

# Living with Water

November 12, 2024



## **Our Core Objectives**

**Part 1:** To spark interest and care for the ecosystems that surround seacoast homes and provide practical resources on wetlands, shorelands and water quality that could be shared with clients.

**Part 2:** To provide information on tides, flood zones and insurance that can help clients assess risks, prepare for risks preemptively and mitigate damage after impacts.

### **Outline for Today**

9:00 am Welcome & Introductions

PART I: SELLING THE SEACOAST

9:20 Our Coastal Landscape

9:25 Shoreland and Wetlands Rules

10:00 VISIT THE EXHIBIT: WATER HAS A MEMORY

10:30 Break

PART II: FLOOD RISK & RESILIENCY

10:45 Tides and Water Levels

11:05 Determining Flood Risk

11:25 Flood Resiliency

12:00 pm Adjourn

A few requests for today....

One person, one mic

No one knows everything, but together we know a lot

Move up, move up

We can't be articulate all the time

**Embrace curiosity** 



Adapted from the Anti-Oppression Resource & Training Alliance (AORTA)

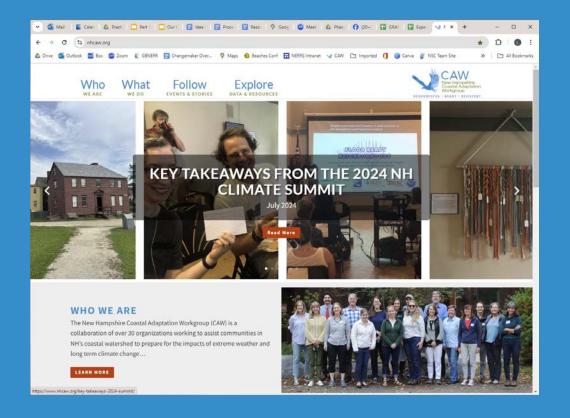
#### Who We Are

Lynn Vaccaro, Great Bay National Estuarine Research Reserve
Abigail Lyon, Piscataqua Region Estuaries Partnership
Annie Cox, Piscataqua Region Estuaries Partnership
Lisa Wise, NH Sea Grant and UNH Extension
Jennifer Gilbert, DES Coastal Program
Kaleigh Johnson, Portsmouth Atlantic Insurance

**Course Sponsors:** Portsmouth Atlantic Insurance, Samonas Realty and the NH Coastal Adaptation Workgroup

# All course materials, slides and links will be available at: <a href="mailto:nhcaw.org">nhcaw.org</a>







### Tell Us About You

Please take out your phones and scan the QR code



- 1. What statements describe you?
  - a. I work as a realtor
  - b. I support the real estate industry
  - c. I serve on a municipal board
  - d. I have personally experienced flooding
- 2. How long have you been working on the seacoast?
- 3. Please share a question you have about the course topic.

