














DRINKING WATER RESOURCES PROTECTION: SURFACE WATER BUFFER PROTECTION

LOCATIONS:

- | | |
|---|---|
|  Coastal Communities |  Groundwater Resources |
|  Freshwater |  Projected Sea-Level Rise Impacted Areas |
|  Shorelands |  Entire Community |
|  Tidal Waters |  Coastal Zone Designated Communities |
|  Surface Waters |  Locally Designated Areas and Districts |
|  Flood Zones | |
|  Inland Communities | |

COMMUNITY GOAL REGULATIONS:

- | | |
|---|--|
|  Open Space Protection |  Recreation Options |
|  Flood Protection |  Transportation Enhancement |
|  Drinking Water Protection |  Historic and Cultural Preservation |
|  Environmental Protection |  Community Design & Aesthetics |
|  Stormwater Management |  Community Equity |
|  Water Quality Protection | |
|  Infrastructure Protection | |
|  Economic Development | |

REGULATION OPTIONS:

1. Groundwater Protection
2. Surface Water Buffer Protection*
3. Groundwater Rise & Saltwater Intrusion

* Denotes current section

WHY ADOPT THESE REGULATIONS?

- Increase protection of surface waters and wetlands.
- Improve protection of buffer zones.
- Provides long-term protection of drinking water sources

BACKGROUND & PURPOSE

As municipalities in southern New Hampshire and the seacoast continue to experience development pressures, it will be important for communities to take necessary steps, which may include regulating certain land uses which could contribute pollutants to designated wells or local aquifers, to ensure long-term access to safe and clean drinking water for existing and future citizens. Drinking water quality buffer standards are adopted for the purpose of protecting municipal and public drinking water sources and surface waters resources.

REGULATION LANGUAGE

It is recommended that communities use the 2022 [New Hampshire Drinking Water Quality Buffer Model Ordinance](#) as a guide. Below are several additional options for coastal communities to consider:

III. DRINKING WATER QUALITY BUFFER DEFINITIONS, CRITERIA AND REQUIREMENTS

B. Drinking Water Quality Buffers

1. A minimum of 100 feet to ensure water quality protection is supported. A Drinking Water Quality Buffer of 100 feet shall be established from the following¹:
 - a. Surface waters actively used as a source of drinking water by a public water system,
 - b. Contiguous wetlands contributing to the source, as defined by {insert name and section reference of an existing municipal wetlands zoning ordinance}, that are adjacent to the source.
2. A minimum of 75 feet from the ordinary high water mark for all perennial rivers and streams that directly or indirectly discharge into the source.
3. The total buffer width shall be measured as a perpendicular line on the land surface from the reference line, or for rivers, the ordinary high-water mark, as defined under the New Hampshire's Shoreland Water Quality Protection Act.

Revise existing wetlands protection district to place additional protection on higher value wetlands based on functional components as determined by the NH method evaluation.

Procedural Requirements²

4. *Ensure that a certified wetlands scientist is required, in providing a wetland designation based on the Corps of Engineers Wetlands Delineation Manual, to score wetlands based off their functional areas using the NH method. There are twelve (12) functional areas (i.e., ecological integrity, flood storage,*

MODEL LANGUAGE

NOTES AND EXPLANATIONS

1. The 100ft recommendation is based off scientific reports on the appropriate width to remove pollutants and protect habitat for aquatic macroinvertebrates and fish.

Communities may also wish to reference the [Buffer Options for the Bay](#) website for more stringent buffer widths to reduce runoff and stabilize channel banks, as well as habitat for terrestrial wildlife.

It is advised that communities also refer to the [New Hampshire Drinking Water Quality Buffer Model Ordinance](#) for additional model regulation language.

2. Many communities treat all wetlands the same. Instead of designating a single buffer for all wetlands, this approach allows for different buffer lengths based on a wetlands functional value.

groundwater recharge, sediment trapping and nutrient loading, etc.) from which a community can choose from. Scores resulting from this evaluation shall be used by the wetland scientist to select the required buffer widths as part of the wetland boundary delineation.

Wetland Buffer

5. *Buffers are hereby established around and encircling all wetlands other than those that were created as legally permitted sedimentation/detention basins or roadside drainage ditches. The minimum width of the wetlands buffer shall be fifty (50) feet horizontal distance as measured outward from the perimeter edge of the wetland³.*

6. *Certified wetlands scientists shall score the following wetland functions using the NH method: [fill in which of the twelve (12) functional areas were chosen]. The certified wetlands scientist shall use these scores in accordance with the minimum scoring triggers to determine if the wetland is required to have a buffer width larger than the minimum requirement of fifty (50) feet⁴.*

7. Buffer Width Guidelines

Buffer Function	Required Buffer Width
Minimum buffer width	50ft
One function	75ft
Two or more functions	100ft



3. Communities should seek to have at least a minimum 50ft buffer.

4. Using the NH Method will help communities determine which wetlands require a larger buffer width. For coastal communities, there may value in creating larger buffers for those wetlands that provide flood storage.

