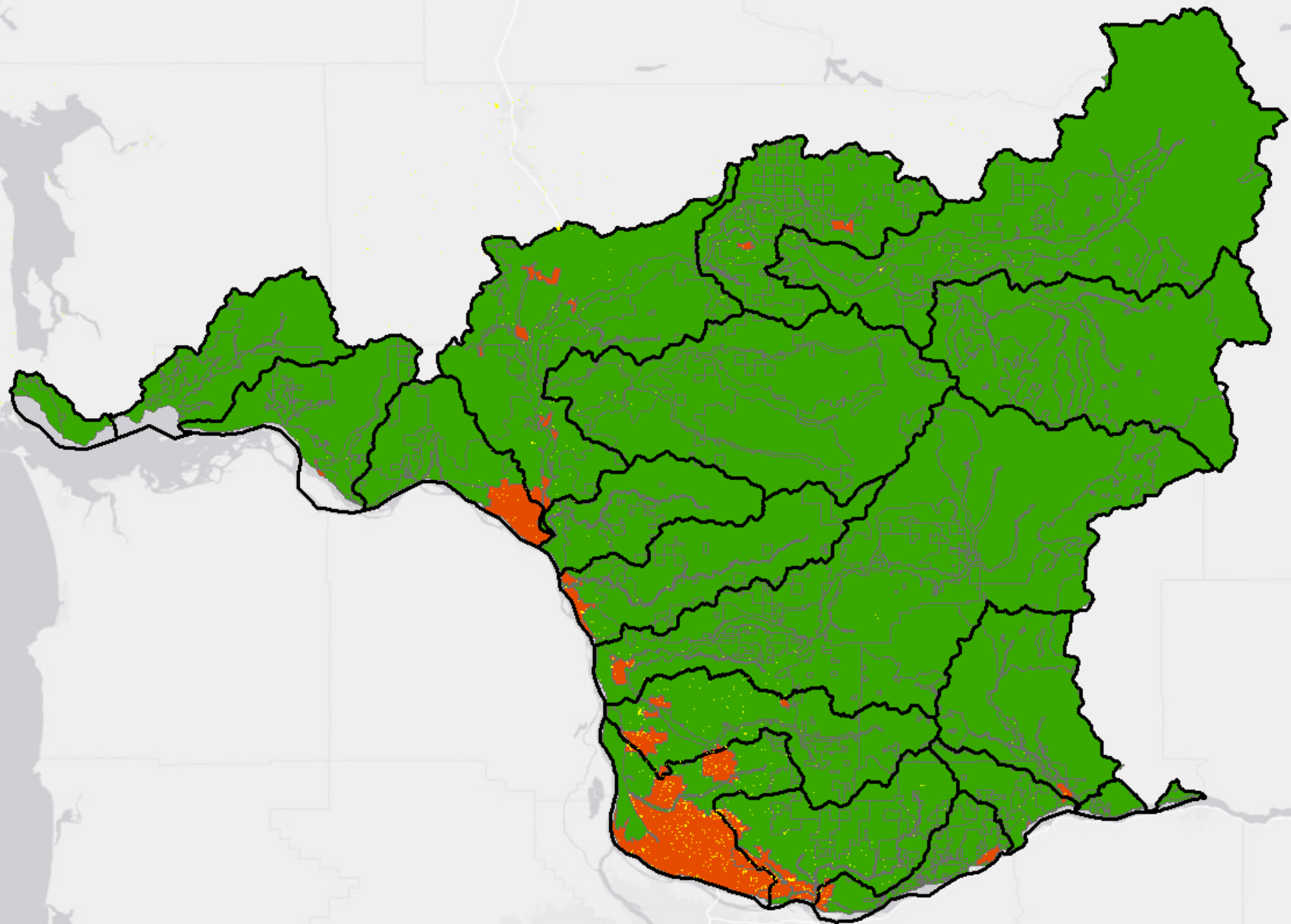




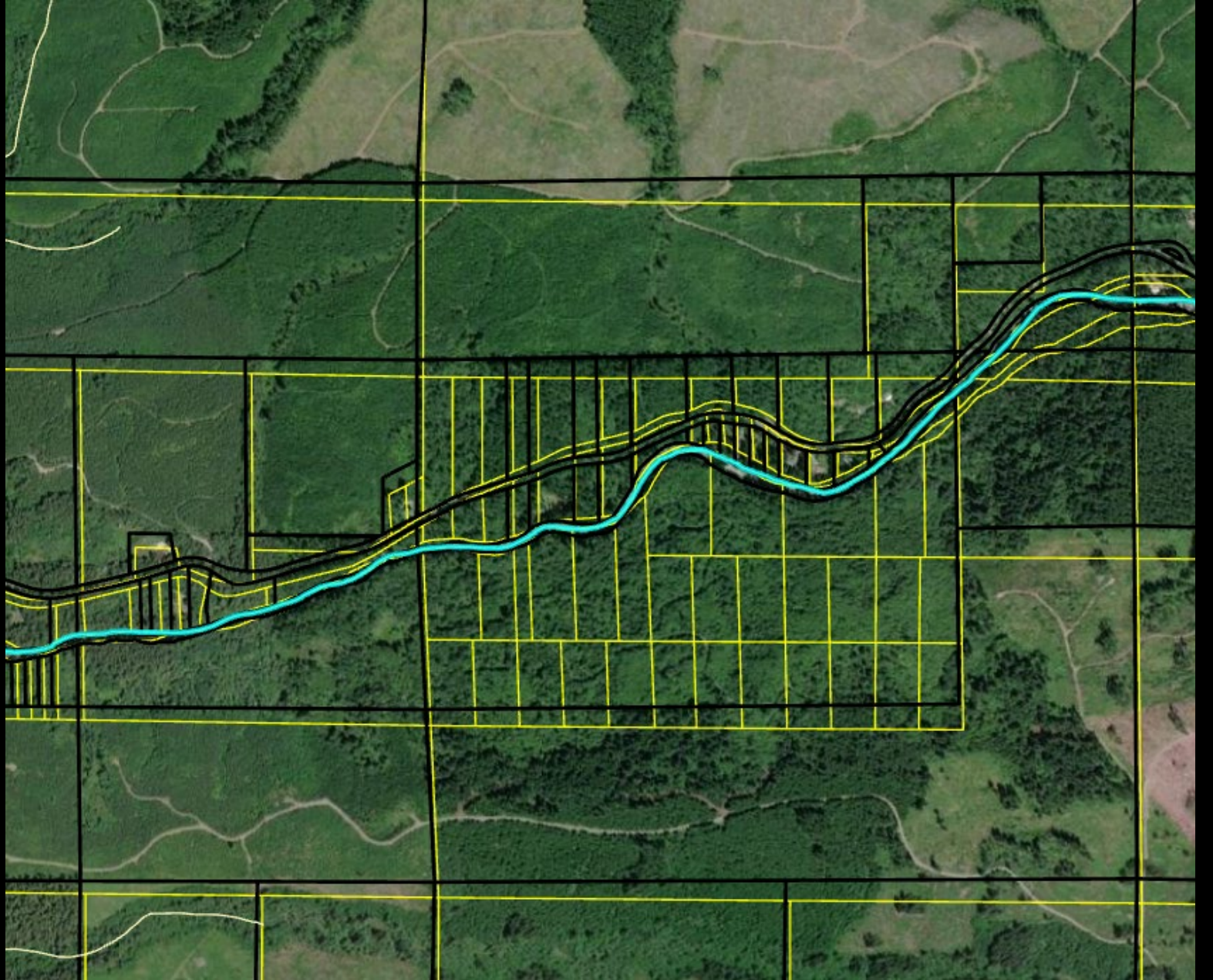








**How else can we
capture changes in