# Part 1. Selling the Seacoast

- Our Coastal Landscape
- Shoreland and Wetland Rules



#### Part 1A. Our Coastal Landscape

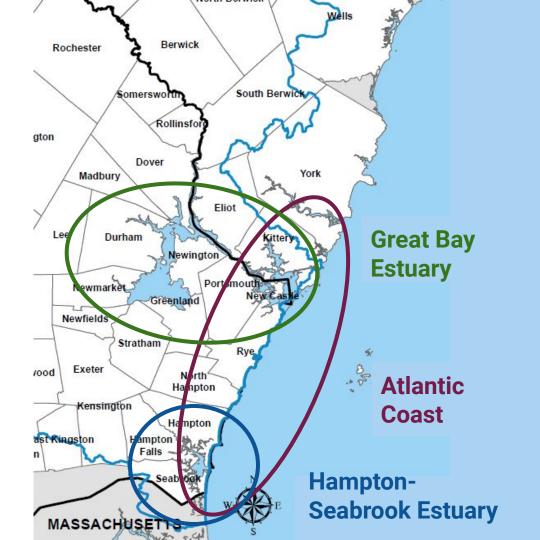
#### **Seacoast NH**

miles coastal shoreline

nationally significant estuaries

326 miles tidal shoreline

coastal zone communities





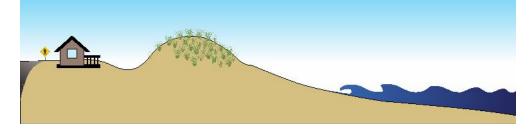


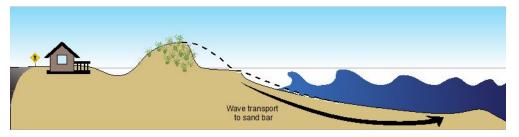
# How beaches and dunes work

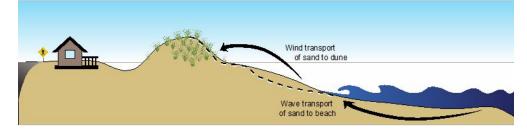
Dunes provide sand for beaches

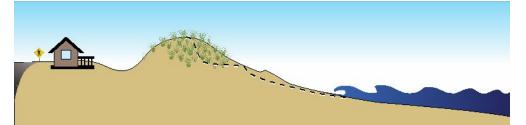
Protect landward properties and infrastructure during storms

Capture sand and store it for the next storm













A portion of Seaside Park shoreline in early spring 2012 (left) and after Sandy in November 2012 (right). To the north, a much smaller dune allowed storm waves and surge to push sand several blocks inland. To the south, a wider dune buffer provided better overwash protection. Images courtesy of the New Jersey Office of Information Technology, Office of GIS and the USGS Hazards Data Distribution System (HDDS).





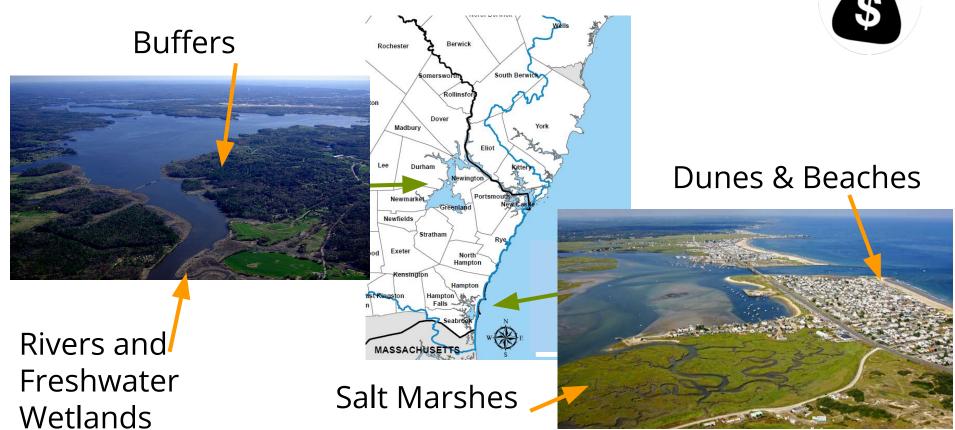








Coastal habitats make this area special & provide valuable natural infrastructure





