WDFW's Recommendation for Riparian Ecosystems

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Presentation Outline

Volume 1: Science Synthesis (2018, 2020)

- Best Available Science (BAS) under Growth Management Act
- Scientific/technical information under Shoreline Management Act

Volume 2: Management Recommendations (2020)

- Relationship to Volume 2
- Key recommendations
- Considerations
- Next steps

Question and Answer time (at the end)

Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications

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

Washington Department of FISH and WILDLIFE

Updated January 2020

Volume 1: Overview

- Addresses five riparian functions:
  1. bank integrity
  2. inputs of wood
  3. stream shading
  4. nutrients (e.g., leaf litter) input
  5. pollutant removal

  ✓ This is consistent with the two major federal and state riparian conservation strategies (Northwest Forest Plan, and Forests and Fish)

- Includes review of watershed-scale processes

Volume 1: Science Synthesis

Four of the key scientific findings related to riparian ecosystems are:

- What areas they encompass on the landscape
- The use of 200-year Site Potential Tree Height ($SPTH_{200}$) to determine the width of the Riparian Management Zone (RMZ)
- The pollution removal function
- The importance of protecting the Channel Migration Zone (CMZ)

Riparian Ecosystems, Volume 2: Management Recommendations

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

Washington Department of FISH and WILDLIFE

December 2020

Volume 2: Relationship to Vol. 1

Volume 2 provides policy-based recommendations for how to apply the science in Volume 1.

- Volume 2 **is not <u>in and of itself</u>** Best Available Science (BAS): Rather, it states our policy preferences, reflective of WDFW's mandate, based on the science.

WDFW's policy is that **we want full riparian function to meet the needs of fish and wildlife.**

Vol. 2: The "Bottom Line Up Front"

Our recommendation: "Within the context of wise watershed management, preserve, protect, and—where possible—restore the full extent of the riparian ecosystem."

- Restoration is essential because the amount and quality of riparian areas that exist today are insufficient to meet the needs of the state's fish and aquatic wildlife.

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Vol. 2: RMZ Recommendations

Where trees are the native riparian vegetation, we recommend the width of the Riparian Management Zone (RMZ) be at least one $SPTH_{200}$.

A minimum 100-foot wide RMZ will achieve:

- 95% or more removal efficacy of phosphorous, sediment, and most pesticides; and
- 80% removal efficacy for surface runoff containing excess nitrogen.
  - ➢ The actual risk posed and efficacy of removal of excess nitrogen are site-specific.

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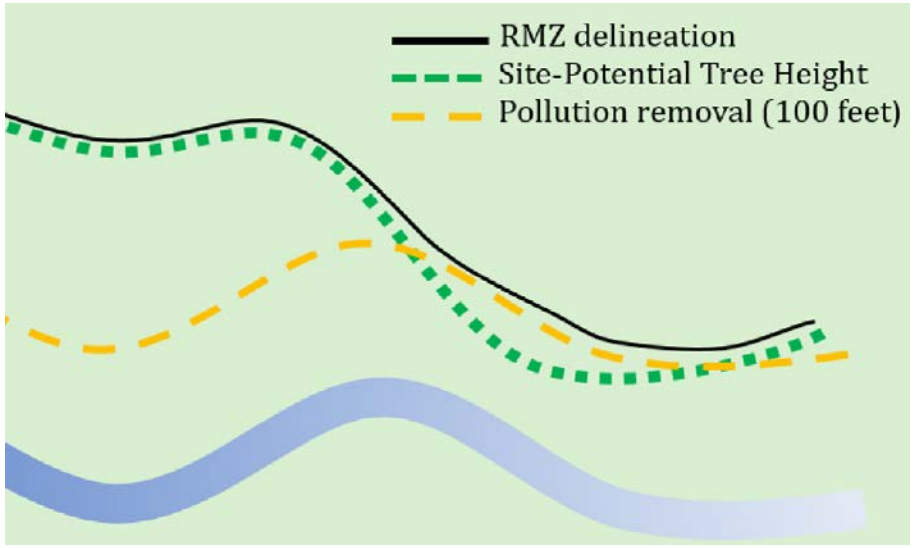
Vol. 2: RMZ Delineation

