

WDFW's Recommendations for Fish & Wildlife Habitat Conservation Areas

Kara Whittaker, PhD

Ecosystem Services Division Manager

Kara.Whittaker@dfw.wa.gov



Washington
Department of
**FISH and
WILDLIFE**

An aerial photograph of a coastal city, likely Seattle, showing a dense urban area with many trees and buildings. In the foreground, there is a large body of water (Puget Sound) and a curved shoreline with a beach, a small park area, and some industrial or commercial buildings. The background shows distant mountains under a cloudy sky.

WDFW works directly with all of Washington's **cities** and **counties** to plan for fish and wildlife habitat conservation.



Kara Whittaker, PhD

Ecosystem Services Division Manager



Overview

1. Growth Management Act (GMA) requirements for Critical Areas
2. WDFW's role & priorities
3. Best Available Science & guidance for riparian ecosystems
4. Limitations of the DNR riparian buffer approach
5. Riparian Management Zone delineation
6. Questions & Discussion





GMA Requirements for Critical Areas

- *Designate and protect* critical areas
- Allow *no net loss* of ecosystem functions and values
- Give special consideration to *anadromous fisheries*
- Support *viable, connected populations* over the long term
- Include and review the *best available science (BAS)*
 - [WAC 365-190-080](#); [WAC 365-196-830](#); [WAC 365-195](#)



An aerial photograph of a river system in a rural landscape. The river flows from the top left towards the bottom right. A large, extensive log jam is visible in the center of the river, consisting of numerous fallen trees and branches. The surrounding area includes green fields, some with patches of snow, and lines of trees. The sky is overcast.

What are Fish & Wildlife Habitat Conservation Areas (FWHCAs)?

What is WDFW's role in land use planning?

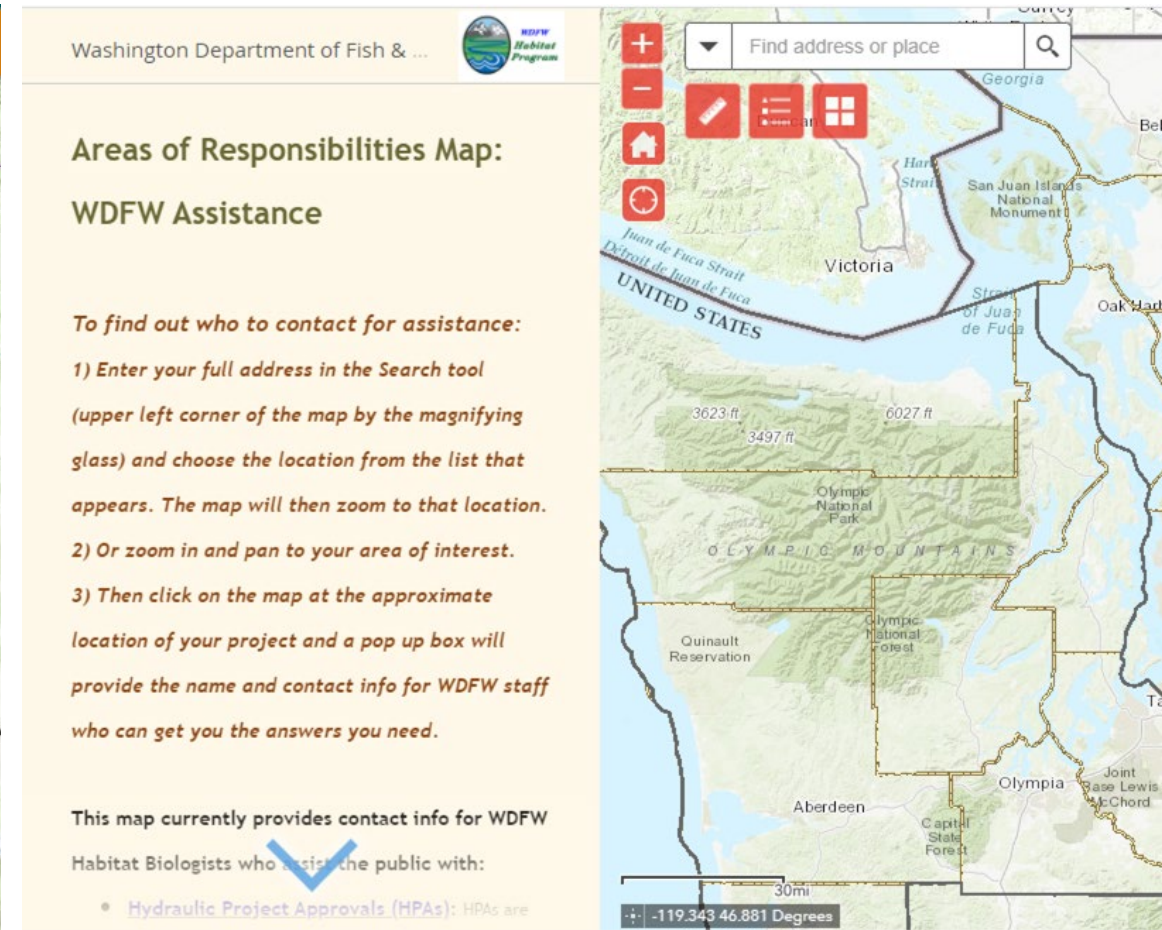
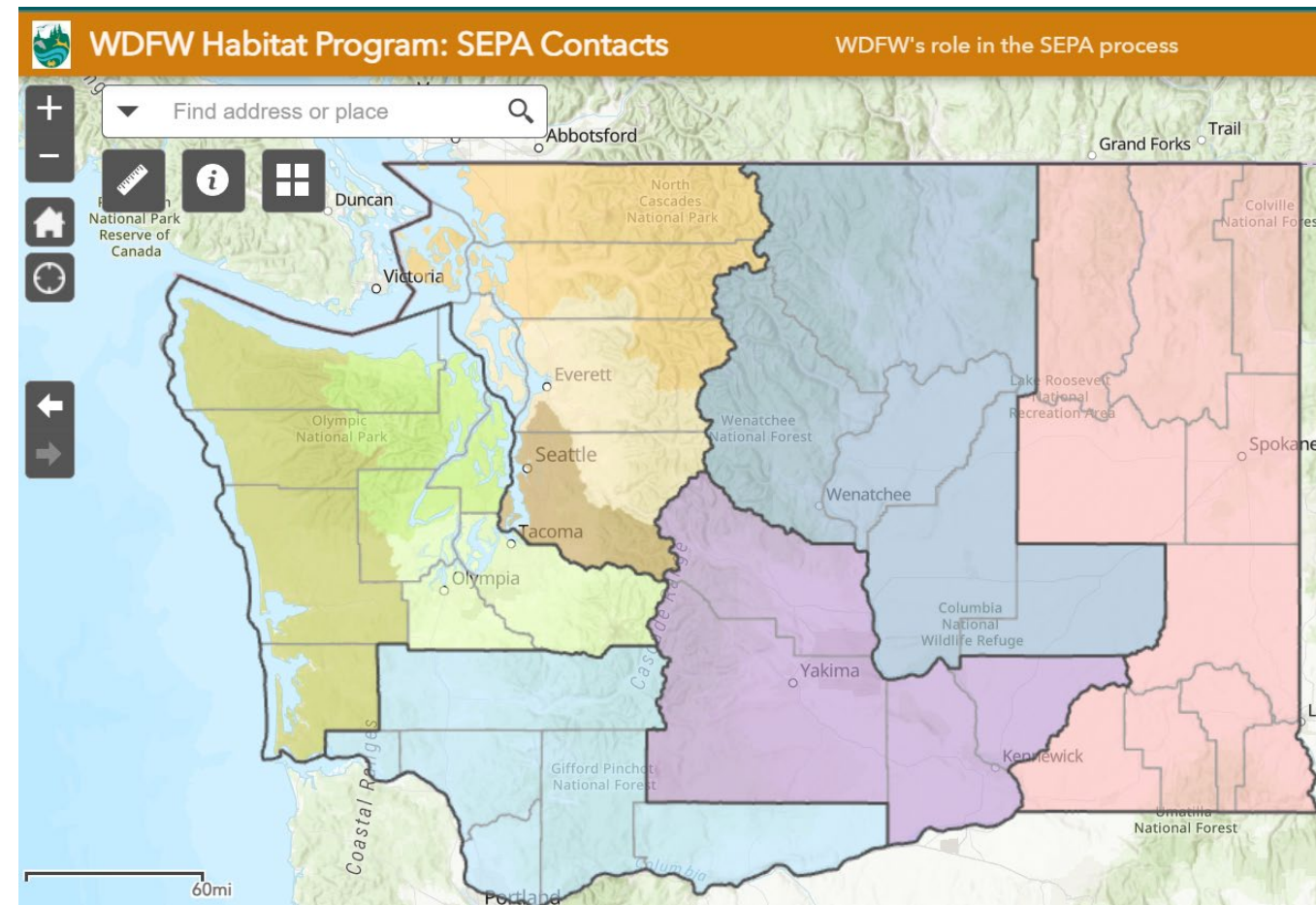
Technical Advisors



