

An aerial photograph of a forest with a stream. The stream flows through the center of the image, surrounded by dense green trees. The water in the stream is dark, and the surrounding forest is a vibrant green. The text is overlaid on the image in a white, sans-serif font.

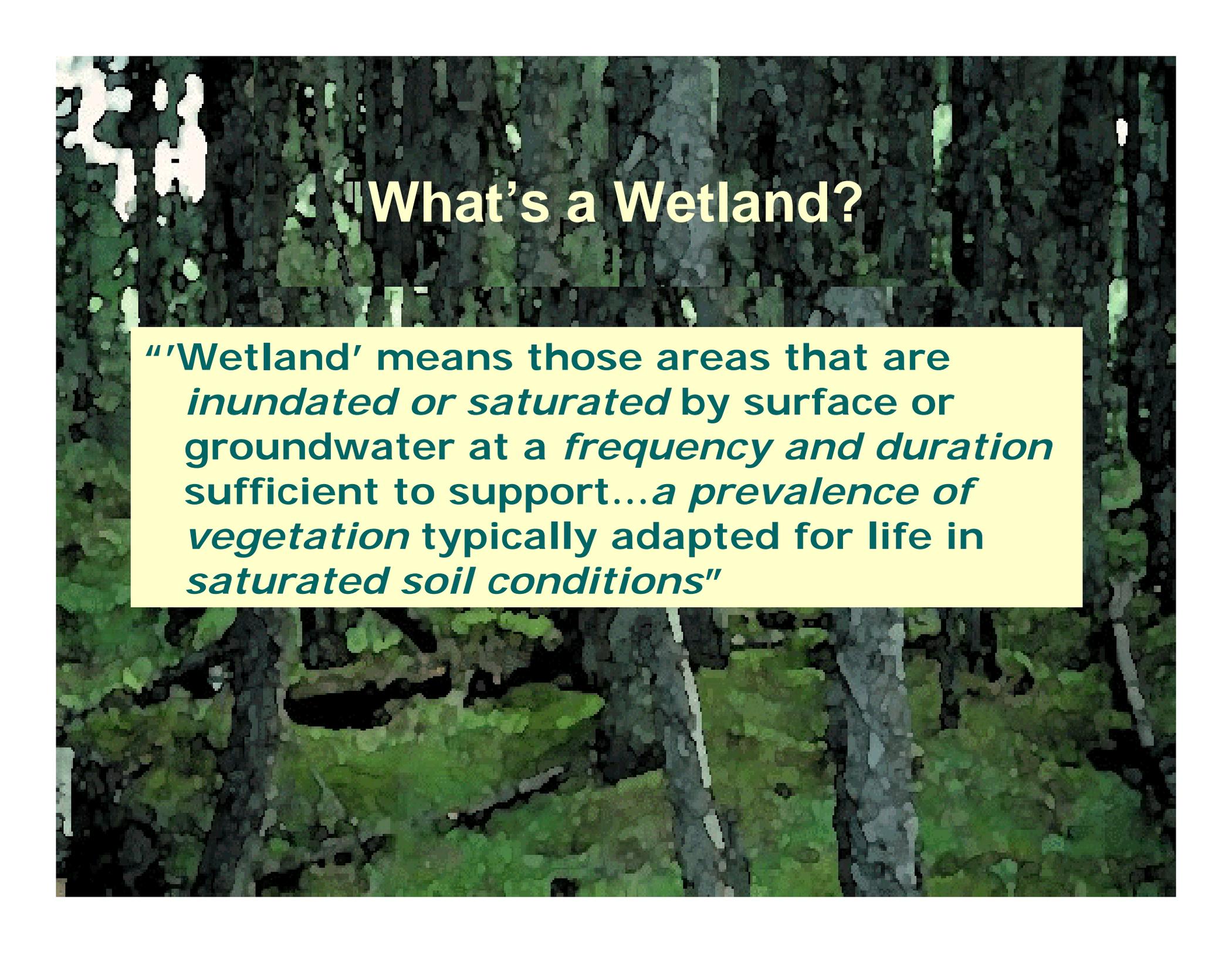
Wetlands and the Riparian Forest Restoration Strategy