1. Identify the RMZ **inner** edge (using OHWM or CMZ)
2. Determine RMZ width:
   A. Identify (i) $SPTH_{200}$
   B. Overlay the minimum 100-foot pollution removal delineation
3. Set the RMZ **outer** edge using the wider of A or B

Forested RMZ

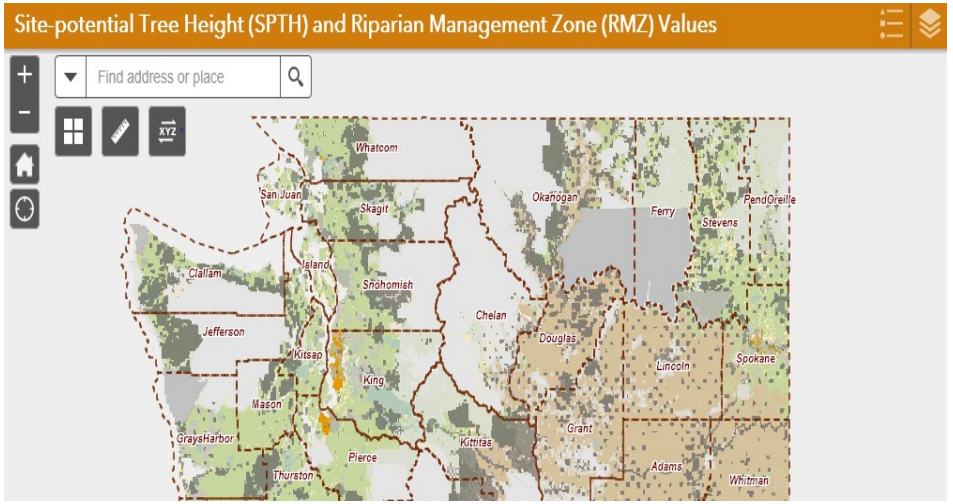


Vol. 2: Online Mapping Tool

We developed and published an online RMZ mapping tool to provide $SPTH_{200}$ information to end users in (what we hope is) a clear, accessible format.

We've already received some suggestions (including from members of this group) about how we can provide more information within the mapping tool.

- We will make those kinds of improvements as our capacity allows.



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Volume 2: Considerations

- "We recognize landowners and land managers most often face situations where various human needs must also be met; and thus, considerations other than fish and wildlife will be incorporated into land use decision making."

- We understand $SPTH_{200}$-based RMZs (including protecting the full CMZ) may not be possible everywhere, always; but what *is* possible?

- Governor Inslee spoke about SPTH at the 2019 Centennial Accord and is continuing to demonstrate support for other state agencies to follow WDFW's recommendations.

Volume 2: Next steps

Develop/post Q&A document (if capacity allows).

For example:

- "The online mapping tool provides data for limited tree species only – what should we do if those species aren't appropriate for our area?"
- "Should we apply this information at the parcel scale?"