development?**



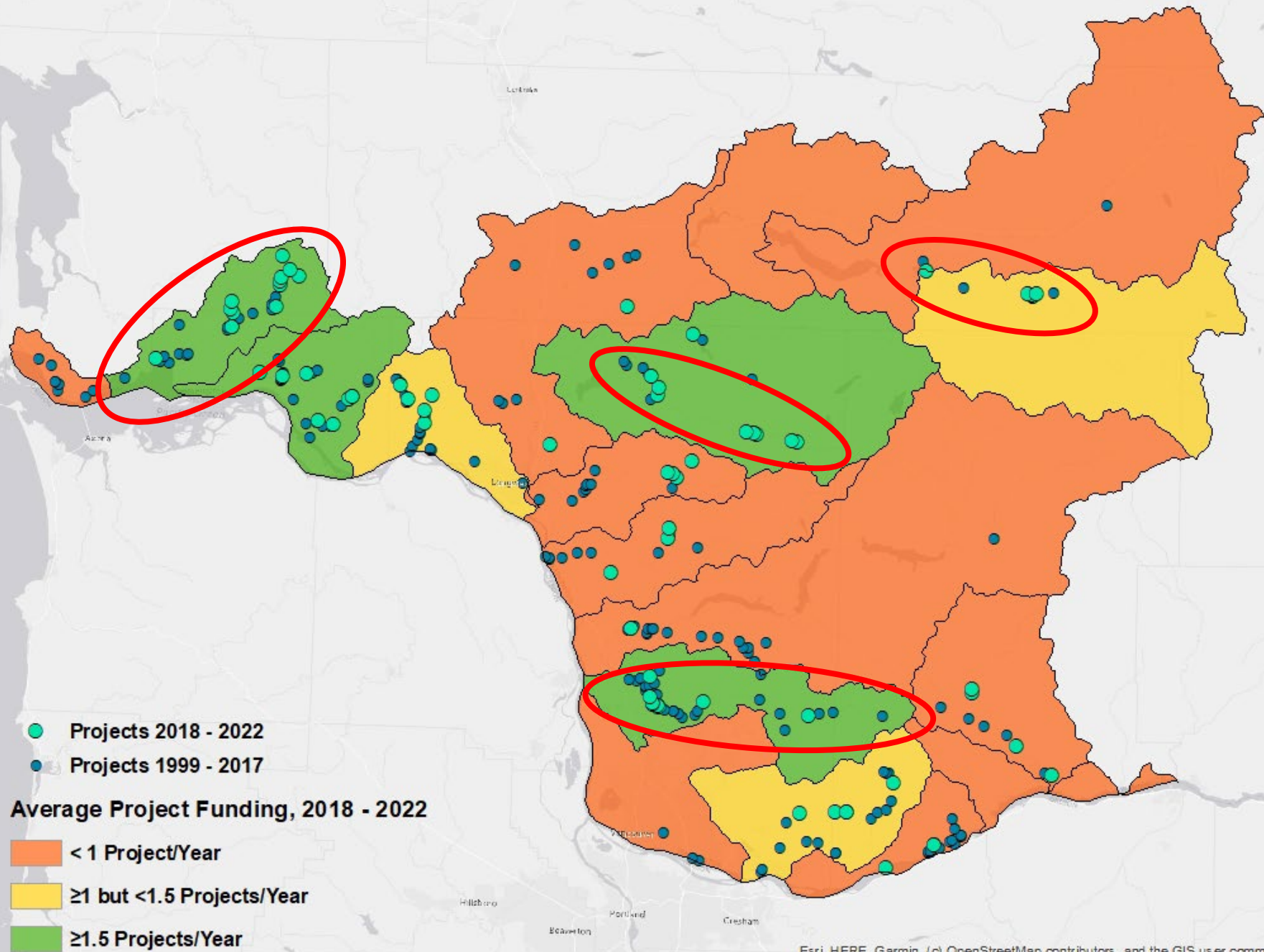
How to plan for long term climate resiliency?

- NorWeST stream temperatures
- VIC modeled stream flow
- City and county flood prone areas
- FEMA flood hazard areas
- Undeveloped wetland, hydric soils and rain on snow zones