SUPPORT HEALTHY FISHERIES

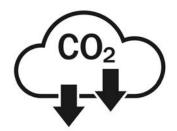


PROVIDE ESSENTIAL FISH & WILDLIFE HABITAT









SEQUESTER CARBON









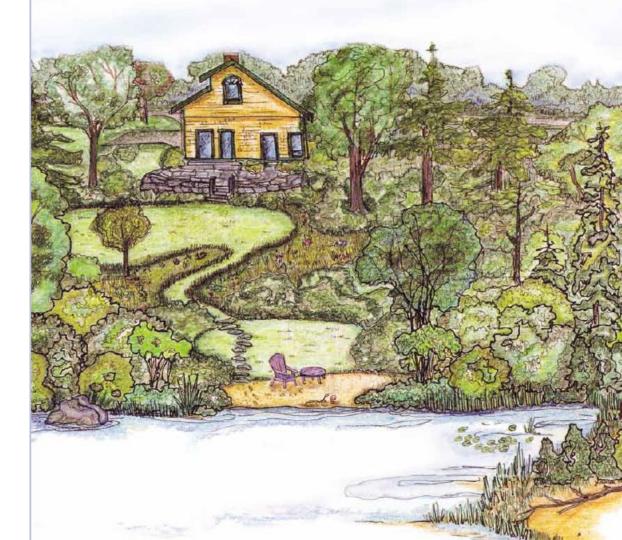


## PROTECT SHORELINES FROM EROSION



# Protecting coastal habitats protects us!

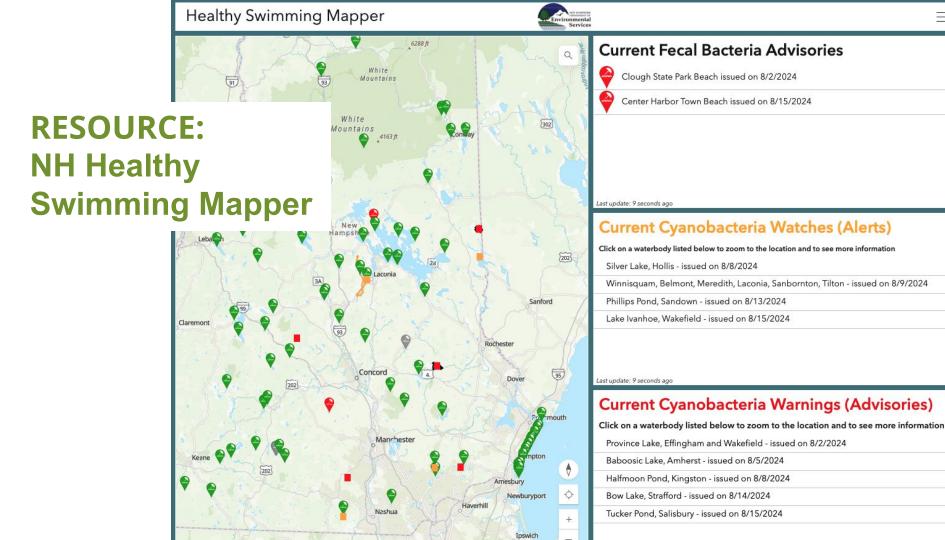
- Keep development away from streams, wetlands and tidal waters
- Leave a thick vegetated buffer along the water's edge
- Avoid trampling fragile marsh or dune grasses
- Address all sources of erosion
- Use landscaping techniques that benefit wildlife and water quality





# How do I know if it's safe to swim and play in the water?





#### **Maine Healthy Beaches Portal**

Water Quality Monitoring and Beach Status



Internal Site Sign In

Beach Monitoring Season is from Memorial Day to Labor Day

#### **Welcome to the Maine Healthy Beaches Portal**

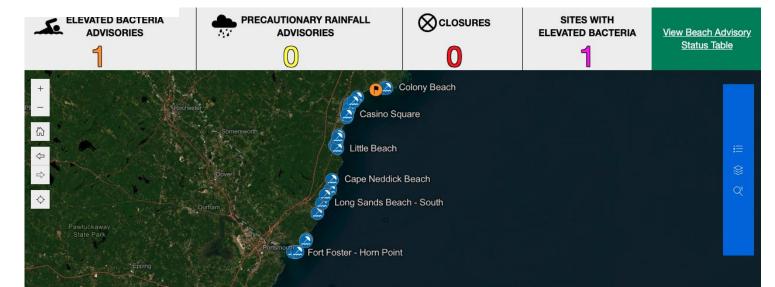
Basel Manitarine Cassas in from Memorial Day to Labor Day

# RESOURCE: Maine Healthy Beaches Portal

by the Maine Department of Environmental Protection for Maine's and advisories and closures. Learn more about the MHB Program.

or safety threshold) for Enterococcus bacteria in marine waters is nds posting an Elevated Bacteria Advisory when results are ≥ y participating Management Entities, which are the towns, parks, or ging the beach.