8. *Guidance for minimum function scores*

Buffer Function	Average Scores*
Ecological Integrity	5.63
Wetland-Dependent Wildlife Habitat	4.3
Fish and Aquatic Habitat	3.36
Scenic Quality	2.54
Educational Potential	2.51
Wetland-based Recreation	1.63
Floodwater Storage	2.96
Groundwater	4.62
Sediment Trapping	7.16
Nutrient Transformation	6.83
Shoreline Anchoring	6.97
Noteworthiness	8.65
* Average scores were taken from the Town of Atkinson.	

Ensure That Vernal Pools Are Protected

9. *If the wetland present is a vernal pool, the buffer width shall be one hundred (100) feet. The State of New Hampshire defines vernal pools in Env-Wt 104:44. According to this definition, a typical characteristic of vernal pools is supporting three or more secondary vernal pool indicators. The state of New Hampshire defines secondary vernal pool indicators in Env-Wt 104.15. The certified wetland scientist shall use these definitions in the distinction of vernal pools.*

WHERE DO THESE REGULATIONS GO?

The regulation language offered in this model is intended to be incorporated into a town or city’s zoning ordinance within the Shoreland Protection/Water Quality Zoning Overlay or the Wetlands Overlay District.

HOW TO ADOPT THESE REGULATIONS:

The planning board is responsible for preparing and, in towns, holding public hearings on proposals to adopt or revise the zoning ordinance. RSA 674:1 outlines the duties of the planning board. RSA 674:1, V states that the Planning Board “may, from time to time, recommend to the local legislative body amendments of the zoning ordinance....”

In towns, a zoning ordinance or revision of the ordinance must then be adopted by ballot vote at Town Meeting

In cities and town council towns where the municipal charter determines how a zoning ordinance is to be adopted or revised, a public hearing is still required for all zoning ordinances and amendments

More information about the process of adopting regulations is available in the Adopting Regulations section of this guide.

SUGGESTED SUPPLEMENTARY INFORMATION AND RESOURCES TO COMPLEMENT THESE REGULATIONS:

Recommendation	Type	Details
Zoning Map with base zoning districts	Maps/GIS Data	Find in local Zoning Ordinance.
Wellhead Protection Areas/ Public Water Supply Wells	Maps/GIS Data	Available via NHDES or Regional Planning Commissions. (<i>Env-Dw-902</i>)
Parcel Map	Maps/GIS Data	Find via Municipal Tax Maps.
Water bodies (rivers, streams, lakes/ponds)	Maps/GIS Data	Access via GRANIT or Regional Planning Commissions.
Wetlands	Maps/GIS Data	Access via GRANIT or Regional Planning Commissions.
Soils Data	Maps/GIS Data	Access via GRANIT or Regional Planning Commissions.
Local or regional wetland studies	Studies	Variable; seek out local wetlands information such as prime wetlands, wetlands of local significance, or vernal pools.
Local of designated river corridors	Maps/GIS Data	Available via NHDES.
Zoning Administrator	Personnel	Interprets and administers the regulation.
Town Engineer	Personnel	Assists with performance standards (for communities that don't have a Town Engineer, an outside consultant could be required to review site plan applications on an as needed basis).
Conservation Commission	Volunteers	Reviews and comments on conditional uses.
Planning Board	Volunteers	Approves/denies site plan applications or conditional use permits within protection areas.

HOW DOES THIS RELATE TO OTHER TOPICS?

- References to the Master Plan
 - The need/desire to protect drinking water supplies
- Additional Suggestions for the Protection of Surface Waters
 - Development of Watershed Plans
 - Conserving/Protecting Water Supply Land
 - Adopting Water Supply Watershed Rules through NHDES

WHO HAS ADOPTED THESE REGULATIONS?

While many examples of buffer protection ordinances exist in NH, as of April 2022 no community has adopted the [New Hampshire Drinking Water Quality Buffer Model Ordinance](#). As of 2020, 11 of the 52 municipalities (including 10 municipalities in Maine) within the Piscataqua Region Watershed have adopted buffer regulations or the equivalent that protect surface water or wetlands that are 100 feet or higher. ([Piscataqua Region Estuaries Partnership](#), 2020).

ADDITIONAL RESOURCES AND REFERENCES

- Env-Dw902 – Protecting the Purity of Surface Water Sources of Drinking Water
<https://casetext.com/regulation/new-hampshire-administrative-code/title-env-dw-drinking-water-programs/chapter-env-dw-900-protection-of-water-sources/part-env-dw-902-protecting-the-purity-of-surface-water-sources-of-drinking-water>
- Method for Inventorying and Evaluation Freshwater Wetlands in New Hampshire (NH Method)
<https://extension.unh.edu/nh-method>