**Sabra Hull
Land Management Division**



What We'll Cover Today:

- **Primary message: Don't Thin in Riparian Associated Wetlands!**
- **Review: What's a wetland?**
- **What's a Riparian Associated Wetland?**
- **What's special about them?**
- **How and Why does riparian associated wetland management differ from "isolated" wetland management?**
- **Wetlands are a key part of the RFRS!**

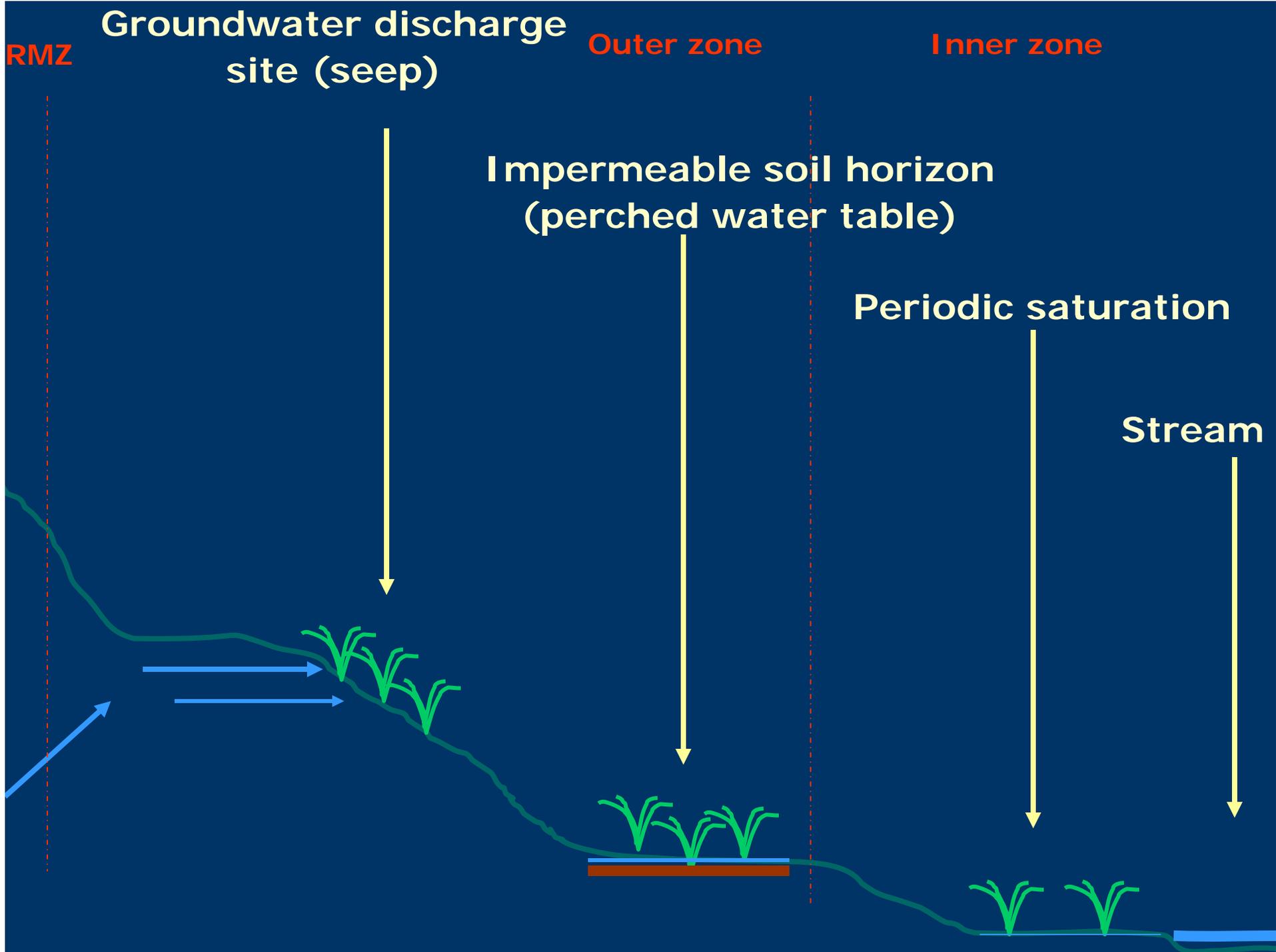


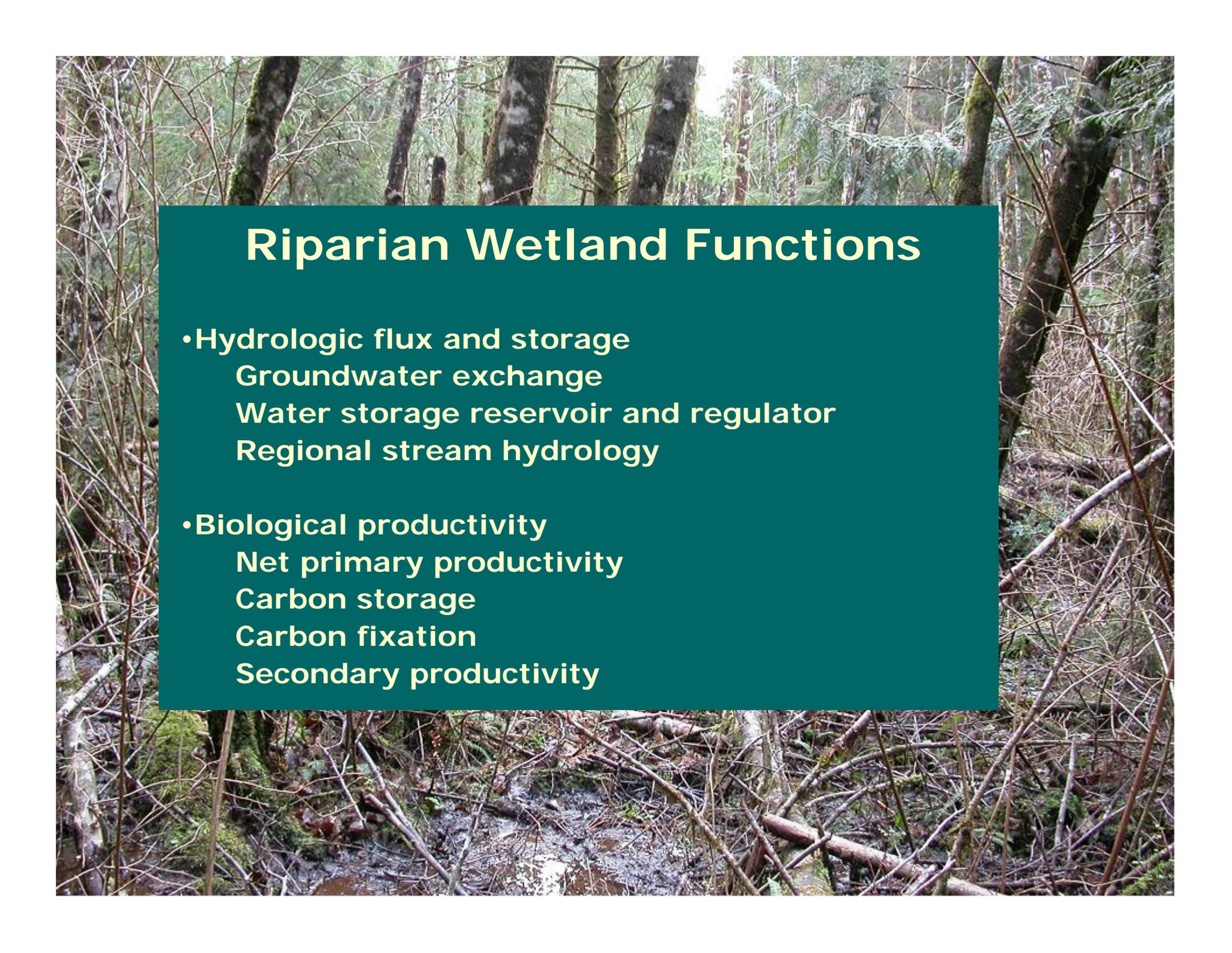
What's a Wetland?