View Individual Beach Page:
Select a Beach



# RESOURCE: 7 Rivers to the Coast



#### RESOURCE: NH Coastal Access Map





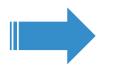
Tips for Enjoying the Coast

Rollinsford

#### **RECAP: Our Coastal Landscape**



Coastal habitats make this place special



Coastal habitats provide valuable ecological services











We can protect these habitats so they can protect us



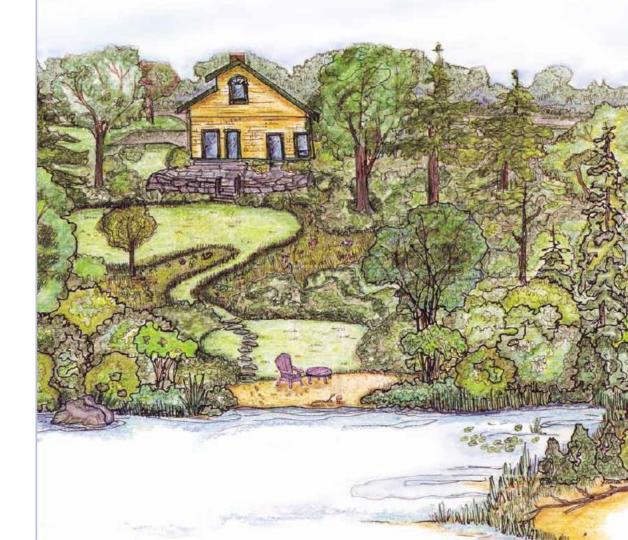


Part 1B. Shoreland and Wetland Rules

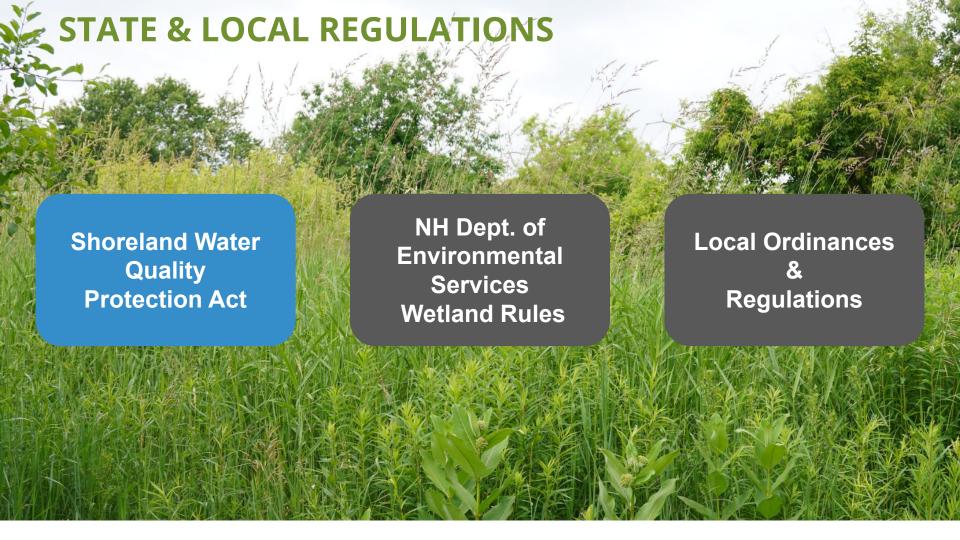


# Part 1B. Shoreland and Wetland Rules

# PROTECTING CLEAN WATER STARTS AT HOME





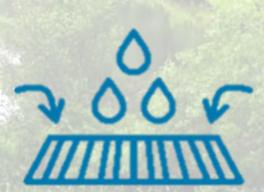


Maintain & restore buffers

Manage or improve stormwater runoff

Provide critical wildlife habitat







# **Jurisdictional Areas**

Lakes, ponds, impoundments>10 acres

 4th order streams or greater (year-round)

