

Shoreland Protection Innovative Model Ordinance



**Southern New Hampshire
Planning Commission**

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Municipalities Have a Choice in Shoreland Protection?



- Option 1:** Rely solely on the state's CSPA; or
- Option 2:** Extend the protection of the CSPA to the surface water bodies not covered under the CSPA; or
- Option 3:** Adopt more stringent regulations than the CSPA; or
- Option 4:** Pursue a combination of both local regulations and the CSPA.

Note: This model ordinance is designed to implement Option 3 as it includes provisions to protect lower order streams and expands upon the buffer requirements established by the CSPA.



Three Basic Elements of the Model Ordinance



- **Shoreland Protection Overlay District & Official Shoreland Zoning Map**

(must be part of Municipality's Zoning Ordinance)

- **Shoreland Protection District Regulations**

(modeled after some of the standards of the CSPA, recommendations contained in the CSPA Commission's Final Report, and NH DES Model Rule for Protection of Water Supply Watersheds)

- **Riparian Buffer Standards**

(modeled after the Center for Watershed Protection's Buffer Model Ordinance and Journal of Watershed Protection Techniques)

Exclusions: The model ordinance does not apply to wetlands, fire and farm ponds, beaver impoundments, and coastal shorelands.



Key Provisions of Model Ordinance



- **25 foot setback for primary structures - 1st & 2nd order streams**
- **50 foot setback for all other water bodies**
- **20 percent impervious surface limitation** for portion of any lot located within the Shoreland Protection District

Note: municipalities may elect to consider a 10 percent impervious limitation as recent studies indicate a level between 7 and 14 percent impervious at which water quality and wildlife habitat become affected by stormwater runoff

- **Conditional Use Permit** for water-dependent structures such as docks, piers, breakwaters, boathouses, marinas, etc.
- **Stormwater Management Plan** for all earth moving activities on lots greater than 1 acre
- **Selected Clearing and Landscape Plan** – requires Planning Board approval



Ordinance Application

Shoreland Protection District Boundaries –

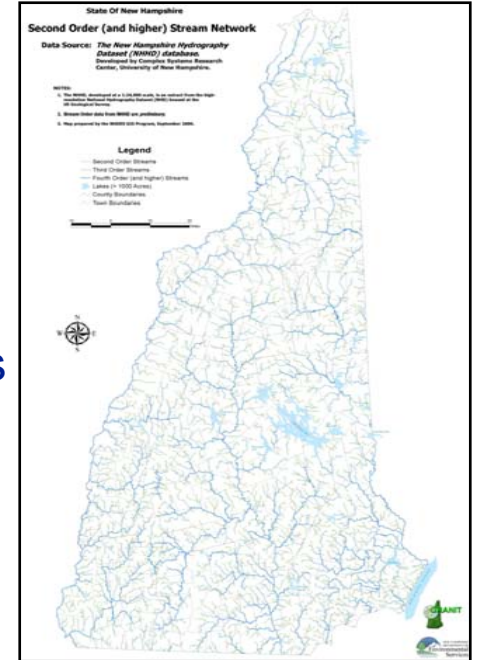
- 150 feet from the reference line of 1st and 2nd order streams
- 250 feet from all other water bodies. The reference line as
- defined in the CSPA.

Source of Stream Location/Stream Order –

- Use NHHD dataset as starting point.
- Planning boards should be encouraged to require streams
- shorelines be surveyed in sub/site plan regulations.

Defining 1st Order Streams –

- 1st order streams can be both intermittent and perennial
- Typically depicted as either dashed or solid lines on USGS topo maps
- Municipalities may elect to limit the application of this ordinance to perennial streams only...if so the definition of 1st order streams in the ordinance would need to be revised.





Shoreland Protection District Regulations



Prohibited Water Pollution Hazards, Uses, Structures, Activities –

- Basically same 10 uses as outlined in CSPA
- No Fertilizer/Pesticide within 50 ft. of reference line – low phosphate, slow release nitrogen ok within 50 – 250 ft.