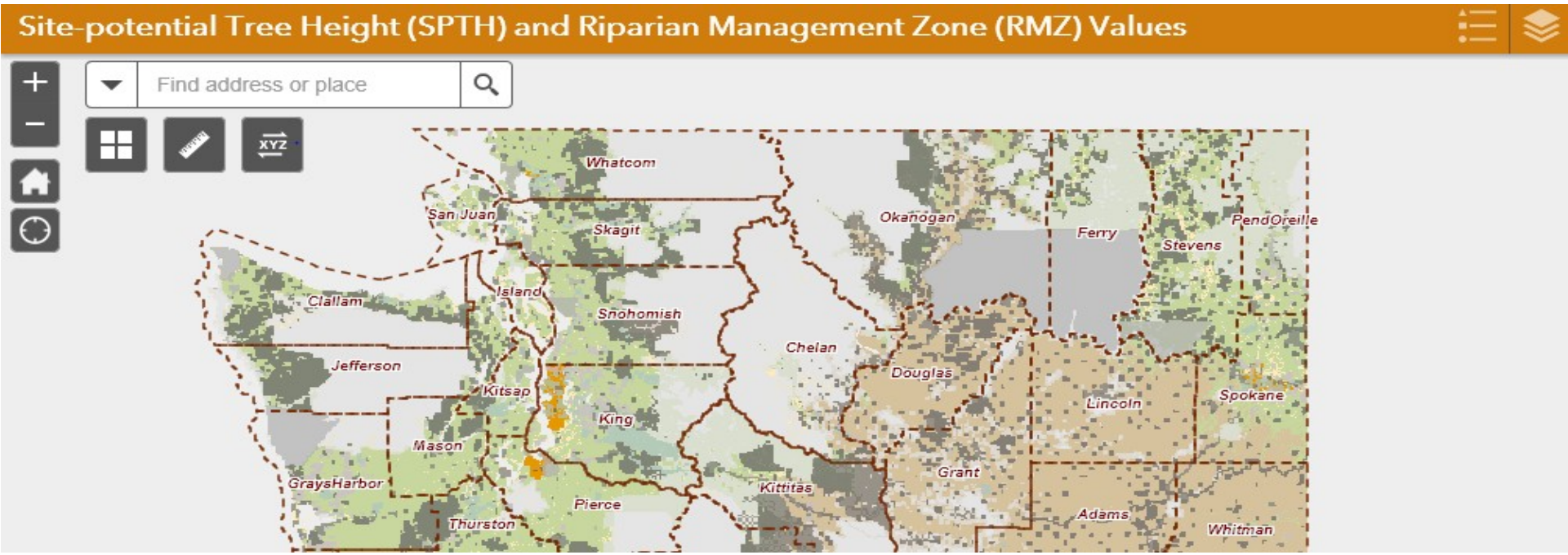
Meet with other state agencies to

(1) answer their questions,

(2) promote the SPTH science and our recommendations, and

(3) understand how they intend to reference our recommendations within the scope of their activities.