“‘Wetland’ means those areas that are *inundated or saturated* by surface or groundwater at a *frequency and duration* sufficient to support...*a prevalence of vegetation* typically adapted for life in *saturated soil conditions*”

A photograph of a lush forest. In the foreground, a large log is covered in vibrant green moss. The midground is filled with large, broad green leaves, possibly from a maple tree. The background shows a dense stand of tall, thin trees with sunlight filtering through the canopy.

For DNR's purposes, a Riparian Associated Wetland is any wetland within, overlapping or immediately adjacent to an RMZ.



A photograph of a forest stream with a teal text overlay. The stream flows through a dense forest with many trees and fallen branches. The water is clear and reflects the surrounding greenery. The text overlay is a dark teal rectangle with white text.

Riparian Wetland Functions

- **Hydrologic flux and storage**
 - Groundwater exchange
 - Water storage reservoir and regulator
 - Regional stream hydrology
- **Biological productivity**
 - Net primary productivity
 - Carbon storage
 - Carbon fixation
 - Secondary productivity

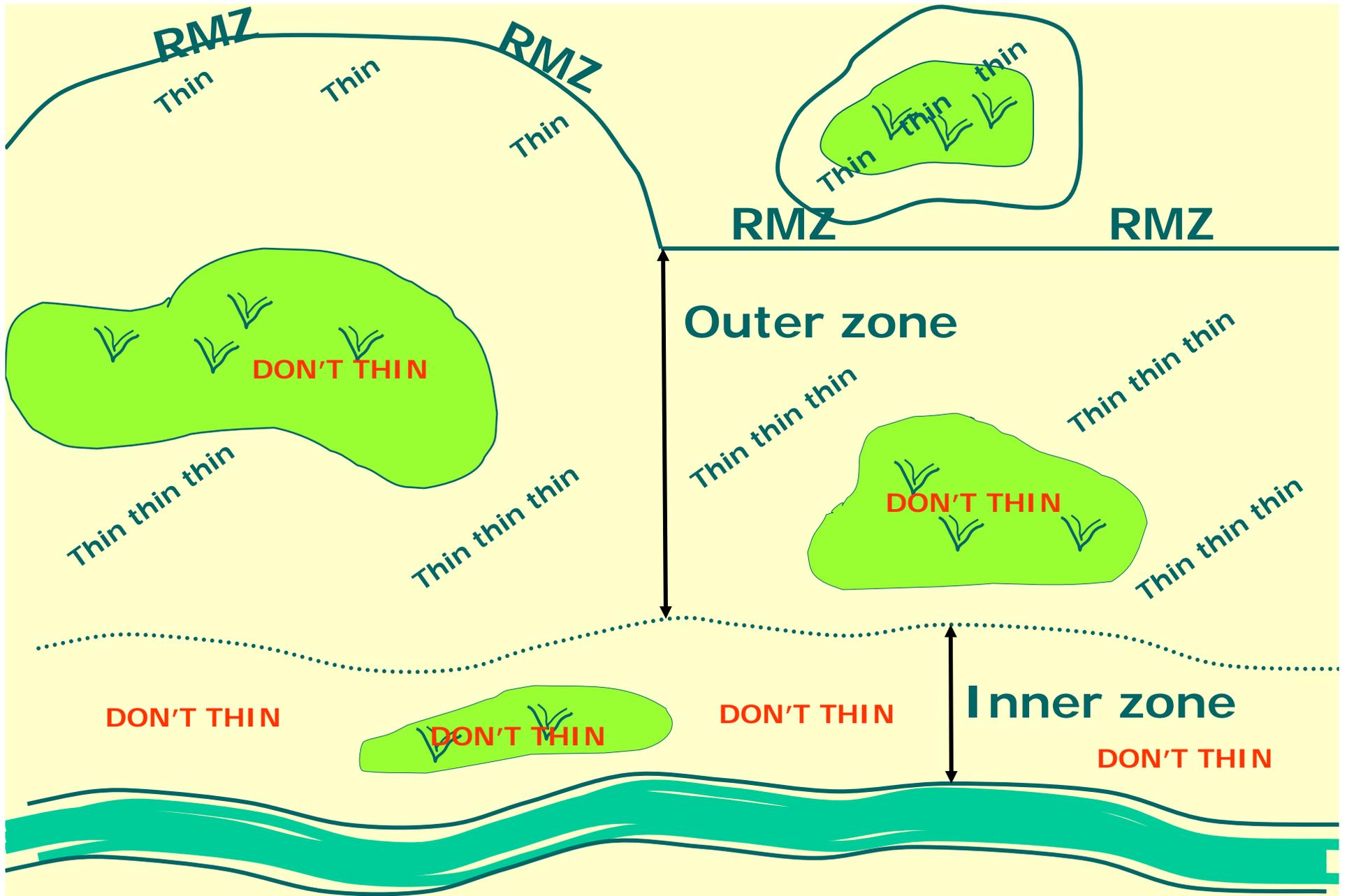
Wetland functions, Continued

- **Biogeochemical cycling and storage**
 - Nutrient source or sink
 - C,N,S,P, etc. transformations
(oxidation/reduction reactions)
 - Sediment and organic matter reservoir
 - Denitrification
- **Decomposition**
 - Carbon release
 - Detritus output for aquatic organisms
