

Law Seminars International
Growth Management Act

November 13, 2006

Protecting Wetlands Using
BAS: Department of
Ecology's Guidance on
Wetland Rating and Buffers

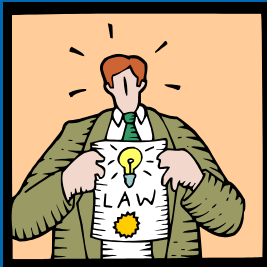
Erik Stockdale
Wetlands/401 Unit Supervisor
Senior Wetland Specialist
Department of Ecology
Shorelands & Environmental
Assistance Program



Department of Ecology
Wetlands

1995 Amendments to GMA

Requirement that local
jurisdictions include best
available science (BAS) in
developing policies and
development regulations
"to protect the functions
and values of critical
areas"



"Including BAS" means to
consider it substantively

"Local legislative bodies must... fashion locally
appropriate regulations based on the evidence not on
speculation and surmise.

[The jurisdiction] cannot ignore the best available
science in favor of the science it prefers simply because
the latter supports the decision it wants to make."

Court of Appeals: HEAL v. CPSGMHB, 96 Wn. App. 522, 531-34 (1999)

“Best Available Science Project”

- **Synthesis of science (BAS Volume 1)** (March 05)
- **Options for management (Protection, Preservation)** (BAS Volume 2) (April 05)
- **Interagency guidance “Wetland Mitigation in Washington State”** (jointly issued with Corps and EPA) (April 04 public notice; final March 06)
- **Wetland rating system (E & W WA)** (Aug 04)
- **Tools for analyzing landscape** (under development)

www.ecy.wa.gov/programs/sea/wetlan.html
(contained on mini-CD)



“Sideboards”

- > **BAS documents are not a state rule; guidance for local governments.**
- > **Cover freshwater wetlands, not riparian areas or streams.**
- > **Do not address forest practices**
- > **Not all subjects covered equally; some scientific information limited**

5

Major Conclusions of Literature Synthesis

- > **Case-by case permitting does not meet goal of no-net-loss**
- > **Functions of wetlands affected by actions in other parts of landscape**
- > **Decisions made without understanding landscape factors will not protect wetland functions**

6

Major Conclusions of Literature Synthesis (BAS Volume 1) con't

Regulation & permitting alone fail to protect existing functions. Why?

- Exemptions nibble at resource without mitigation
- Buffers degrade & shrink over time
- Reliance on buffers alone ≠ low risk to wetlands
- Mitigation often fails or falls short
- Landscape-scale processes that drive wetland functions are not accounted for

The greater the reliance on site-specific regulations, the more stringent the regulations need to be to overcome the risk.

7

Wetlands in Washington State

Volume 2: Guidance for Protecting and Managing Wetlands



Volume 2: Options for management

- Framework for managing wetlands
- Analyzing the landscape and wetlands
- Developing plans and policies
- Regulatory tools (buffers, mitigation ratios)
- Non-regulatory tools
- Characterizing risk and adaptive management

8



Washington State Wetland Rating System for Western Washington

Revised



Ecology Publication # 04-06-025



Washington State Wetland Rating System for Eastern Washington

Revised

9

Wetland Rating System

Developed in early 90's; 2004 update.

Designed to differentiate wetlands based on:

- Their sensitivity to disturbance;
- Their rarity;
- Our ability to replace them; and
- The functions they provide.

10

Wetland Rating System (con't):

- 4 Categories (I to IV) based on their needs for protection and management
- Used to prescribe criteria for avoidance, width of buffers, and mitigation ratios
- Does not characterize streams, riparian areas or other valuable aquatic resources
- Meets the needs of "best available science" under the GMA

11

Wetland Rating System (con't):

Rating system characterizes three main groups of wetland functions:

- **Habitat functions** (habitat for large number of plant and animal species)
- **Water quality functions** (removing sediments, nutrients & toxic compounds)
- **Hydrologic functions** (reducing flooding, reducing erosive flows, recharging groundwater).