Comprehensive Flood Hazard Management Plan







Habitat Strategy Map Updates



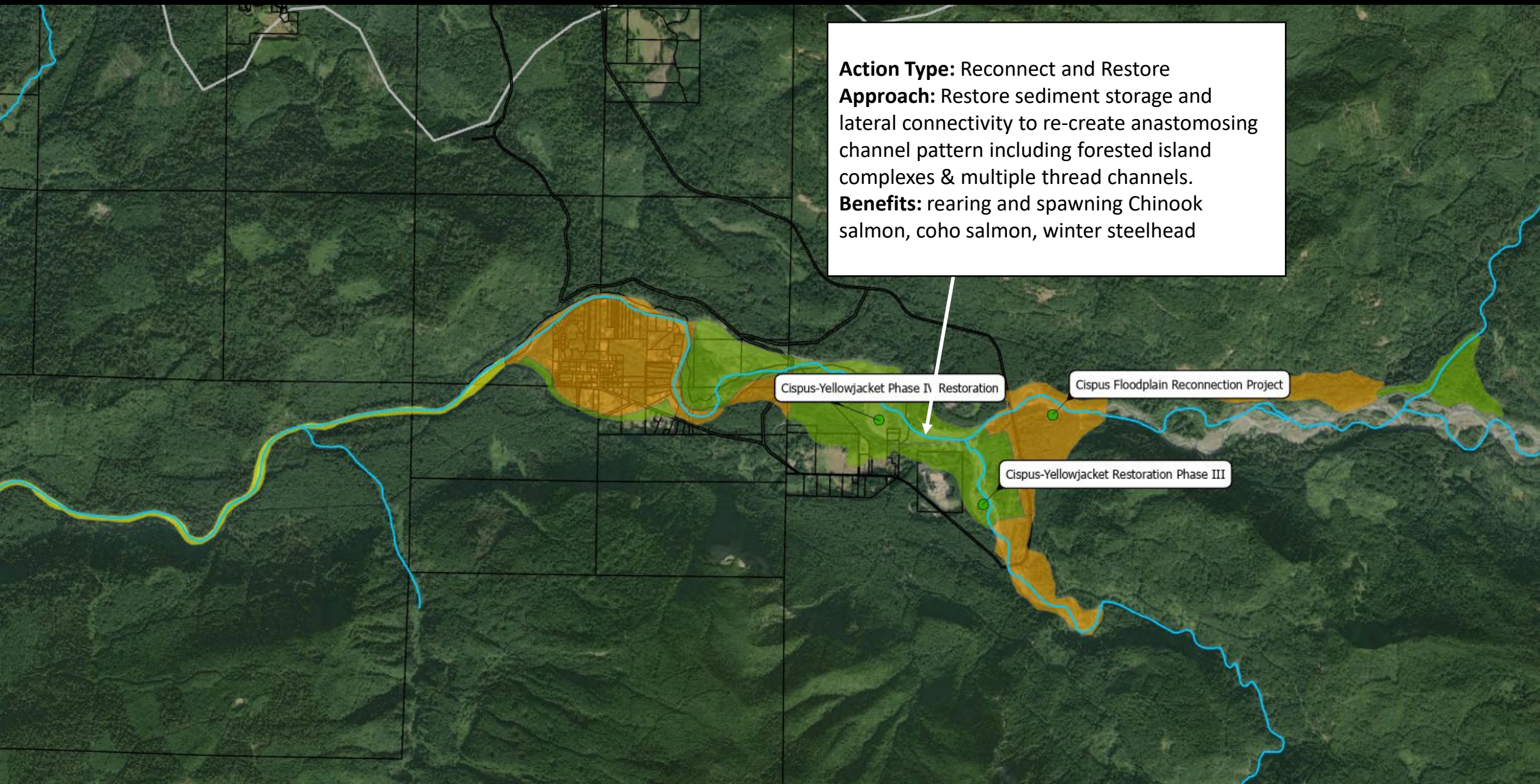
- ✓ More habitat project and program resources
- ✓ Increased search, summarize and download options
- ✓ In house management as habitat strategy resource updates continue
- ✓ Stakeholder engagement to inform map tools and data



Action Type: Reconnect and Restore

Approach: Restore sediment storage and lateral connectivity to re-create anastomosing channel pattern including forested island complexes & multiple thread channels.

Benefits: rearing and spawning Chinook salmon, coho salmon, winter steelhead



Cispus-Yellowjacket Phase IV Restoration

Cispus Floodplain Reconnection Project

Cispus-Yellowjacket Restoration Phase III

How helpful, if made available through a new online map, are the following resources for implementing or evaluating habitat projects and programs?