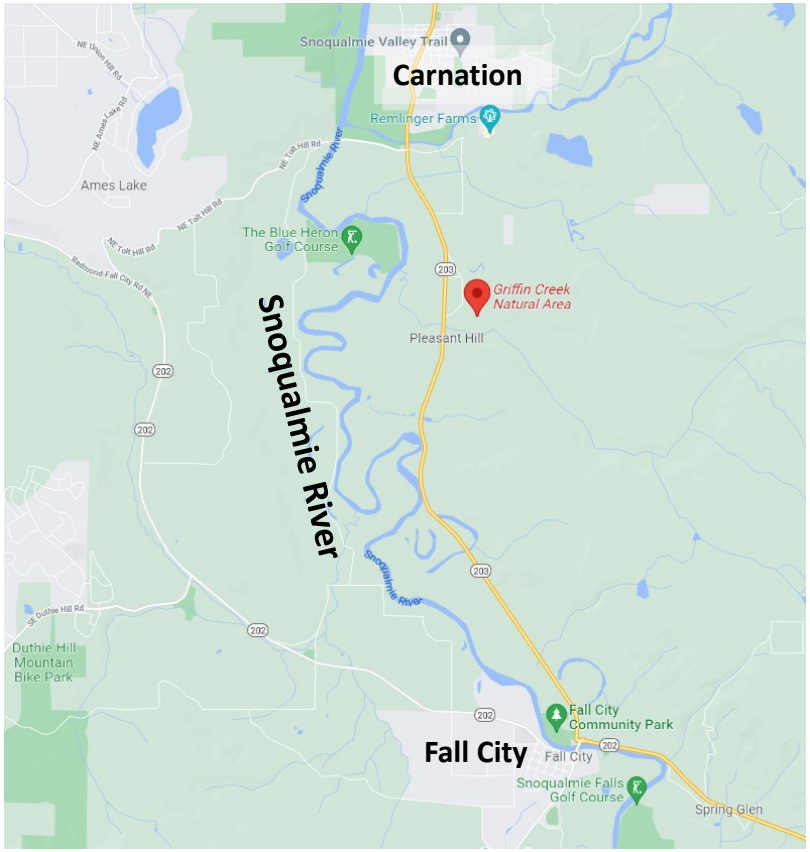
Online Mapping Tool Example

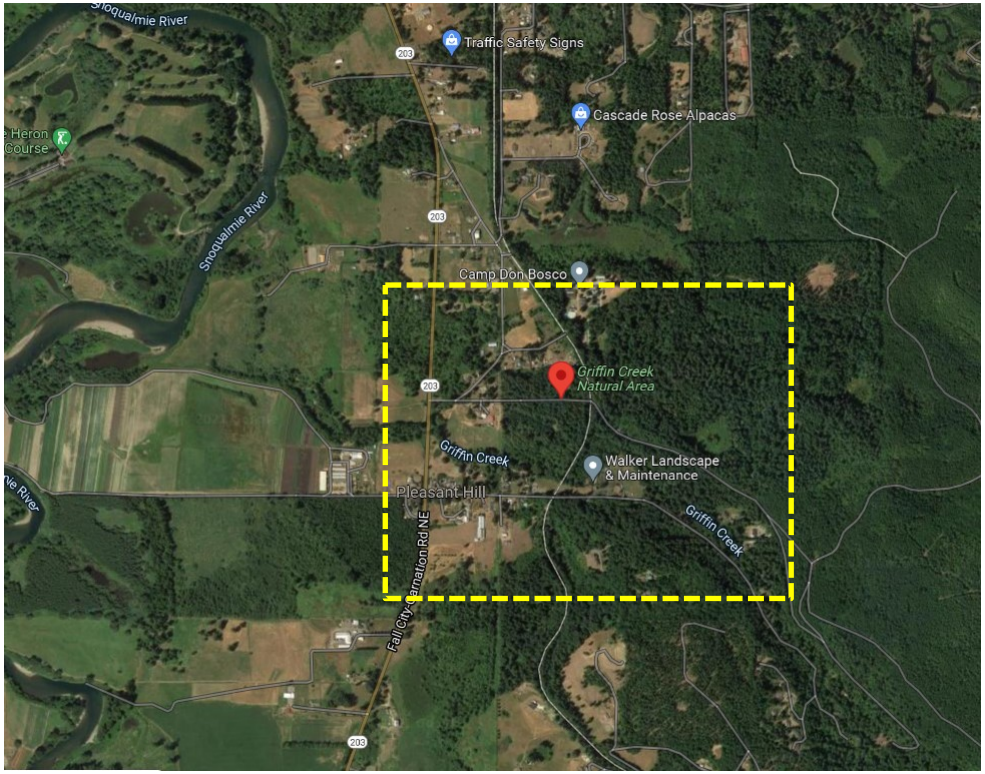


Site-Potential Tree Height & Riparian Management Zone Online Mapping Tool

https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=35b39e40a2af447b9556ef1314a5622d

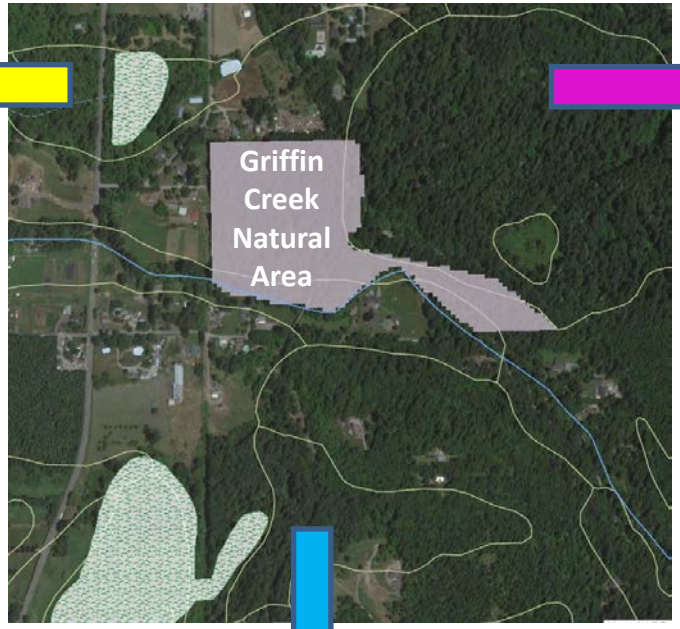
Griffin Creek Natural Area (vicinity)





The dashed yellow line (above right) shows the approximate area within the mapping tool that we will examine in the next slide

Example 1



Example 2

Site Potential Tree Height at 200 Years: King

County Name	King
200 Year SPTH (in feet)	100
Tree Name	Red Alder
Reference	Worthington 1960
Note	Additional considerations for terrestrial wildlife are encouraged. See Chapter 2 of the Riparian Ecosystems, Volume 2: Management Recommendations for more information.

