Buffer Options for the Bay

Model Buffer Ordinance Case Study from Island County, Washington

OVERVIEW

The Policy Analysis seeks to address the challenges of buffer management and regulation by presenting a synthesis of the current regulatory framework regarding wetland protection, buffers, setbacks, and land use regulations in New Hampshire. It also includes non-regulatory options for management of areas containing buffers and innovative case studies from other states. There are many resources to facilitate understanding of wetland and shoreland regulations in New Hampshire; this report does not intend to duplicate those. Rather, its purpose is to connect available information to municipalities as they craft and enforce local ordinances related to buffer protection and also to connect the information to landholders as they navigate the complicated regulatory framework that governs use of their land.

WASHINGTON'S BASIC MODEL

The zoning ordinance of Island County in Washington State, for example, employs several matrices to calculate the appropriate buffer width for wetland areas. The step-by-step process for calculating these buffer widths can be found in the County's Chapter 17.02A.090 - Wetlands under Section F. Wetland buffers. These steps are as follows:

- Step 1: County establishes wetland type and the wetland size to determine whether a buffer is required.
- Step 2: County determines land use intensity of development proposal and wetland's contributing area.
- Step 3: For...
  —Wetlands regulated by this chapter that are under 1,000 square feet in size, use 15-foot buffer plus 15-foot setback required under subsection 1.a.
  —Bogs, coastal lagoon wetlands, and delta estuary and other estuarine wetlands, required buffer can be determined from Table 1.
  —For all other wetland types, determine the habitat rating for the wetland. If the score is 22 or higher, use Table 2 to determine the required buffer. If the habitat rating is less than 22, then go to step 4.
- Step 4: Determine whether the wetland has a surface water outlet and determine the slope gradient between the development proposal and the wetland.
- Step 5: Determine the applicable water quality buffer using Tables 3 and 4.

Step 6: Determine whether any buffer modification standards are applicable.

- Step 7: Determine which buffer is larger. If the habitat buffer is larger, apply it to the entire wetland. If the water quality buffer is larger, apply it to the contributing area and apply a 20-foot buffer to the non-contributing area.

To classify land use intensity, the ordinance states, "land use intensity shall be determined by the Planning Director on a case-by-case basis for development proposals that contain or are affected by a wetland or wetland buffer….The Planning Director shall determine land use intensity as follows…"

- *High intensity.* This is applied to *all* uses and structures located on lots less than one acre in size initially *and* all non-residential uses and structures located on lots equal to 1 acre but less than 5 acres in size. For residential uses and structures, it applies to more than 10% of the lot is covered with an impervious surface; or the cleared area exceeds specified thresholds.
- *Medium Intensity:* This is applied to non-residential uses and structures located on lots equal to 1 acre but less than 5 acres. Residential uses and structures that do not meet the cleared area and impervious surface ratios established for high and low intensity are typically classified as medium intensity.
- *Low Intensity:* For residential uses and structures, less than five % of the lot is covered with an impervious surface; and the cleared area exceeds specified thresholds. Low intensity uses and structures must adhere to the following standards:
  —Structures, patios and decks shall be setback fifteen (15) feet from the outer edge of the buffer;
  —Exterior lighting fixtures shall comply with the lighting standards of chapter 17.03 and shall be shrouded and directed away from the wetland or wetland buffer;
  —Fertilizers, pesticides and herbicides shall not be applied in a manner that adversely impacts wetland functions or wetland buffers;
  —Stormwater from impervious surfaces shall be controlled before it reaches the wetland buffer.

Once land use intensity is determined, the ordinance outlines appropriate buffers for especially sensitive wetlands (such as bogs, coastal lagoons and estuarine wetlands), with wider buffers for more intensive land uses, as outlined in Table 1.

Table 1. Special Cases for Buffers for Specific Wetland Types

Land Use Intensity	Bog	Coastal Lagoon Wetland	Delta Estuary Wetland	Other Estuarine Wetlands
Low	125 ft.	100 ft.	40 ft.	30 ft.

Moderate	190 ft.	150 ft.	90 ft.	55 ft.
High	250 ft.	200 ft.	125 ft.	90 ft.

The ordinance uses matrices to calculate habitat buffers for other wetlands based on land use intensity, habitat condition (based on the score achieved through the county's habitat rating system), and wetland sensitivity (based on the presence or absence of a wetland outlet), as outlined in Table 2.

Table 2. Habitat Buffers

Land Use Intensity	Habitat Functions Score					
	Wetland outlet	40 or higher	32-39	29-31	22-28	Less than 22
Low	Yes	125 ft.	75 ft.	75 ft.	75 ft.	Use Tables 3 & 4
	No	150 ft.	125 ft.	100 ft.	75 ft.	
Moderate	Yes	200 ft.	110 ft.	110 ft.	110 ft.	
	No	225 ft.	175 ft.	150 ft.	110 ft.	
High	Yes	250 ft.	150 ft.	150 ft.	150 ft.	
	No	300 ft.	200 ft.	175 ft.	150 ft.	

The ordinance also establishes the criteria for determining water quality buffers, including wetland classification and land use intensity. Habitat buffers are different than water quality buffers. For most wetlands, both habitat and water quality buffers are calculated separately and the larger buffer (usually habitat) is applied, as outlined in Table 3.

Table 3. Water Quality Buffers

Land Use Intensity	Wetland Category					
	Wetland outlet	A+	B	C**	D	E

Low	Yes	40 ft.	35 ft.	30 ft.	25 ft.	20 ft.
	No	75 ft.	50 ft.	40 ft.	35 ft.	25 ft.
Moderate	Yes	90 ft.	65 ft.	55 ft.	45 ft.	30 ft.
	No	105 ft.	90 ft.	75 ft.	60 ft.	40 ft.
High	Yes	125 ft.	110 ft.	90 ft.	65 ft.	40 ft.
	No	175 ft.	150 ft.	125 ft.	90 ft.	50 ft.

Finally, the ordinance includes an adjustment table that allows managers to account for the impact of the slope or grade of the area surrounding a wetland. Wetlands that are adjoined by steep slopes are generally more sensitive to sediment and contaminant accumulation and receive larger buffers, as outlined in Table 4..

Table 4. Slope Adjustment

Slope Gradient	Additional Buffer Multiplier
5 - 14%	1.3
15 - 40%	1.4
>40%	1.5

This matrix approach is more nuanced and responsive than a single number and can reflect scientific understanding, particularly with diverse wetland types and land use conditions in a locality. Though this dynamic approach is more complex and hands on, the Environmental Law Institute found that, “With appropriate public outreach and technical support, a matrix-driven buffer can gain public support and achieve good results (pg. 22).”