Designated rivers

Tidal waters of NH



## **Reference Lines & Setbacks**

#### 0-50 ft Waterfront Buffer

Limited vegetation changes

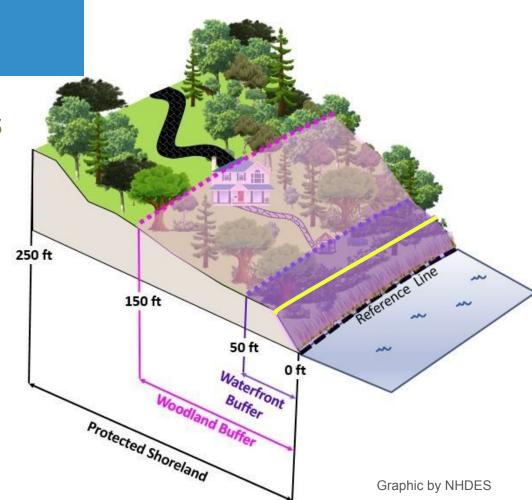
Setback for primary buildings

#### 0-150 ft Woodland Buffer

At least 25% of area left as natural woodland

#### 0-250 ft Protected Shoreland

Top of Bank (yellow) wetland and shoreland jurisdiction



# **RESOURCES**

#### **NHDES Protected Shoreland Website**

- Protected Shoreland FAQ
- Shoreland Permit Guidance Tool
- Consolidated List of Water Bodies
- Vegetation Management for Water Quality





#### NHDES CONSOLIDATED LIST OF WATER BODIES SUBJECT TO RSA 48: THE SHORELAND WATER QUALITY PROTECTION ACT (SWQPA)

The Consolidated List of Water Bodies lists the surface elevation that is to serve as the "reference line" for lakes, ponds, and artificial imp 483-B:4, XVII). The reference line is not the same as the natural mean high waterline, nor is it a property boundary. This list contains surf impoundments for which the Department has data. For convenience, it also includes data on jurisdictional rivers and streams. This list is subject to RSA 483-B.

Town	Rivers and Streams	Where River/ Stream becomes jurisdictional under the SWQPA	Lakes and Ponds	
Acworth	Cold River - Designated Segment	From the outlet of Crescent Lake Dam in Acworth to its confluence with the Connecticut River in Walpole.	Crescent Lake	
	Cold River - 4th Order	Juncture of Dodge Brook	2	_
	Dodge Brook	Juncture of unnamed 3 <sup>rd</sup> order stream in Lempster.		
Albany	Pequawket Brook	Juncture of Banfield Brook in Madison	Back Pond	
	Swift River - Designated Segment	From its headwaters in Livermore to its confluence with the Saco River in Conway.	Iona Lake	
	Swift River- 4th Order	Juncture of Paugus Brook and Wonalancet River in Tamworth.	Big Church Pond	
		20,10301 1300 3	Whitton Pond	
Alexandria	Smith River	Juncture of Manfeltree Brook in Grafton	Goose Pond	
	Fowler River	Juncture of Bog Brook	Newfound Lake	
Allenstown	Merrimack River	Juncture of Pemigewasset & Winnipesaukee Rivers in Franklin.	Bear Hill Pond	
	Suncook River	Outflow of Crystal Lake in Gilmanton	Buck Street Dam (East)	
	Bear Brook	Juncture of Catamount Brook	Catamount Pond	
			Hall Mountain Marsh Dam	
			Hayes Marsh	
Alstead	Cold River - Designated Segment	From the outlet of Crescent Lake Dam in Acworth to its confluence with the Connecticut River in Walpole.	Caldwell Pond	
	Cold River - 4th Order	Juncture of Dodge Brook in Acworth	Cranberry Pond	T
			Newell Pond	T
			Warren Lake	T