Permitted Uses, Structures & Activities –

- All uses permitted in municipality's underlying zoning district(s), except per above
- Accessory structures – 25 ft. setback
- Water dependent structures -- basically same as CSPA

Conditional Uses –

- Marinas: 300 ft. min. shoreland frontage w/addt. 25 ft. frontage per boat slip
Off-street parking – rate of 500 sq.ft. per boat slip & Environmental Impact Study, Site Plan and Wetland Permit



Shoreland Protection District Regulations



Minimum Lot Requirements -

- Size – based on underlying zoning or soil type lot size – NH DES rules
- Density – 1 unit per 150 ft. shoreland frontage or lots without frontage 1 unit per 150 ft. of lot width
- Impervious Coverage – 20% of portion of lot in shoreland protection district

Subsurface Wastewater Disposal Requirements -

- Lots greater than 5 acres in size – require NH DES subdivision approval
- All systems must comply with NH DES rules

Erosion and Siltation Requirements -

- All earth moving on lots greater than 1 acres in size – require NH DES stormwater management plan
- State Permit – required for disturbed area exceeding 50,000 sq.ft.



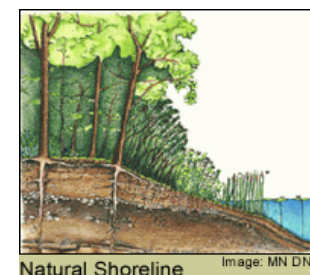
Riparian Buffer Standards

Riparian Buffer -

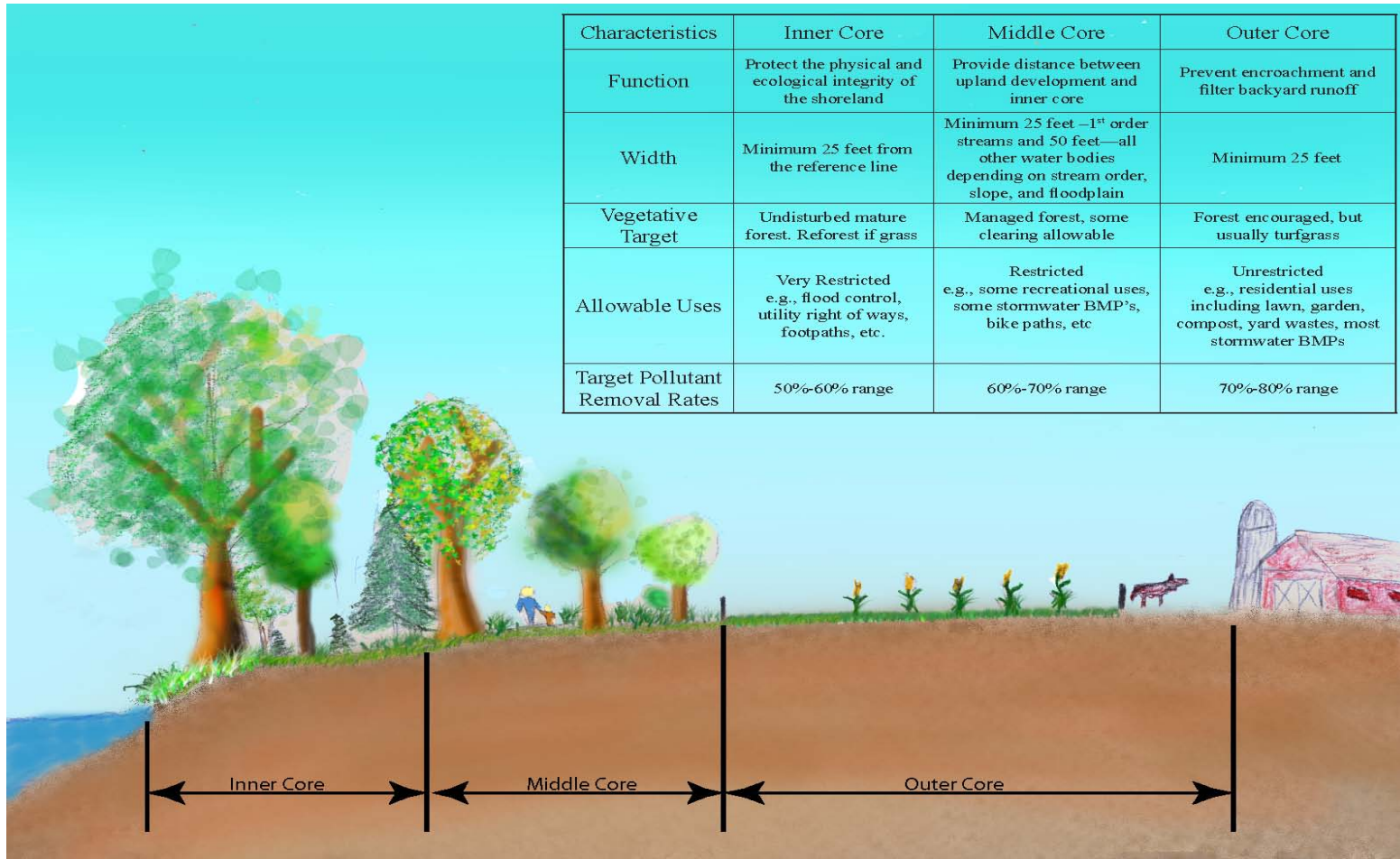
- A vegetated area, including trees, shrubs and herbaceous vegetation, which exists or is established to protect a stream, river, lake, pond, reservoir, or coastal estuarine area.