(downstream energy source)
 - Mineralization and release of N,S, C, etc.
- **Community/wildlife habitat**
 - Habitat for species (unique and endangered)
 - Habitat for algae, bacteria, fungi, fish, shellfish,
wildlife and wetland plants
 - Biodiversity



Riparian Associated Wetland Management (wetlands within RMZs):

- No activity in wetlands in the inner zone**
- Thin to wetland edge (but not within wetland) in the outer zone**
- Extend RMZ from the outer edge of wetlands that occur in or overlap RMZ**
- RMZ width adjacent to outer edge of RAWs will be site index 100.**
- Wetlands outside of RMZs are managed To maintain 120 square feet of BA, per The HCP**



Wetlands within RMZs: DON'T THIN



Why is management different in Riparian Associated Wetlands?

- Areas of naturally occurring disturbance
- It's likely that, due to wet soils, blowdown will contribute to DWD without any management help!
- Because volume is removed from the RMZ, potential evapotranspiration is reduced already.
- To mimic older stand structure, skips and gaps are desirable. Forested wetlands will provide skips, non-forested wetlands will provide gaps.
- This will result in desired horizontal and vertical heterogeneity.
- RFRS is a risk averse strategy



HCP Wetland Strategy

Specific Objective: to maintain hydrologic function

- **Maintain natural water flow through the wetland**
- **Maintain near natural levels of PET**
- **Ensure stand regeneration**

"Isolated" wetland management under HCP:

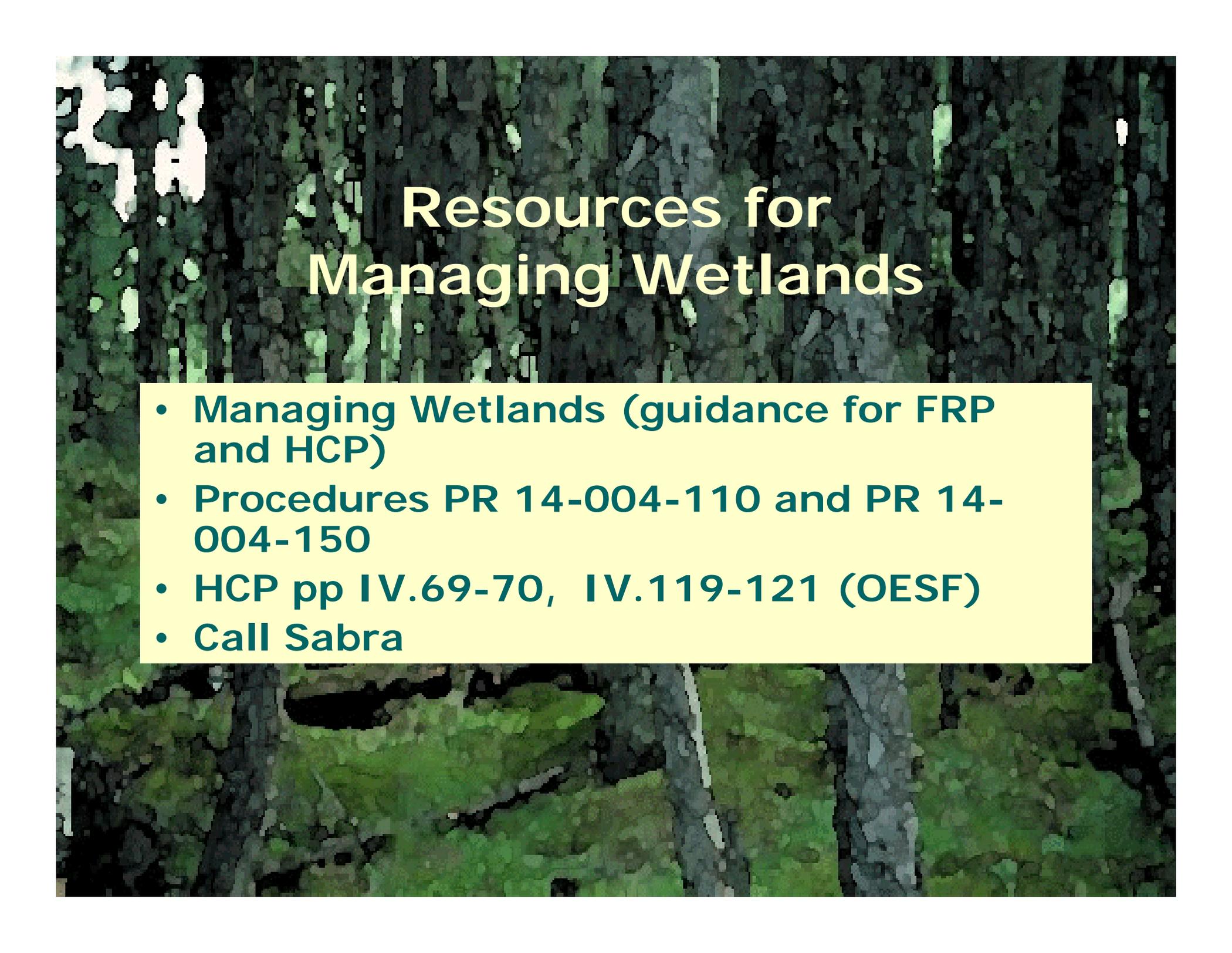


**Where appropriate,
thin to an average minimum
of 120 square feet of BA in wetland
and wetland buffer**

**For a wetland > 1 acre, buffer width=SI 100
or 100 ft., whichever is greater. For wetlands
.25 acres to 1 acre, buffer width is 100 ft.**