The Consolidated List of Water Bodies lists the surface elevation that is to serve as the "reference line" for lakes, ponds, and artificial impoundments greater than 10 acres in size (RSA 483-B:4, XVII). The reference line is not the same as the natural mean high waterline, nor is it a property boundary. This list contains surface elevations for those lakes, ponds, and impoundments for which the Department has data. For convenience, it also includes data on jurisdictional rivers and streams. This list is not a complete catalogue of all waterbodies subject to RSA 483-B. Surface Elevation Where River/ Stream becomes jurisdictional under **Rivers and Streams** a.k.a. "Reference Line" **Lakes and Ponds** Town the SWQPA (ft above sea level) Juncture of unnamed 3<sup>rd</sup> order stream in Harrisville Dublin **Nubanusit Brook Dark Pond** 1390 Juncture of unnamed 4th order stream 930 **Brush Brook** Dinsmore Pond Juncture of Mills Brook Stanley Brook **Dublin Pond** 1479 Farm Pond **Frost Pond** 1095 1274.5 Howe Reservoir

Juncture of Magalloway River at Lake Umbagog

Juncture of Stony Brook in Berlin

From the Epping/Lee town line to the

Juncture of Nicholls Brook in Deerfield

Outflow of Bellamy Reservoir in Madbury Juncture of Duby Brook in Madbury

Juncture of (2) unnamed 3rd order streams

Durham/Newmarket town line

Outflow of Powwow Pond

Juncture of York Brook

MacDowell Reservoir

Lower Dummer Pond

Upper Dummer Pond

**Pontook Reservoir** 

**Mud Pond** 

Wight Pond

Wildlife Pond

Session Pond

**Gorham Pond** 

Kimball Pond

**Purgatory Pond** 

**Durham Reservoir** 

Moat Island Pond

**Powwow Pond** 

Long Pond

Stark Pond

Thorndike Pond

Dummer

Dunbarton

Durham

**East Kingston** 

Androscoggin River

Upper Ammonoosuc River

Lamprey River - Designated

Unnamed Stream/River

Segment I amprov Divor

**Bellamy River** 

Oyster River

**Great Brook** 

**Powwow River** 

Wright Pond

Corner Pond

Little Dummer

Reservoir Pond

On Lamprey River

Trickling Falls River

Big Dummer Pond

On Androscoggin River

912 1050 1159

1270

1340

1163

1385

1360

425

485

618

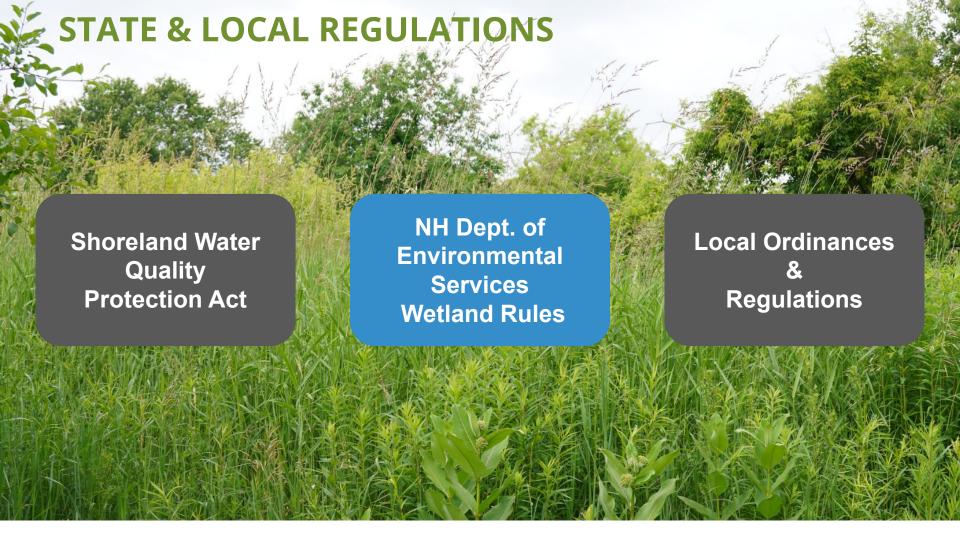
529

370

90

32

115.75



NHDES Wetland Rules outline how members of the public can apply to legally impact wetlands and other jurisdictional areas (RSA 482-A).