WDFW Technical Assistance

Regional Land Use Leads:
long-range planning

Area Habitat Biologists:
current planning/project review



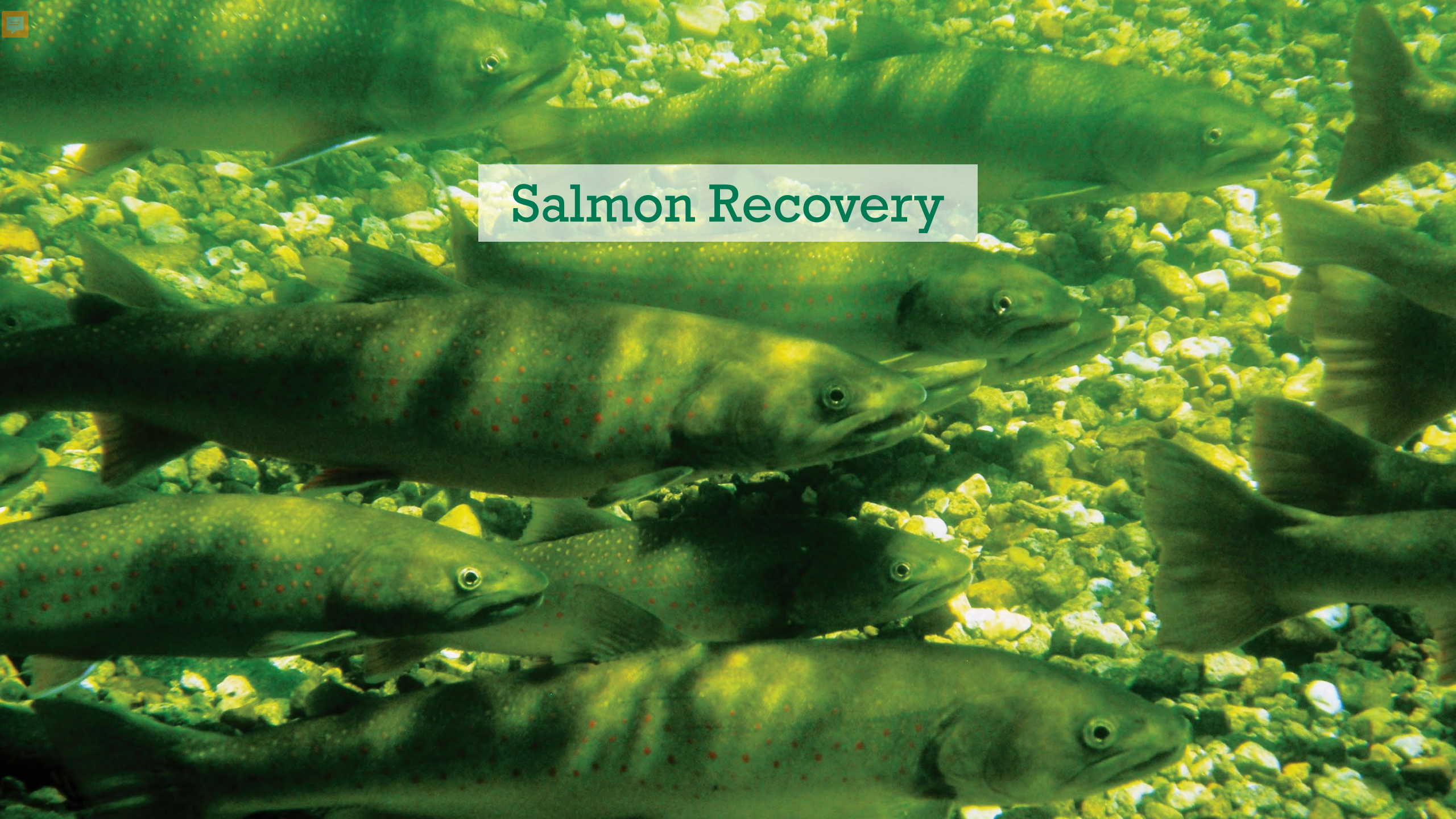


WDFW's land use planning priorities
all serve to support fish and wildlife
habitat conservation.

