

**Jefferson County Planning Commission
Critical Areas Committee
Critical Areas Ordinance
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**Wetland Ratings, Buffers,
and Best Available Science**

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Wetlands in Washington:

Volume I and Volume II

- The final version of *Wetlands in Washington - Volume 1: A Synthesis of the Science* (Publication #05-06-006) can now be downloaded.
- The final version of *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands* (Publication #05-06-008) can now be downloaded.

http://www.ecy.wa.gov/programs/sea/bas_wetlands/volume2final.html

“Include Best Available Science”

➤ 1995 – RCW 36.70A.172:

“... counties and cities shall include the best available science in developing policies and regulations to protect the functions and values of critical areas.”

➤ 2000 – WAC 365-195-905(3):

“... counties and cities should consult with a qualified scientific expert or team of experts.”

Major Conclusions of Literature Synthesis (Volume 1)

- Case-by-case permitting does not ensure no net loss
- Wetland functions are affected by actions in other parts of landscape
- Unless we understand landscape processes, measures taken may not protect wetland functions

Major Conclusions of Literature Synthesis (cont.)

- Regulation alone fails to protect existing functions.

Why?

- Exemptions without mitigation nibble at resource
 - Buffers degrade & shrink over time
 - Mitigation fails or falls short
 - Landscape-scale processes that drive wetland functions are not accounted for
- ▶ The more we rely on site-specific regulation, the more stringently we must regulate to offset the risk.

BAS & Buffers

- Scientific literature very consistent
- Buffers perform many key functions and are critical to maintaining wetlands
- Factors that should determine buffer widths:
 - Wetland type & functions (category)
 - Intensity of impacts from land use
 - Character of buffer (slope, soils, vegetation)

BAS & Buffers

- Wide range of literature
 - Few studies in PNW
 - Studies elsewhere very consistent and relevant
- Basic principles apply:
 - Water flows downhill
 - Effects vary by soils & vegetation
 - Different species fill similar niches

BAS & Buffers

➤ Literature reports ranges for different buffer functions:

- Removing coarse sediment → 10 - 50 ft.
- Removing fine sediment → 100 - 300 ft.
- Removing Nitrogen or Phosphorus → 30 - 200 ft.
- Screening wildlife → 50 - 150 ft.
- Habitat for wetland-dependent spp. → 100 - 1200 ft.

Wetlands in Washington State

*Volume 2: Guidance for Protecting
and Managing Wetlands*



Volume 2: Management Options

- Analyzing wetlands & the landscape
- Characterizing risk
- Managing wetlands
 - ✓ Plans & policies
 - ✓ Nonregulatory tools
 - ✓ Adaptive management
- Regulatory tools
 - ✓ Avoiding impacts
 - ✓ Buffers
 - ✓ Mitigation ratios

Regulating Buffers

- How wide a buffer is enough?
- How much risk can you accept?
 - Jurisdiction A: 300-foot buffers around all wetlands = low risk (high political & economic risk!).
 - Jurisdiction B: 50-foot buffers around all wetlands = high risk (50-foot buffers will not protect many functions of higher-quality wetlands).

Regulating Buffers

- Challenge for local governments is to choose an approach based on:
 - Reliance on buffers (vs. other means) to protect functions
 - Level of risk
 - Balancing predictability and flexibility

Impacts of adjacent land use

High	Commercial, industrial, residential >1 unit/acre, High-intensity recreation
Moderate	Residential \leq 1 unit/acre Moderate-intensity recreation Paved trails
Low	Forestry Low-intensity recreation

Jurisdiction can use zoning designations & basin conditions to refine land use impacts

Alternative 3:

Buffers based on:

rating,

intensity of impacts,

wetland functions or sensitivity

Alternative 3:

- **Offers flexibility & predictability**
- **Includes criteria to increase, decrease & average buffers**
- **Represents moderate risk**
- **Developed with input from guidance group**

Alternative 3 Buffer

Category 2004 W WA Rating System	Total Points in Rating System	Habitat Points.	Alternative 3 Buffer Based on Category, intensity of impacts from adjacent land use and existing functions
I	> 70	High	150, 225, 300
II	51 – 69	High	150, 225, 300
I	> 70	Moderate	75, 110, 150
II	51 – 69	Moderate	75, 110, 150
III	30 – 50	Moderate	75, 110, 150
I	> 70	< 20	50, 75, 100
II	51 - 69	< 20	50, 75, 100
III	30 – 50	< 20	40, 60, 80
IV	< 30		25, 40, 50
“High” refers to wetlands scoring 29-36 points for Habitat with the 2004 Rating System			
“Moderate” refers to wetlands scoring between 20–28 points with the 2004 Rating System			

Special Conditions for Reducing Buffer Widths

1. Buffer reduction based on moderating impacts from proposed land use.
 - Preserve vegetated corridor for wetlands with moderate or high habitat score (≥ 20 points).
2. Buffer reduction where existing roads or structures lie within the buffer.

Alternative 3

Examples of reducing land use impacts

Examples of disturbance	Land uses that cause disturbance	Measures to minimize impacts
Lights	Parking lots, residential, warehouses, commercial	Shield & direct lights away from wetland
Noise	Parking lots, residential, warehouses, commercial	Locate noisy activities away from wetland, build fence or berm
Runoff	Parking lots, residential, warehouses, commercial	Low-impact devlpmt, treat & infiltrate runoff, reduce watering & use of pesticides & fertilizers

Conditions for expanding or enhancing a buffer

- 1. Buffer is not well vegetated with plants appropriate for the region.**
- 2. Buffer has a steep slope, and buffer width is based on water-quality function.**
- 3. Wetland is used by sensitive species. Buffer width should be based on protecting particular species.**

Buffers – Conclusion

- Using buffers alone is one regulatory tool.
- Not the only way.
- Using landscape approach to protect wetland functions is a more comprehensive approach

Summary

- Baseline: Protect existing functions.
- Setting buffer widths is an exercise in risk management.
- Buffer Alternative 3:
 - ✓ Large buffers apply only in limited circumstances.
 - ✓ Flexible & site specific; developed in collaboration with local governments, planners, and consultants.



Washington State Wetland Rating System for Western Washington

Revised



Ecology Publication # 04-06-025



Washington State Wetland Rating System for Eastern Washington

Revised

Wetland Rating System

- Developed in early 90s, updated 2004
- 4 Categories (I to IV) reflecting the level of protection and management needed
- Used to prescribe criteria for avoidance, buffer widths, and mitigation ratios
- Qualifies as “best available science”

Wetland Rating System (cont.)

- Differentiates wetlands based on:
 - Sensitivity to disturbance
 - Rarity
 - Our ability to replace them
 - Functions
- Not for streams, riparian areas, or other aquatic resources

Wetland Rating System (cont.)

- Assesses wetland functions in three main groups:
 - **Habitat** (for the many wetland-dependent plant and animal species)
 - **Water quality improvement** (removing sediments, nutrients, toxicants)
 - **Hydrologic functions** (reducing flooding & erosion, recharging groundwater, supporting baseflow).

Buffer Alternatives

- Alternative 1 - based only on rating; simplest but most restrictive
- Alternative 2 - based on rating and intensity of impacts from proposed activity
- Alternative 3 - based on rating, intensity of impacts, and functions or sensitivity of wetland to disturbance