100% Helpful

- ✓ Salmon and steelhead distribution*
- ✓ Population recovery status and priorities*
- ✓ Recovery Plan
- ✓ Project points and metrics
- ✓ Restoration and protection priorities
- ✓ Land cover data
- ✓ Habitat actions or projects identified in strategies
- ✓ Completed habitat designs
- ✓ Grant program boundaries
- ✓ Research and Monitoring Plan
- ✓ Scientific Literature and technical reports

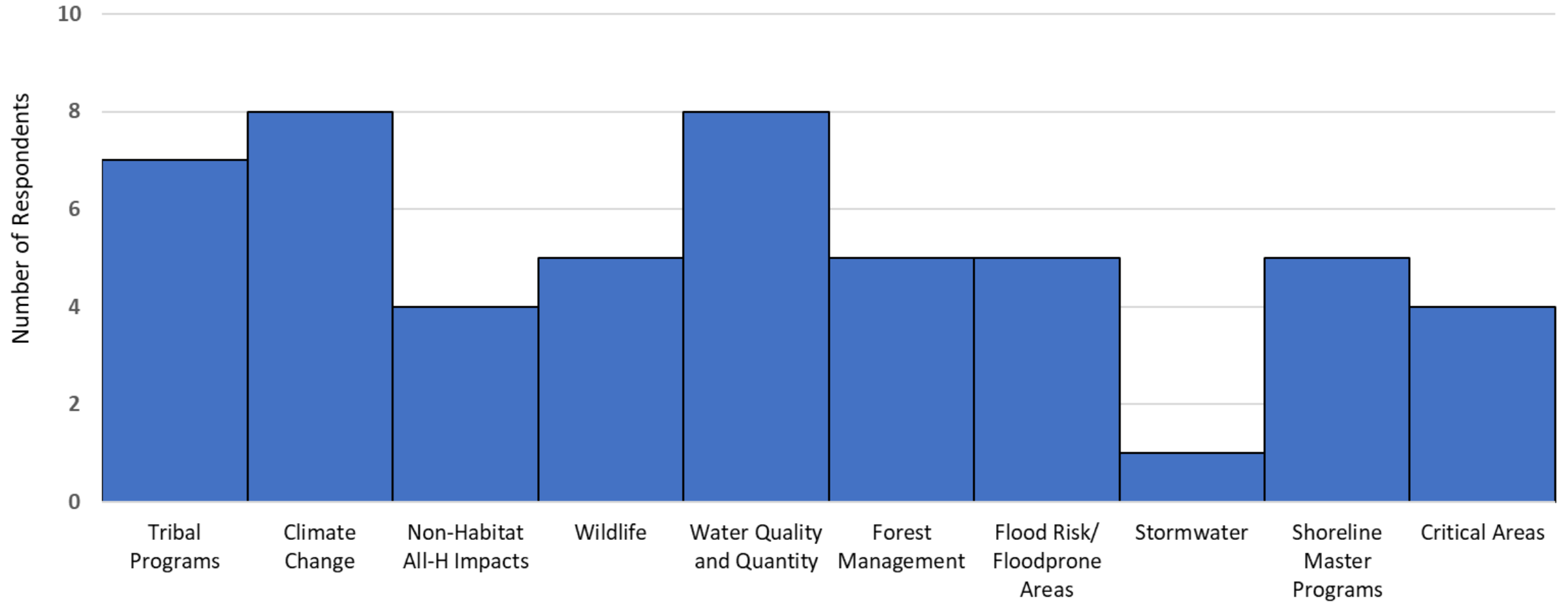
88% Helpful

- ✓ WRIA plans and actions
- ✓ Jurisdictional boundaries

Additional thoughts on updated map resources?

- ✓ Add ability to download reach tiers and associated data
- ✓ Add ability to turn layers on and off
- ✓ Include parcel layers
- ✓ Include Lidar layers
- ✓ Include section layers
- ✓ Include WDFW redd survey reaches
- ✓ Include water temperature (cold water refuge) data
- ✓ Include wetlands of high conservation value
- ✓ Identify habitat blocked by artificial structures

Q: Identify related programs, data and information you consult or would like to consult when designing, implementing or evaluating habitat projects and programs.