Site Potential Tree Height at 200 Years: King

County Name	King
200 Year SPTH (in feet)	211
Tree Name	Douglas-fir
Reference	King 1966
Note	Additional considerations for terrestrial wildlife are encouraged. See Chapter 2 of the Riparian Ecosystems, Volume 2: Management Recommendations for more information.

Example 3

(1 of 2)

Site Potential Tree Height at 200 Years: King

County Name	King
200 Year SPTH (in feet)	235
Tree Name	Douglas-fir
Reference	King 1966
Note	Additional considerations for terrestrial wildlife are encouraged. See Chapter 2 of the Riparian Ecosystems, Volume 2: Management Recommendations for more information.

(2 of 2)

Site Potential Tree Height at 200 Years: King

County Name	King
200 Year SPTH (in feet)	215
Tree Name	Western Hemlock
Reference	Wiley 1978
Note	Additional considerations for terrestrial wildlife are encouraged. See Chapter 2 of the Riparian Ecosystems, Volume 2: Management Recommendations for more information.

Questions?

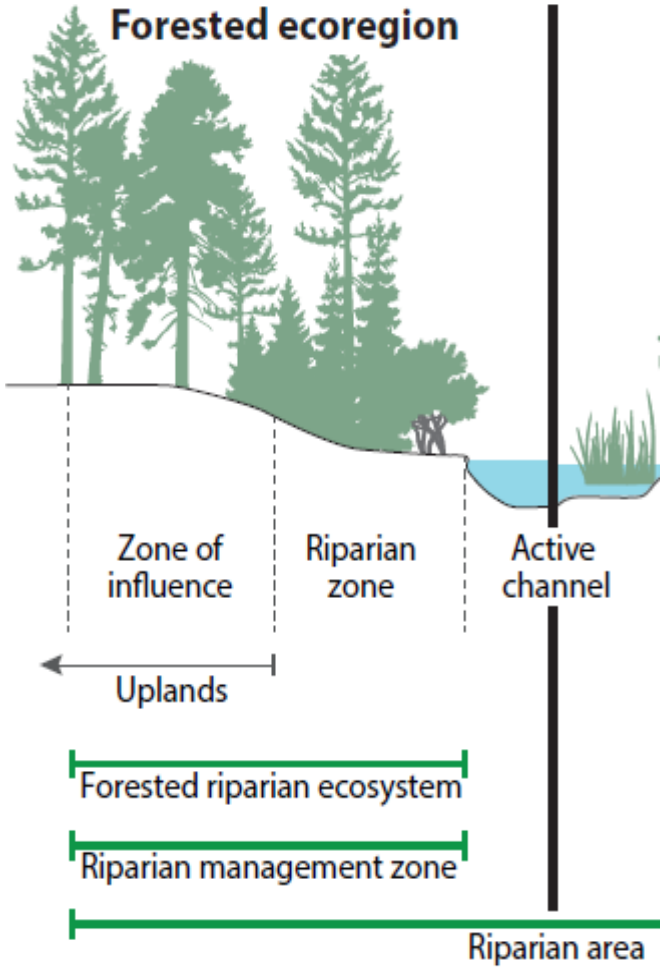
Volume 1
Tim Quinn/George Wilhere

Volume 2
Tom O'Brien/Mary Huff

Backup Slides

Riparian Ecosystems encompass:

- the **riparian zone**,
- the **active floodplain**, *and*
- the **zone of influence** (the terraces and adjacent uplands that directly contribute matter and energy to the stream.)



Riparian Ecosystems: Width

(a) In general, **the height of trees determines the width** of the riparian ecosystem.

- Protecting functions within at least one 200-year Site Potential Tree Height ($SPTH_{200}$) is a scientifically supported approach if the goal is to protect and maintain full function of the riparian ecosystem.

(b) Exception: *Where the riparian zone is narrow and the zone of influence lacks tall trees*, **the pollution removal function may determine the width** of the riparian ecosystem.

Riparian Ecosystems & the CMZ

As the active channel moves, the riparian ecosystem moves back and forth across the Channel Migration Zone (CMZ.)

To maintain ecological functions, management should anticipate future locations of the riparian ecosystem.