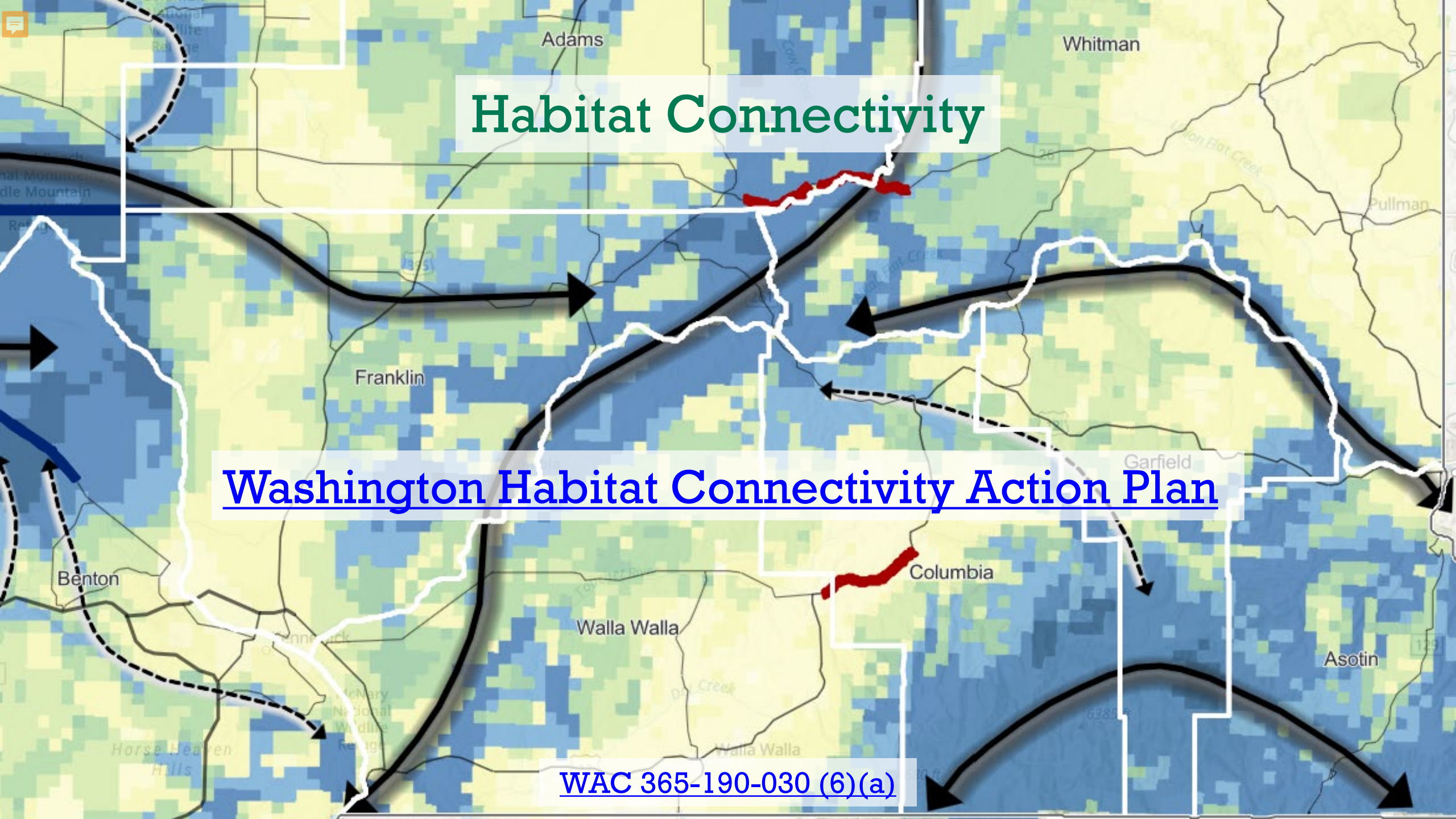


Riparian Ecosystems



An underwater photograph of several salmon swimming in a river. The fish are silvery with numerous small red spots (parrish spots) along their sides. They are swimming over a riverbed composed of many small, light-colored pebbles. The water is clear, and the lighting is bright, creating a vibrant scene. A semi-transparent white rectangular box is centered in the upper half of the image, containing the text "Salmon Recovery" in a dark green, serif font.

Salmon Recovery

A map of Washington state showing habitat connectivity corridors. The map uses a color-coded system where blue and green areas represent high-quality habitat, and yellow and tan areas represent lower-quality habitat. Black arrows indicate the direction of connectivity corridors, while dashed black arrows indicate potential or secondary corridors. White outlines represent county boundaries. Two specific corridors are highlighted in red: one in the northern part of the state near Adams and Whitman counties, and another in the southern part near Walla Walla and Columbia counties. The text 'Habitat Connectivity' is overlaid in a green box at the top center.

Habitat Connectivity

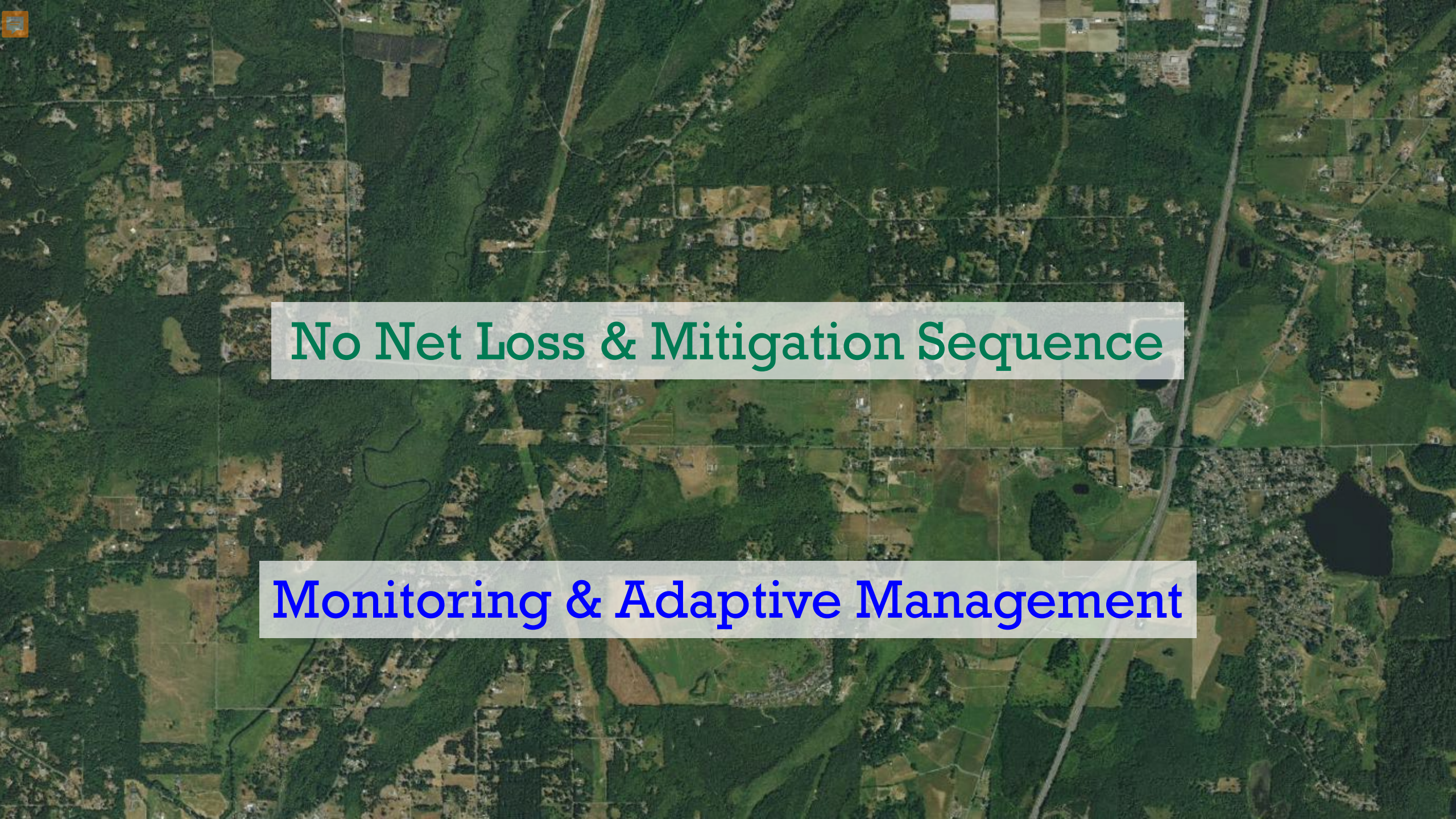
Washington Habitat Connectivity Action Plan