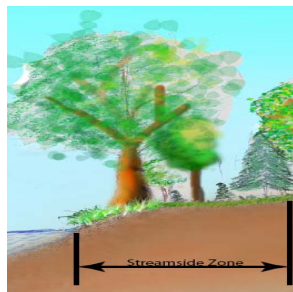
Minimum Requirements -

- 75 ft. wide – 1st and 2nd order streams
- 150 ft. wide – all other water bodies
- Steep Slopes: 15-17% - add 10 ft.; 18-20% - add 30 ft.;
21-23% - add 50 ft. > 24% add 60 ft.
- Within Riparian Buffer -- 3 management zones – each zone with specific requirements



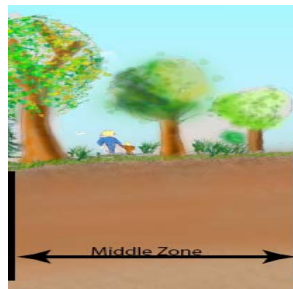
Buffer Management Zones





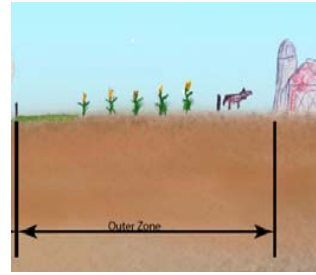
Waterfront Zone

- **Closest to the Water's Edge** – maintained in natural state
- **25 ft.** for 1st and 2nd order streams and **50 ft.** all other water bodies
- **Target Sediment/Pollutant Removal Rates** – 50 to 60 percent (scientific literature: fixed buffer width 10 meters/33 ft. documented to provide 60 percent pollutant removal)
- **Limitations** – no mechanized logging, no clear cutting of trees, no cutting/removal of vegetation below 3 ft. – all stumps/root systems, stones to remain in place
- **View Corridor/Path to Water** – allowed per Planning Board approved **Selected Clearing and Landscape Plan**. Plan must include photo documentation of pre-existing buffer; view corridor can not exceed 75 ft. in width or 1/3 width of shoreland frontage, whichever is less.



Middle Zone

- **Begins at outer edge of waterfront zone** – semi-natural state
- **25 ft.** for 1st and 2nd order streams and **50 ft.** all other water bodies
- **Target Sediment/Pollutant Removal Rates** – 60 to 70 percent (scientific literature: fixed buffer width 15 meters/50 ft. documented to provide greater than 60 percent pollutant removal)
- **Limitations** – no mechanized logging, no clear cutting of trees, 50% of zone – remain in undisturbed state; limited tree removal and clearing; all stumps/root systems remain in place; 20% maximum impervious surface
- **View Corridor/Path to Water** – allowed per Planning Board approved **Selected Clearing and Landscape Plan**. No more than 50% of tree canopy may be removed as shown on plan.



Outer Zone

- **Begins at outer edge of middle zone** – semi-natural state
- **25 ft.** for 1st and 2nd order streams and **50 ft.** all other water bodies
- **Target Sediment/Pollutant Removal Rates** – 70 to 90 percent (scientific literature: fixed buffer width 20 meters/66 ft. documented to provide greater than 70 percent pollutant removal)
- **Limitations** – no more than 50% of tree canopy can be removed; tree removal, clearing and pruning allowed, including removal of stumps & roots; 20% maximum impervious surface
- **View Corridor/Path to Water** – allowed per Planning Board approved **Selected Clearing and Landscape Plan.**



Buffer Management, Maintenance & Inspection

- **Stewardship** – lies with “property owner”
- **Markers** – required every 50 ft. on trees depicting location of buffer
- **Planning Board Responsibilities:**
 - ensure all plans and plats accurately depict riparian buffer;
 - ensure buffer, including building setbacks, waterfront, middle and outer zones are accurately labeled;
 - applicable notes are provided on plans:
 - “There shall be no clearing, grading, construction or disturbance of vegetation except as permitted by the planning board”**
 - photographic documentation of integrity of the buffer is obtained as part of review of selective clearing and landscape plan.