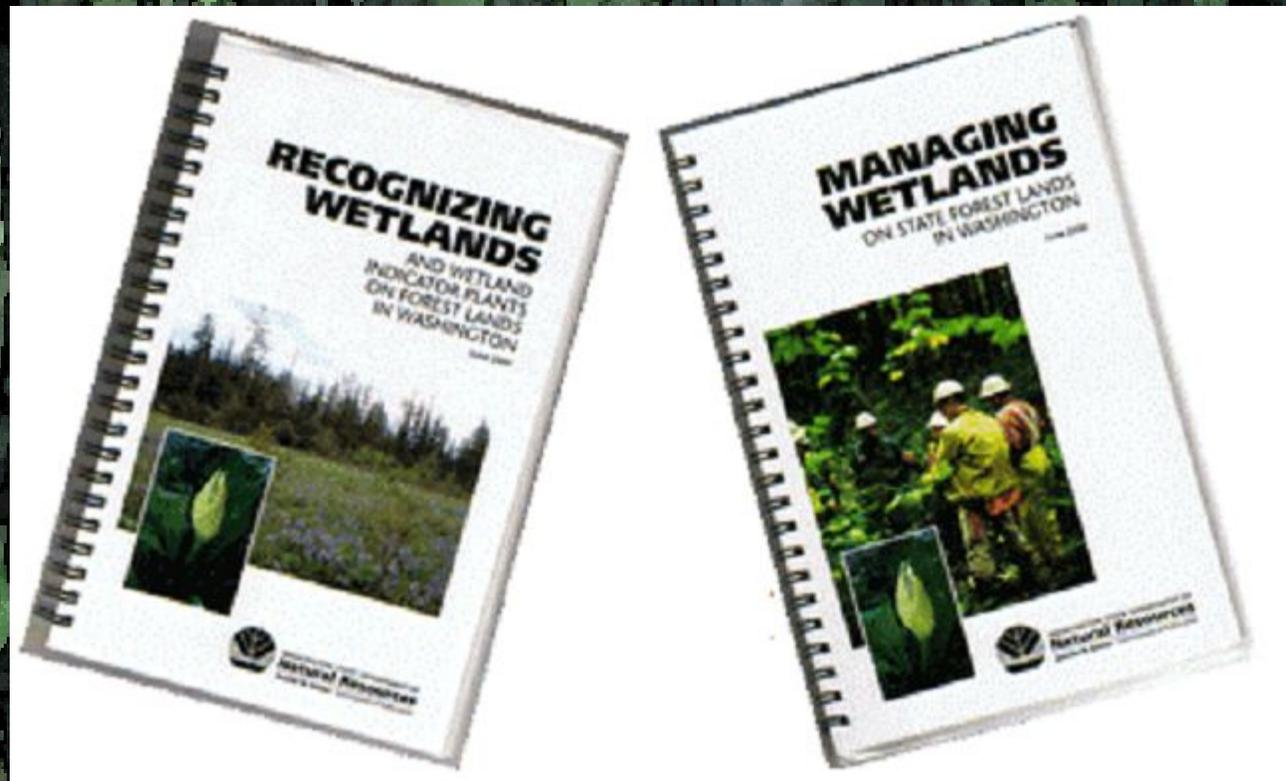
Resources for ID and Delineation:

- **GIS tools: FP WET, Soils (see Recognizing Wetlands for a list of potential Hydric Soils)**
- **Munsell soil color charts**
- **USFWS wetland plant list**
<http://www.nwi.fws.gov/bha/download/1988/region9.txt>
- **Forest Practices Board Manual (on line at <http://www.dnr.wa.gov/forestpractices/board/manual>)**
- **Recognizing Wetlands (guidance from Land Management Division)**
- **Sabra**



Resources for Managing Wetlands

- **Managing Wetlands (guidance for FRP and HCP)**
- **Procedures PR 14-004-110 and PR 14-004-150**
- **HCP pp IV.69-70, IV.119-121 (OESF)**
- **Call Sabra**



Available on line, on DNR internet site, LM division page:
http://www.dnr.wa.gov/htdocs/lm/field_guides/index.html



**Sabra Hull
Land Management Division**

A photograph of a lush forest floor. The ground is covered with a dense carpet of large, green, lobed leaves, likely from a species like Japanese Arisaema. In the foreground, a fallen log is heavily covered in bright green moss. The background shows a dense stand of trees with sunlight filtering through the canopy. The text "The End" is overlaid in the center of the image.

The End