WAC 365-190-030 (6)(a)

A scenic view of a lake with a forested hill in the background and several boats on the water. The hill is covered in dense green trees, and a few houses are visible on the ridge. The water is calm with gentle ripples, and three small boats are floating on the surface. The sky is clear and blue.

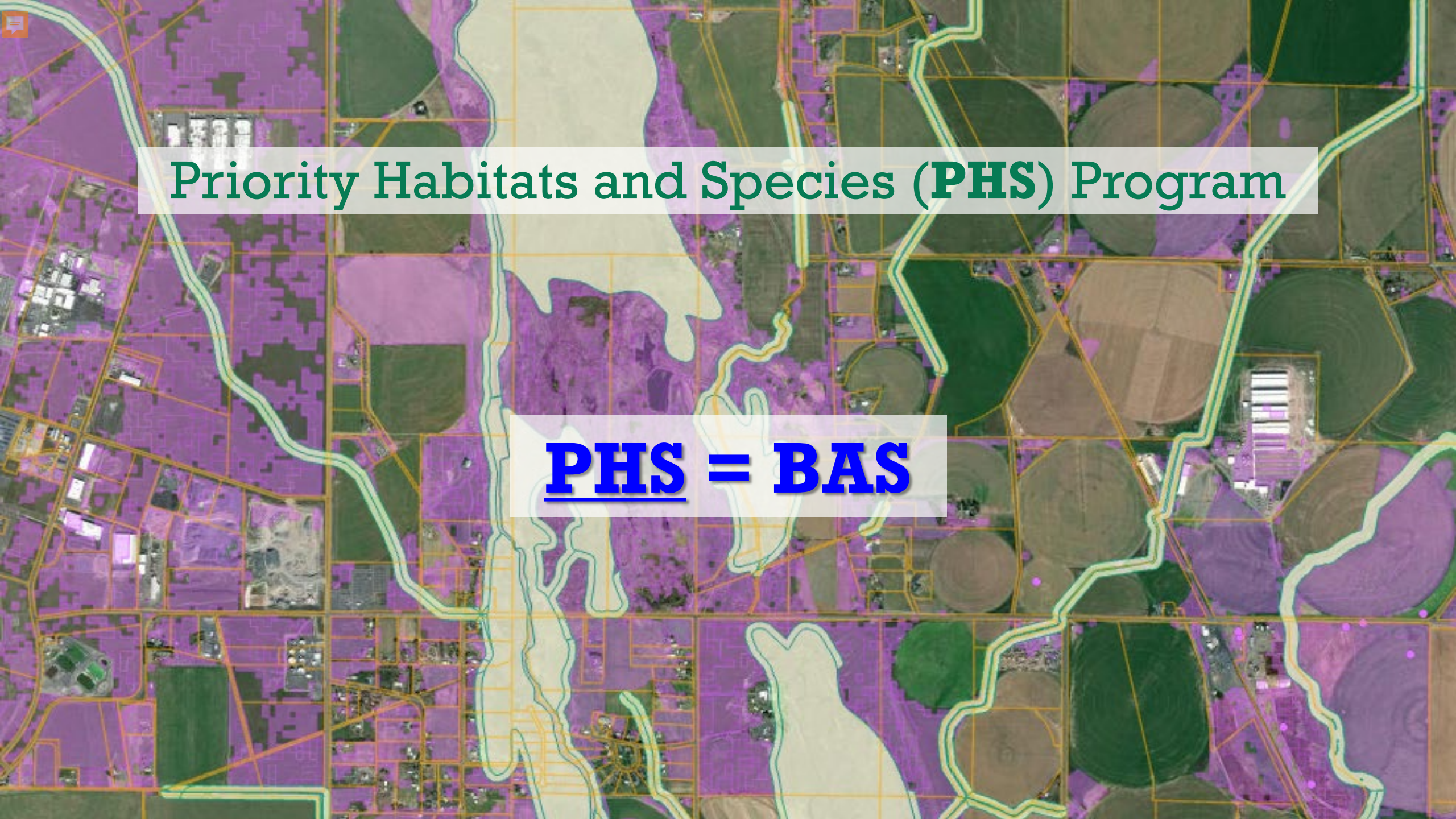
Climate Resilience

[GMA Climate Planning Resources](#)



No Net Loss & Mitigation Sequence

Monitoring & Adaptive Management

An aerial photograph of a rural landscape with a grid of yellow lines representing property boundaries. Large areas are colored in shades of purple and green, likely indicating different land use or habitat types. A winding road or path is visible on the left side. Two white text boxes with green and blue text are overlaid on the map.

Priority Habitats and Species (**PHS**) Program

PHS = BAS

PHS: Riparian Ecosystems

Riparian Ecosystems, Volume 1:
Science Synthesis and
Management Implications

- [Volume 1](#): Science Synthesis
- [Volume 2](#): Riparian Management Recommendations
- Riparian Management Zone (RMZs) can provide *fully functioning riparian ecosystems*.