12

BAS on Buffers

- **Scientific literature is remarkably consistent**
- Buffers are important and are critical to maintaining wetlands and their functions.
- Factors that should determine buffer widths:
 - Wetland type and its functions (use category or score from rating)
 - Intensity of “impacts” from adjacent land use
 - Character of existing buffer (slope, soils, vegetation)

13

BAS on Buffers

- Basic question: **How wide a buffer is enough?**
- Largely an exercise in deciding how much **risk** is acceptable. For example:
 - Jurisdiction A: 250-foot buffers around all wetlands = **low ecological risk** (though high political risk);
 - Jurisdiction B: 50-foot buffers around all wetlands = **high ecological risk** (50-foot buffer will not protect many wetland functions or wetlands sensitive to disturbance).

14

BAS on Buffers

Scientific literature reports ranges of buffer widths needed to protect wetlands for different functions

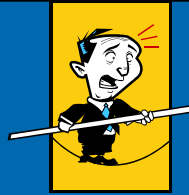
- | | | |
|-------------------------------------|----|----------------|
| • Removing coarse sediment | => | 10 – 50 ft. |
| • Removing fine sediment | => | 100 – 300 ft. |
| • Removing N or P | => | 30 – 200 ft. |
| • Wildlife “screening” | => | 50 – 150 ft. |
| • Wildlife habitat (dependent spp.) | => | 100 – 1200 ft. |

Smaller widths increase risk to wetland functions
Larger widths decrease risk to functions.

“Within the range of BAS” – meaningless term
Term is meaningful only when you ask: For what functions? What level of risk is acceptable?

15

Buffers



Challenge for local governments is to choose based on:

- Level of risk to wetlands one is willing to accept
- Balancing predictability and flexibility

16

Predictability

- Provides clear standards
- “One size fits all”
- Easier for staff to administer
- Can be frustrating for landowners
- Requires higher standards to cover all possible types of functions/impacts

Flexibility

- Fits range of situations better
- Case-by-case review
- More staff/consultant time required
- Less public confidence?
- More controversy?

17

Buffers

BAS guidance: three alternatives linked to rating system

- **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

18

Buffer Alternative 1 – Buffer width based only on rating = simplest, most predictable

Category of Wetland	Widths of Buffers
IV	50 ft
III	150 ft
II	300 ft
I	300 ft

NOTE: Wider buffers needed for only some wetlands within each rating category

Buffer Alternative 2 – Based on Rating and Intensity of Impacts

High	Commercial, industrial, residential > 1/acre, High intensity recreation
Moderate	Residential < 1/acre, Moderate intensity recreation, Paved trails
Low	Forestry, Low intensity recreation

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

Buffer Alternative 2 Based on Rating and Intensity of Impacts (con't)

Category of Wetland	Low Impact Land Use	Moderate Impact Land Use	High Impact Land Use
IV	25 ft	40 ft	50 ft
III	75 ft	110 ft	150 ft
II	100 ft	150 ft	300 ft
I	150 ft	225 ft	300 ft

Buffer Alternative 3 – Based on rating, intensity of impacts, and functions or sensitivity of wetland

- Incorporates flexibility & provides predictability
- Includes criteria for increasing, decreasing & averaging buffer widths
- Risk = moderate
- Developed with input from guidance group

Buffer Alternative 3

Category 1 & 2

Intensity of Impact

High habitat (29-36 pts)	High - 300 ft.
	Mod - 225 ft.
	Low - 150 ft
Mod habitat (20-28 pts)	High - 150 ft
	Mod - 110 ft
	Low - 75 ft
Low habitat (< 20 pts)	High - 100 ft
	Mod - 75 ft
	Low - 50 ft

Example coming up: Mukilteo forested wetland

Buffer Alternative 3

Category 3 & 4

Intensity of Impact

Category 3 Mod habitat (20-28 pts)	High - 150 ft.
	Mod - 110 ft.
	Low - 75 ft
Category 3 Low habitat (< 20 pts)	High - 80 ft
	Mod - 60 ft
	Low - 40 ft
Category 4	High - 50 ft
	Mod - 40 ft
	Low - 25 ft

Buffer Alternative 3

Other wetland types

	Intensity of Impact
Category 1 Estuarine	High - 250 ft
	Mod - 150 ft
	Low - 100 ft
Category 2 Estuarine	High - 150 ft
	Mod - 110 ft
	Low - 75 ft
Bogs	High - 250 ft
	Mod - 190 ft
	Low - 125 ft