Strategy Map

Fall 2023: Survey map users, prepare map data

Winter 2023: develop map landing page and navigation tools, host stakeholder review workshop

Spring 2024: publish new strategy map and host an introductory workshop

FISH

Fall 2023: Complete viability, hatchery and harvest impact assessment

Winter 2023 – Spring 2024: Complete regional habitat assessment

Spring 2024 – Fall 2024: Identify focal watersheds and high priority habitat actions

Fall 2024 – Winter 2025: Develop implementation strategies

Spring 2025: Publish resources to support implementation

Adaptively Manage Over Time



Washington
Department of
**FISH and
WILDLIFE**

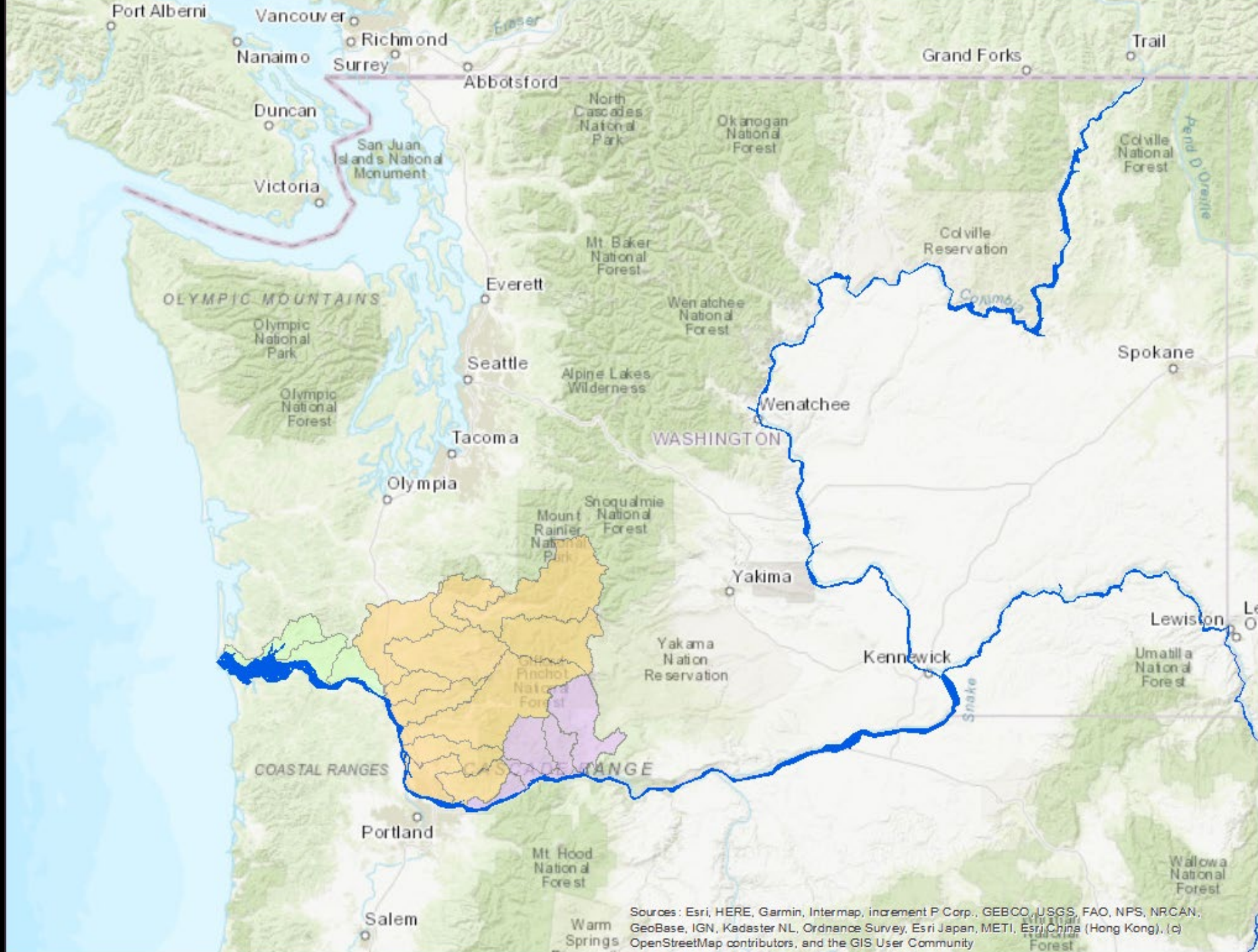


Salmon Recovery
Funding Board

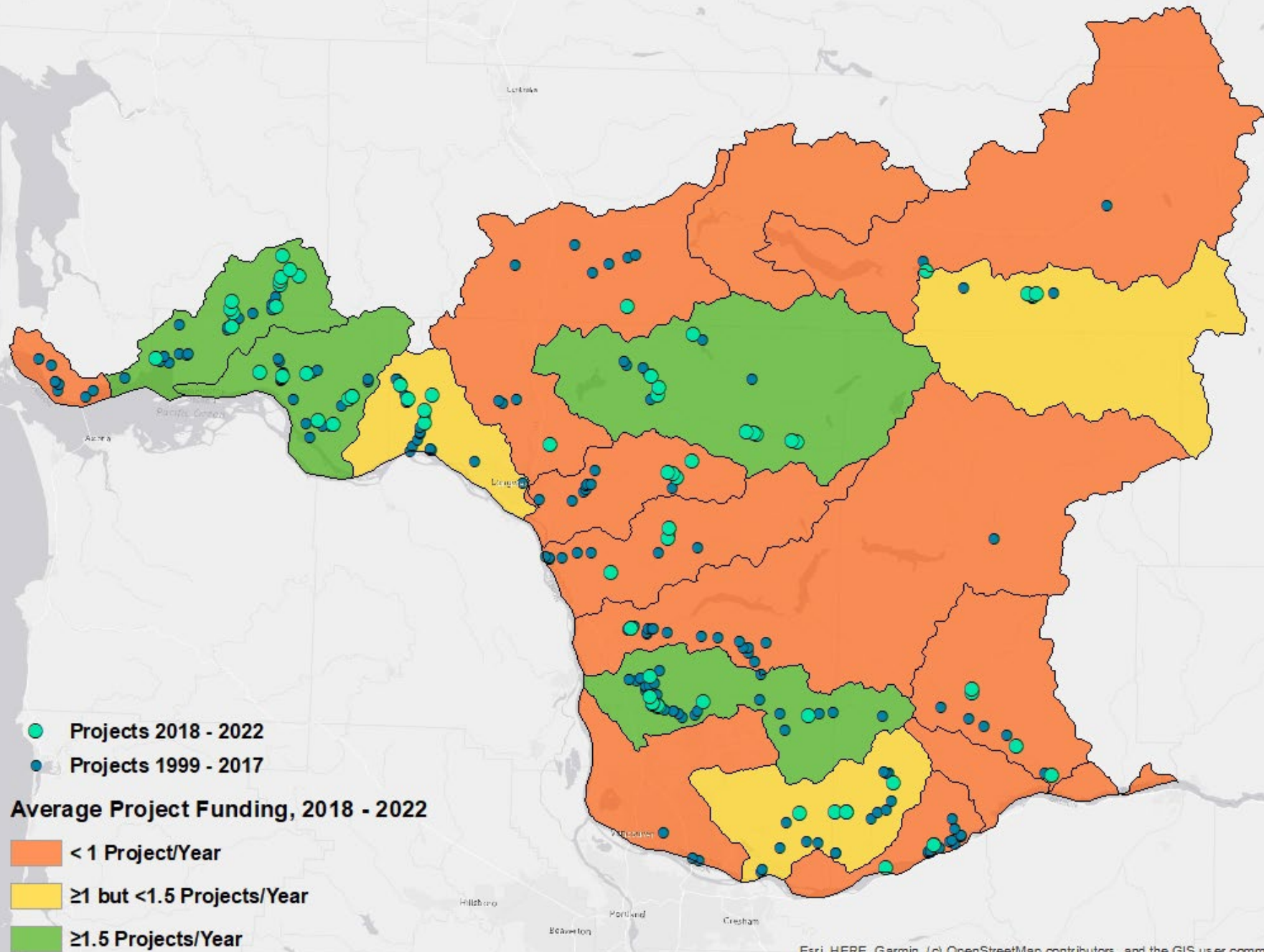
WASHINGTON STATE
RECREATION AND CONSERVATION OFFICE

Sea Grant
Washington





Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

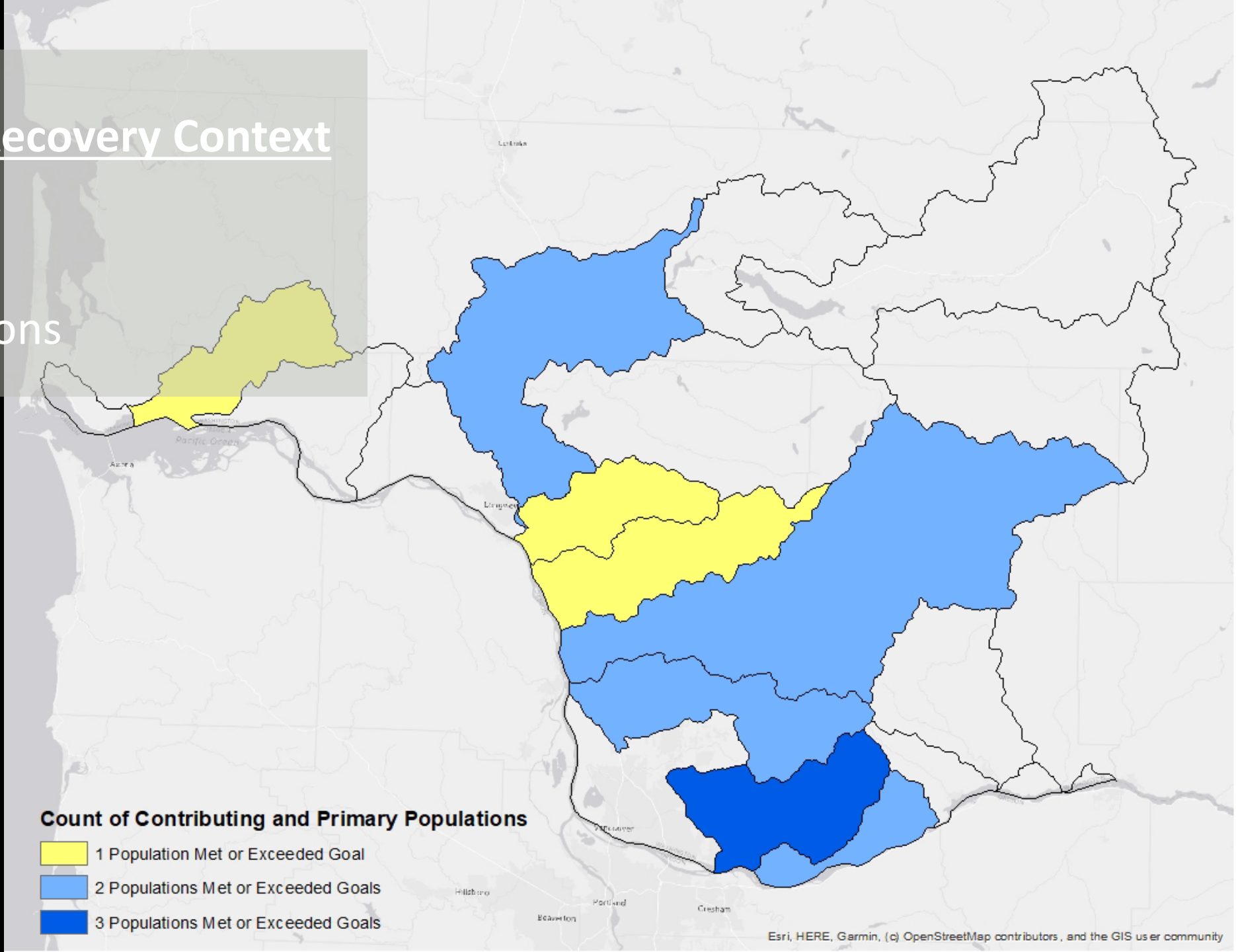




Incorporate All-H Recovery Context

Current viability

Recovery Designations



Proposed Data Sets

Jurisdictional areas: counties, UGAs, legislative districts

Planning areas: Lead Entity area, WRIAs, subbasins, estuary

Fish distribution: SWIFD, WDFW occupancy model, other

Viability: population recovery designations, viability progress

Land cover: High Resolution Change Detection summary outputs

Project data: Salmon Recovery Portal linked data

Barrier data: regional barrier assessment outputs

FISH: landscape units, habitat and climate indicators, habitat actions

Stakeholder Feedback

- Existing SalmonPORT data perspectives – what works, what doesn't?
- What are the primary data and information gaps in the habitat strategy?
- What navigation, review and download options most helpful?
- What user groups may benefit from an updated strategy map?