A Priority Habitats and Species Document of the
Washington Department of Fish and Wildlife



Updated July 2020

Riparian Ecosystems, Volume 2:
Management Recommendations



A Priority Habitats and Species Document of the
Washington Department of Fish and Wildlife



December 2020



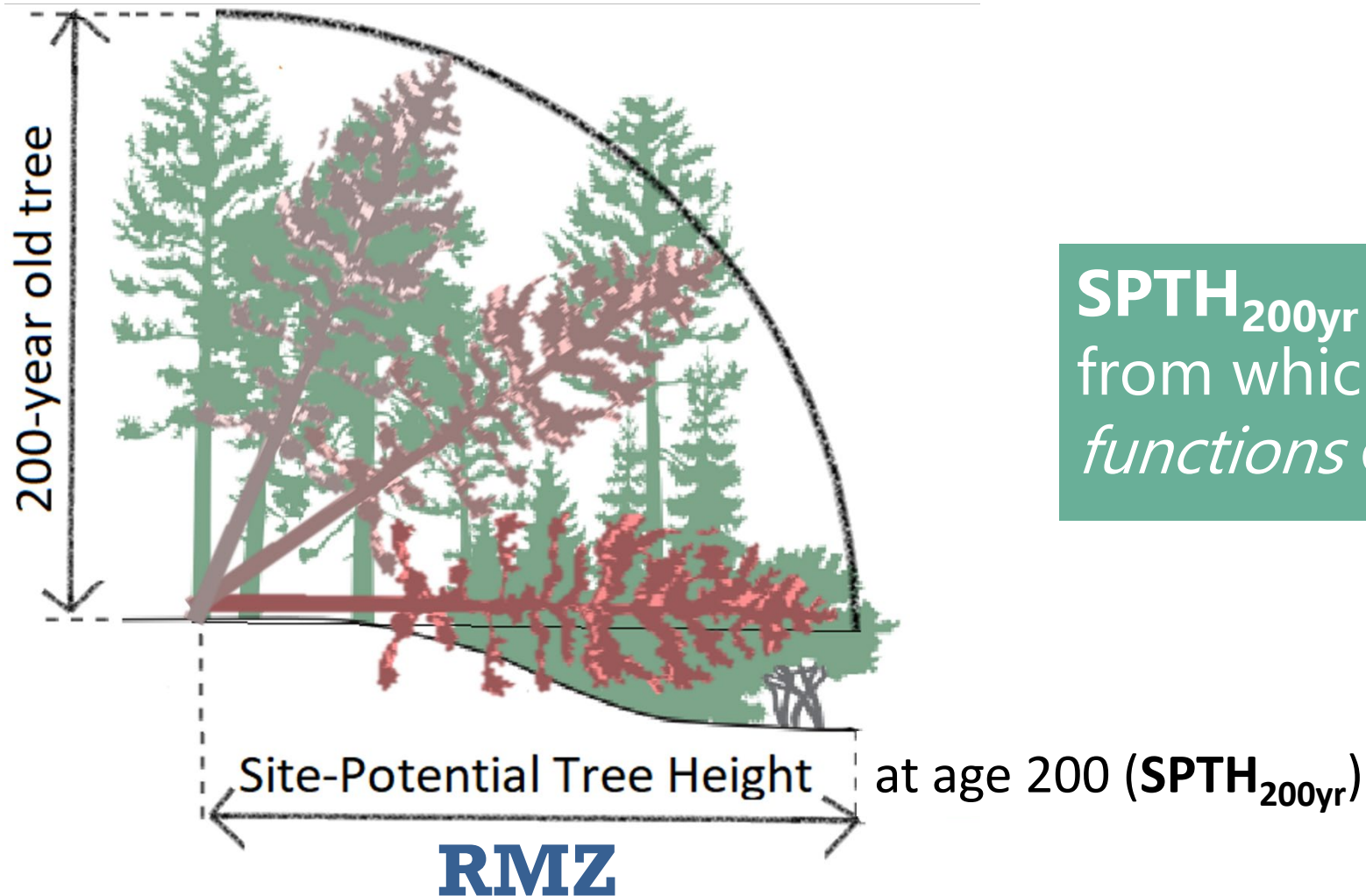
Department of Fish and Wildlife

Riparian Functions

- Pollution removal
 - Bank stability
 - Shade
 - Nutrient input
 - Wood input
 - Habitat and connectivity for terrestrial wildlife species
- Occur within all stream types.*



Forest Ecoregion RMZs



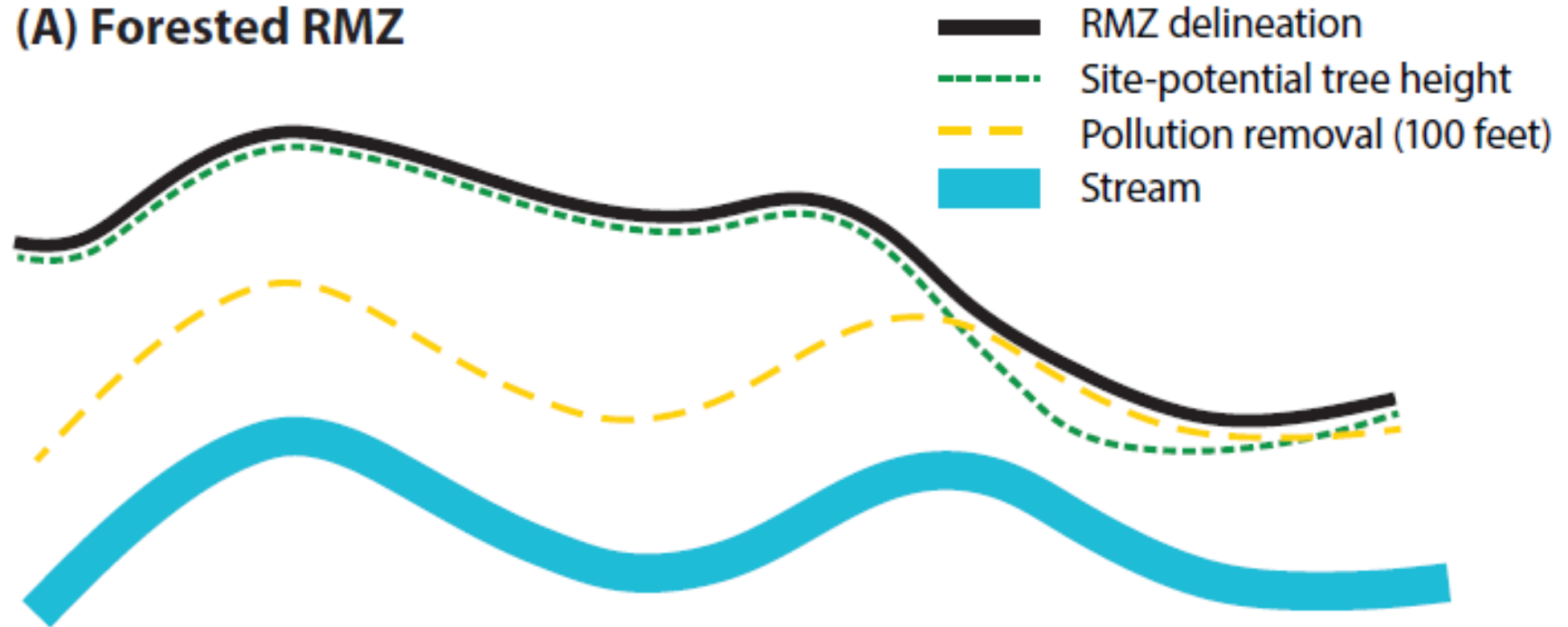
$\text{SPTH}_{200\text{yr}}$ is the RMZ width from which *full riparian functions* can be provided.