**Summary of Model Ordinance
Shoreland Protection District and Riparian Buffer Standards**

SHORELAND PROTECTION DISTRICT

- **150 ft.** for 1st and 2nd order streams and **250 ft.** for all other water bodies.
- Establishment/expansion of salt storage yards, auto junk yards, solid waste and hazardous waste facilities, animal feedlot operations, dry cleaning establishments, automobile service/repair shops, laundry/car wash establishments not on municipal water or sewer, disposal or land application of biosolids, including septage, sewage sludge and animal manure are prohibited.
- Subsurface disposal of pollutants from sewage treatment facilities, other than on-site septic systems, storage or hazardous substances, including the use of road salt and de-icing chemicals are prohibited.
- Bulk or temporary storage of chemicals above or below ground, bulk or temporary storage of petroleum products or
- hazardous materials above or below ground, excluding normal residential or business use of liquid petroleum products and heating fuels for on-premise use are prohibited.
- Sand and gravel excavations as defined in RSA 155-E, mining or the processing of excavated materials, and any other
- use or activity not expressly permitted.
- No fertilizer, except limestone between the reference line and 50 feet. From 50 ft. landward of the reference line to 250 ft.
- only low phosphate, slow release nitrogen fertilizer may be used.
- **Impervious Surface Area Limitations:**
- Total constructed, impervious surface area is limited to 20% of a lot either partially or wholly located within the shoreland protection district. This may be increased to 25% in exchange for additional native tree and shrub planting within 50 ft. of the reference line through a deed restriction.
- **Stormwater Management:**
- All earth moving or excavation activities on lots greater than 1 acre in size either partially or wholly within the shoreland protection district, including the construction of new structures and modifications to existing structures must be conducted in accordance with an approved stormwater management plan per NH DES specifications under RSA 541-A for terrain alteration and RSA 485-A:17 to manage stormwater and control erosion and sediment, during and after construction.
- A permit is also required under RSA 485-A:17, I. for developed, or subdivided land whenever there is a contiguous disturbed area exceeding 50,000 square feet that is partially or wholly within the shoreland protection district.

RIPARIAN BUFFER STANDARDS:

- **Waterfront Zone:** 25 ft. from reference line for 1st and 2nd order streams and 50 ft. for all other water bodies. The Waterfront Buffer must be maintained in a natural state, although a view corridor and path to the water's edge may be established in accord with an approved Selected Clearing and Landscape Plan. No mechanized logging, no clear cutting of trees, and no cutting or removal of vegetation and natural ground cover (including the duff layer) below 3 feet in height is allowed, except as provided by this plan. Restricted tree care involving the removal of dead, diseased, unsafe, or fallen trees, saplings, shrubs is permitted. All stumps and their root systems, stones and duff shall be left intact in or on the ground.
- **Middle Zone:** 25 ft. from reference line for 1st and 2nd order streams and 50 ft. for all other water bodies. Forest management and limited tree clearing and removal are allowed. No more than 50% of the tree canopy within this zone can be removed. Overall tree coverage is managed through a Selected Clearing and Landscape Plan.
- **Outer Zone:** 25 ft. from the reference line for 1st and 2nd order streams and 50 ft. for all other water bodies. No more than 50% of the tree canopy within this zone may be removed. Tree removal and clearing, tree pruning, including the removal of dead, diseased, unsafe, or fallen trees, saplings, shrubs is permitted.
- **Selected Clearing and Landscape Plan:** This plan is required in order to establish a view corridor and path to the water's edge as well as document the pre-existing riparian buffer conditions on the lot. The view corridor shall not exceed 75 feet in width or one-third the width of the shoreline frontage, whichever is less. View corridors must also be in compliance with the CSPA, Natural Woodland Buffer requirements per RSA 483-B.

PRIMARY BUILDING LINE:

- Primary structures must be set back at least **25 ft.** from the reference line for 1st and 2nd order streams and **50 ft.**
- for all other water bodies.

ACCESSORY STRUCTURES

- Accessory structures must be setback at least **25 feet** from the reference line.

REFERENCE LINE

- For coastal waters = highest observable tide line
- For rivers = ordinary high water mark
- For natural fresh water bodies = natural mean high water level
- For artificially impounded fresh water bodies – water line at full pond