25

Special Conditions for a Possible Reduction in Buffer Widths

- **Condition 1:** Reduction in buffer width based on reducing the intensity of impacts from proposed land uses (see table, next slide)
 - Vegetated corridor for wetlands with moderate or high habitat score (>20 points)
- **Condition 2:** Reduction in buffer width where existing roads or structures lie within the buffer

BAS Volume 2, Appendix 8-C, Page 9

26

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 dev, treat & infiltrate, reduce watering and applications of pesticides, fertilizers

BAS Volume 2, Appendix 8-C, Table 8 page 2

27

Conditions for increasing the width of the buffer or enhancing it

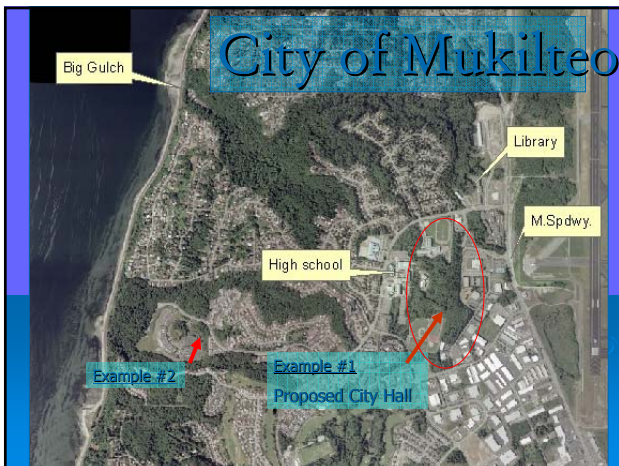
- Condition 1: Buffer is not well-vegetated with plants appropriate for the region
- Condition 2: Buffer has a steep slope (and buffer is based on water quality function score)
- Condition 3: Wetland is used by sensitive species. Buffer width needs to be linked to protection of specific threatened/endangered species

28

Remember

- Using buffers alone is a blunt regulatory tool... particularly Buffer Alternative 1.
- Relying on wide buffers alone will not result in a low overall risk to wetlands.
- A moderate risk is the best that can be achieved with buffers as the primary means of protection.
- Using landscape approach to protect wetland functions is a much smarter tool...
 - Stormwater
 - Wildlife corridors
 - Restoration planning

29



Buffer requirements – Work in conjunction with stormwater management requirements



Summary

- Baseline = protection of existing functions (i.e. not extinction).
- Goal is not to force restoration of non-conforming uses; rather not increase degree of non-conformity.
- Determining buffer widths is an exercise in risk management. “Range of BAS” is a meaningless term.
- Buffer Alternative 3:
 - “Big scary” buffers apply only in limited circumstances.
 - Flexible & site specific; developed in close consultation with local governments planners and biologists, and consultants.

38

Summary con't

- Development of wetland regulations should be based on characterizing the risks rather than predicting specific impacts
 - An integrated approach to wetland management and protection reduces the risk of loss or degradation of wetland functions
- need to integrate buffers with site design, erosion control, stormwater management, etc.

39

Summary con't

Using a landscape approach is a more comprehensive (“smarter”) tool because it:

- Allows incorporating stormwater management
- Can prioritize wildlife habitat and establish connectivity (corridors)
- Can direct restoration & mitigation planning

40

Jurisdictions Adopted/Adapted Alt. 3 or 3A (43 of 94 adopting CAO's as of 10-20-06)

Adopted Alternative 3 practically verbatim = 8

Everett, Fircrest
Port Townsend, Redmond
Steilacoom, Tumwater
Vancouver, Woodland

Adopted Modified Versions (con't)

Newcastle, Nooksack,
Oak Harbor, Ridgefield, Roslyn,
Sammamish, Snohomish,
Stanwood, Tacoma, Tenino,
Washougal, Yelm

Considering Alt 3 or 3A = 7

Lewis County
Mason County
San Juan County
Snohomish County
La Center, Poulsbo,
Shelton

Adopted Modified Versions = 28

Clark County (modified format)
King County (Alt 3 outside UGA)
Kitsap County
Pierce County
Whatcom Co (simplified)
Bainbridge Island, Battle Ground,
Bellingham, Bellevue, Bucoda, Duvall,
Everson, Kent, Issaquah, Lynnwood,
Mukilteo

CAUTION: simple comparisons miss
out on rest of story ... need to
look at other supporting elements
of management program

41