RMZ Delineation

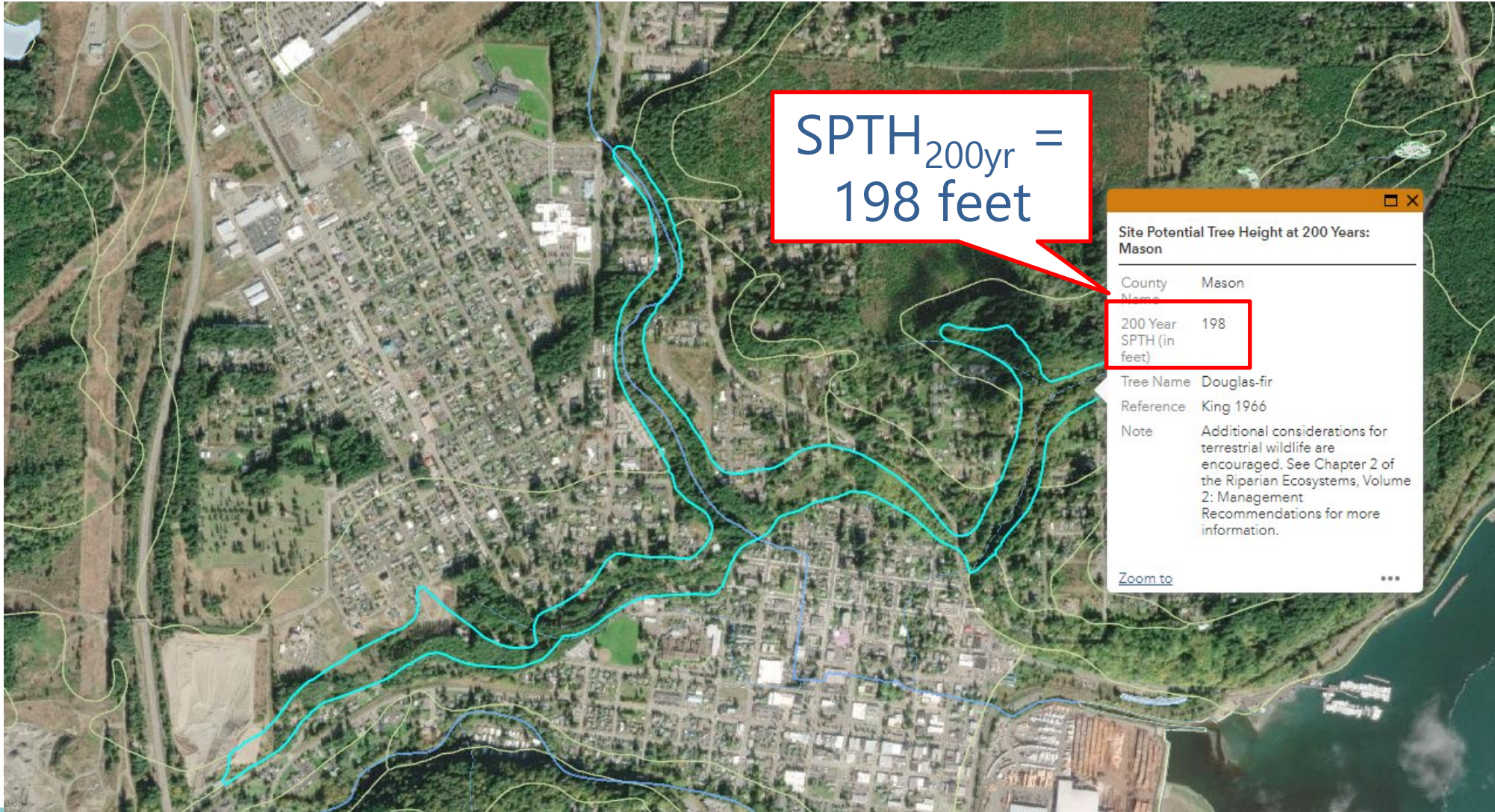
(A) Forested RMZ





SPTH_{200yr}

Online Mapping Tool





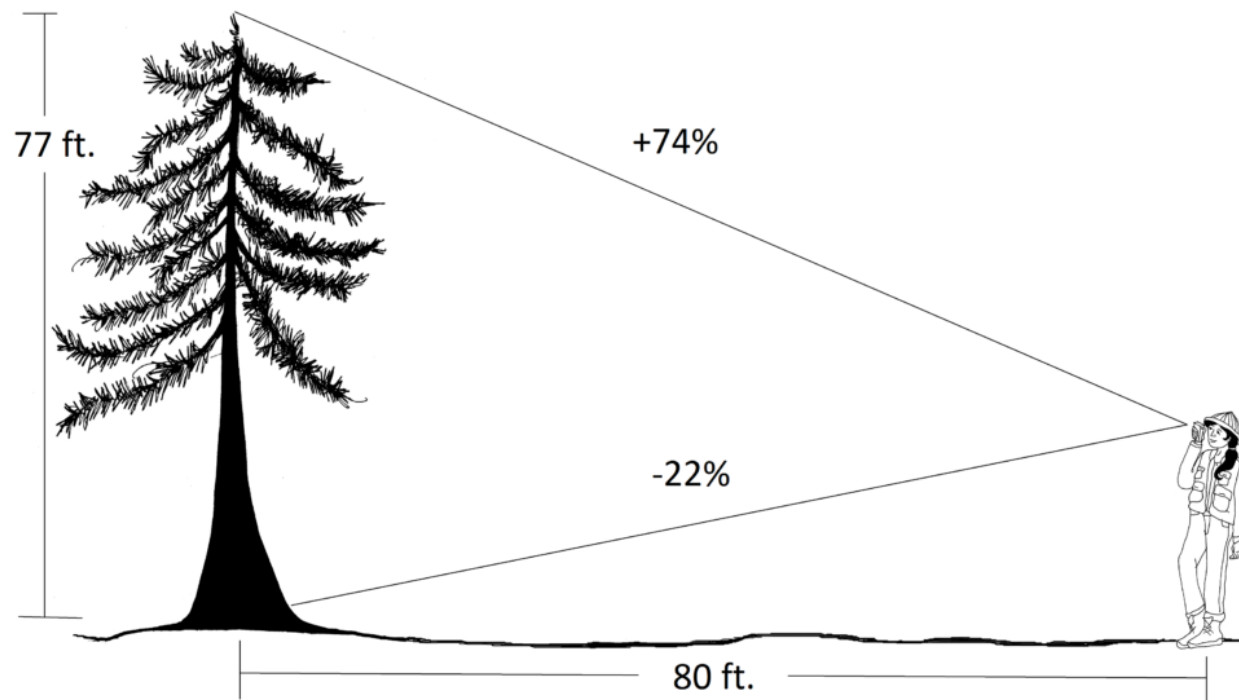
SPTH_{200yr}
Field Measurement



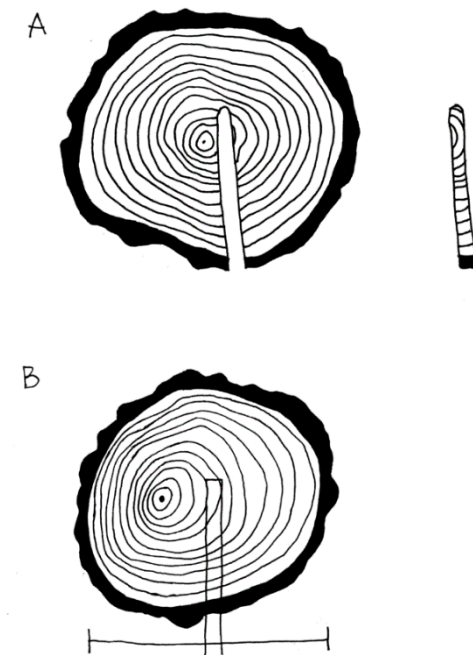
**Guidelines for Determining Site
Potential Tree Height from Field
Measurements**



Determining $SPTH_{200yr}$ From Field Measurements



Site tree height



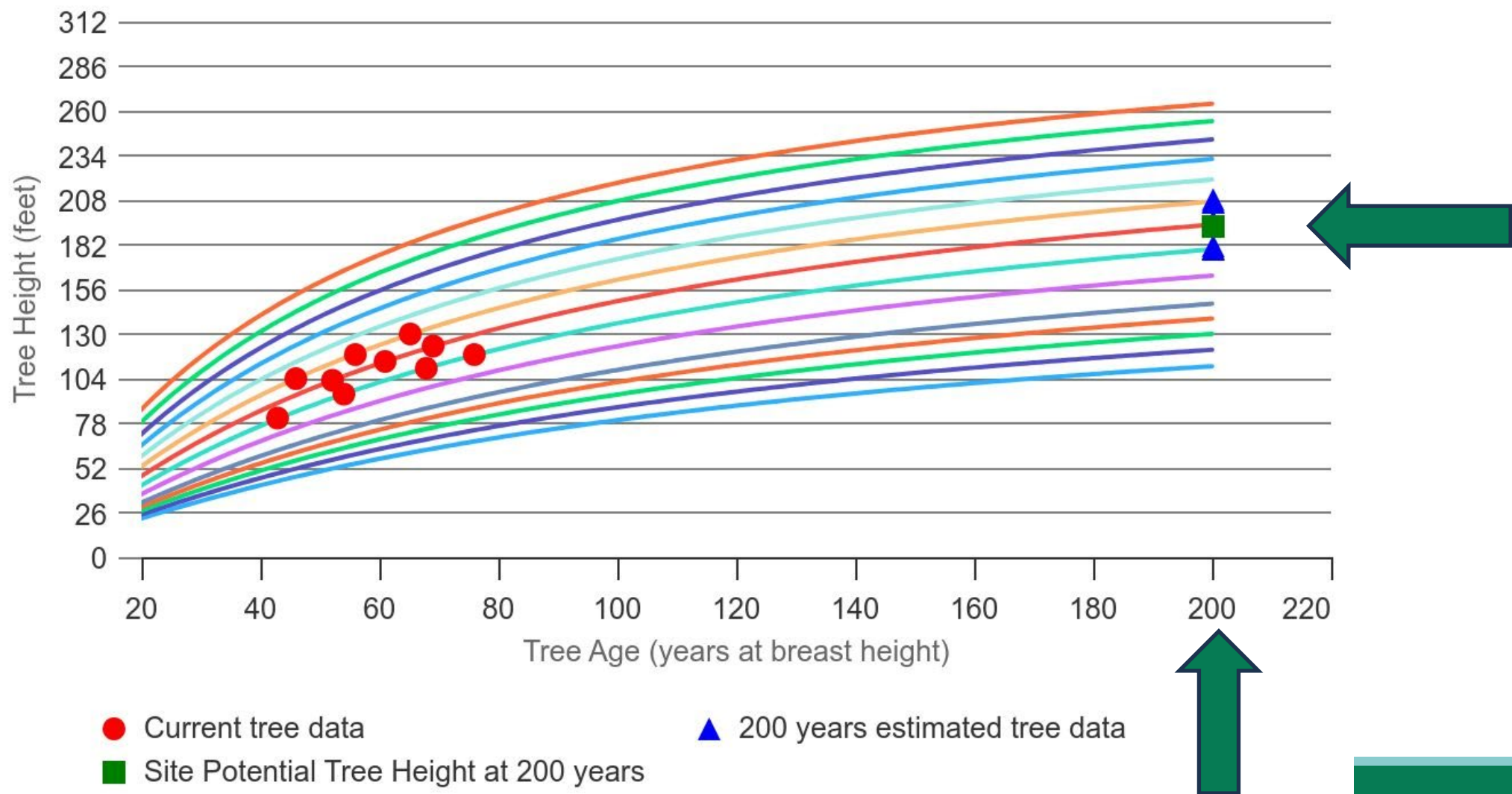
Site tree age





SPTH_{200yr} Calculator

Western Hemlock - Average SPTH **193 ft** (95% CI: 184 ft - 201 ft)





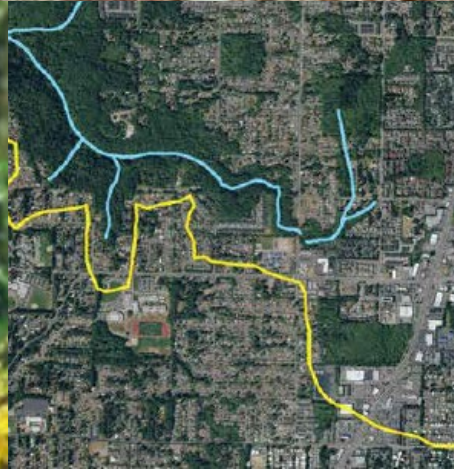
Limitations of the DNR riparian buffer approach

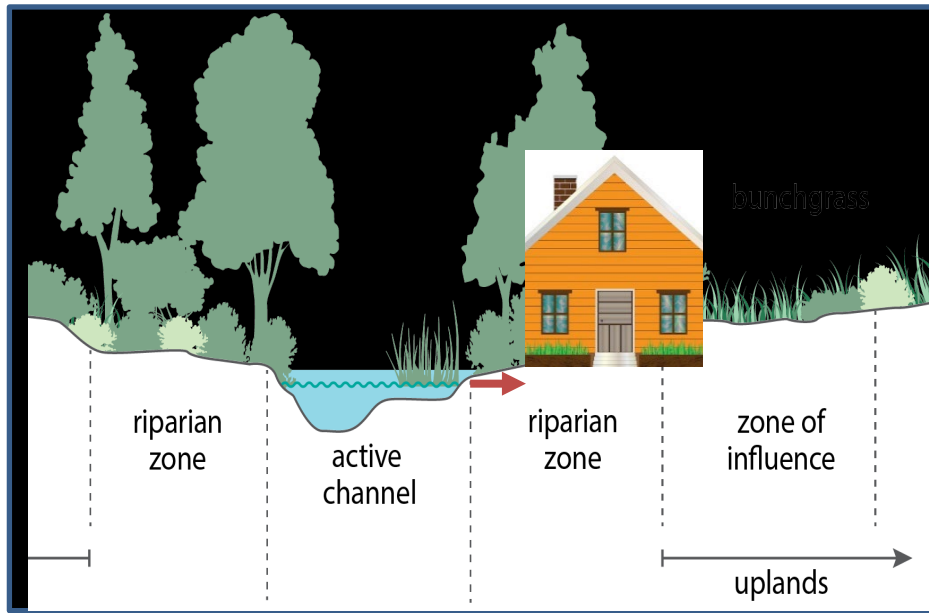
DNR Water Type	Riparian buffer width
Type S	SMP
Type F	200 feet
Type Np	100 feet
Type Ns	75 feet





Limitations of the DNR riparian buffer approach

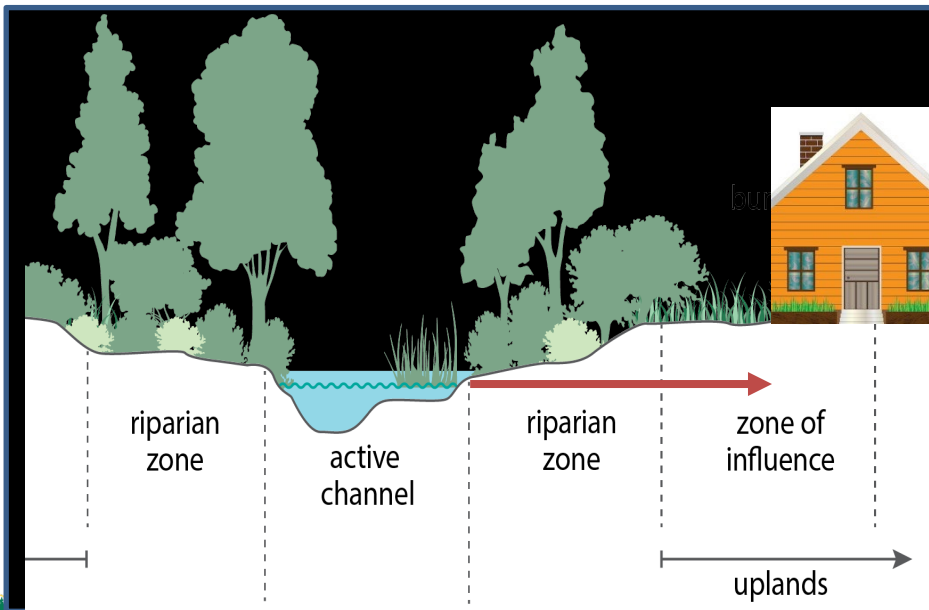




25'
RMZ



100'
minimum
RMZ

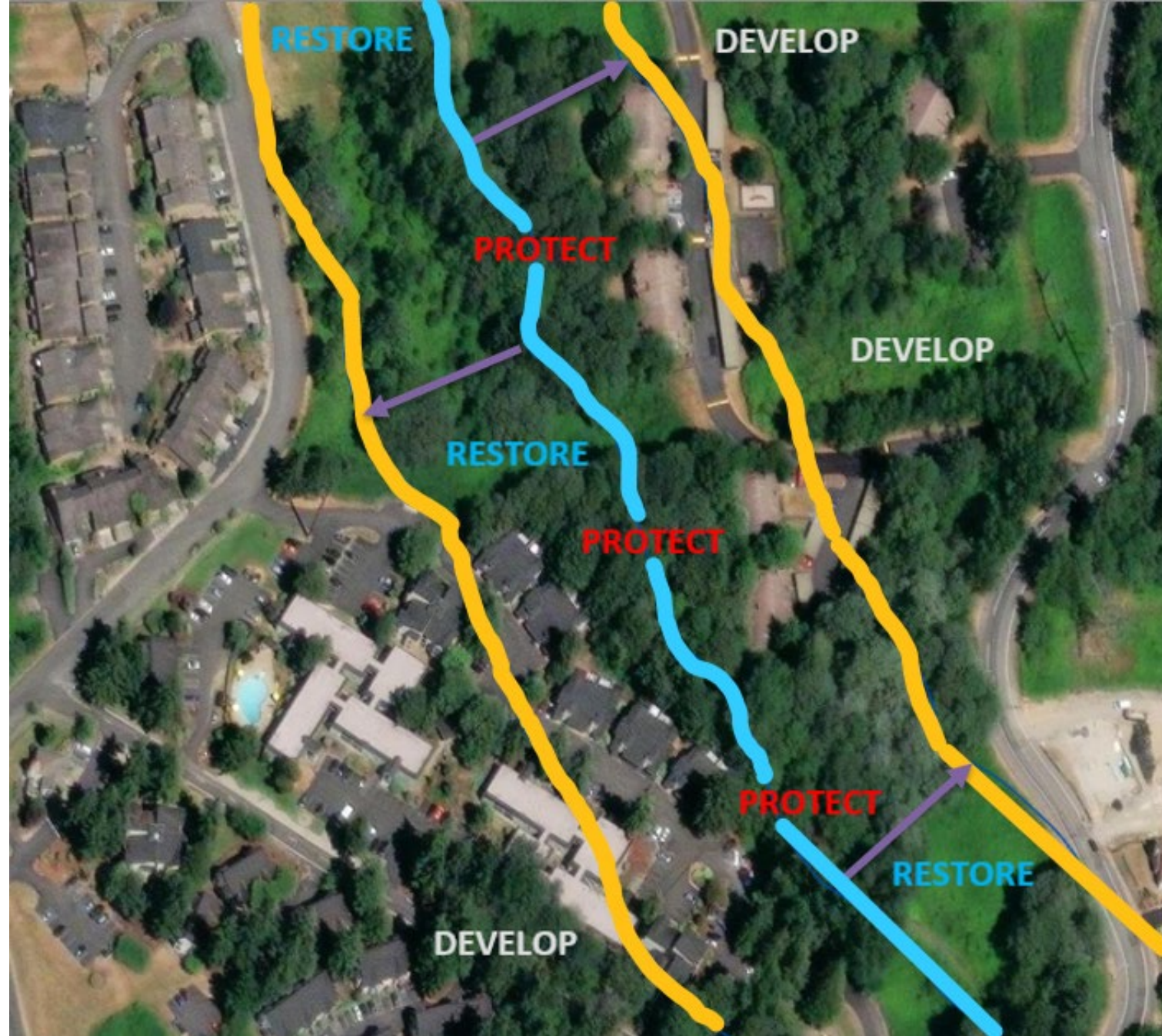


140'
RMZ



SPTH_{200yr}





An aerial photograph showing a landscape with a river, forest, and residential area. The river flows vertically through the center. To the left is a large, dense green forest. To the right is a residential area with houses, streets, and some commercial buildings. The text "Win-Win Solutions!" is overlaid in the center of the image.

Win-Win
Solutions!

Thank you!

[WDFW's land use planning priorities & resources](#)



Washington Department of
FISH & WILDLIFE