**Wetlands** include but are not limited to swamps, bogs, marshes, forested wetlands, wet meadows, and vernal pools



Chester Bog Credit: Ed Karjala



Spruce Creek Credit: Emily Lord



Northwood Lake

# **Jurisdictional Areas**

- Wetlands
- Surface waters
- Upland tidal buffer zones (100 ft)
- Prime wetlands (100 ft)
- Sand dunes

Many municipalities have more stringent standards including wetland buffers and setbacks



# **Polling Questions**

Please take out your phones and scan the QR code



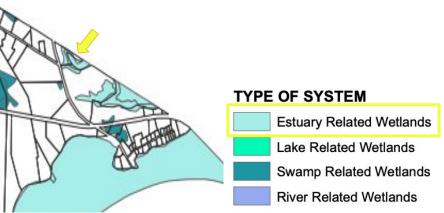
4. What is the <u>BEST</u> way to determine if there is a wetland on or adjacent to a property?

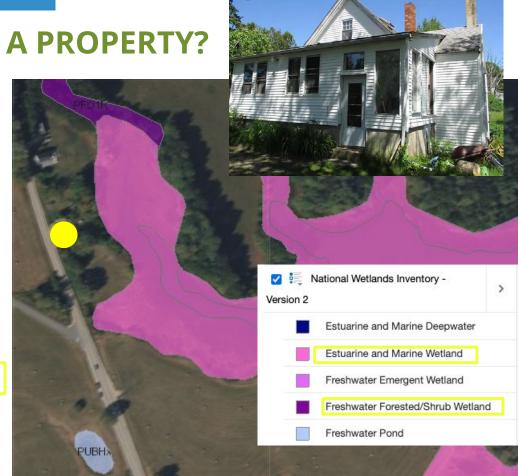
- a. Conduct a site walk to look for evidence of wetlands
- b. Call the town/city to learn more about potential wetlands
- c. Review an online map
- d. Consult a NH certified wetland scientist

# **ARE THERE WETLANDS ON A PROPERTY?**

## 32 Back River Road Durham, NH

- National Wetland Inventory
- Town Maps
- NH Certified Wetland Scientist





# **ARE THERE WETLANDS ON A PROPERTY?**

## 32 Back River Road Durham, NH

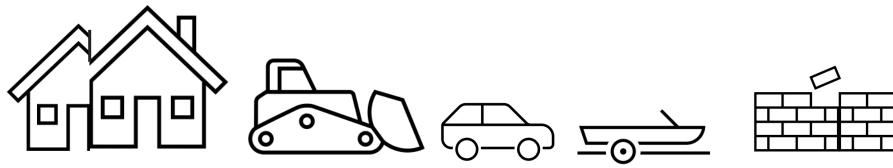
- Slope down hill and toward a water body
- Channel or water flow patterns
- Draining soils
- Depressions holding water in spring
- Consider the time of year for visual assessment

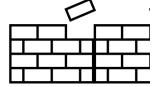




# When do you need a wetlands permit?

Projects involving excavation, fill, dredge, removal and/or construction of structures in/on any bank, flat, marsh, or swamp or adjacent to wetlands and water bodies





# **DOCKS (TIDAL & NON-TIDAL)**

- Tidal and non-tidal or freshwater docks require a wetland permit
- Different requirements for tidal and freshwater
- NHDES Fact Sheets
  - Permitting for Private, Non-Commercial
     Freshwater Docking Structures
  - Permitting of Residential Tidal Docks

#### ENVIRONMENTAL





2021

29 Hazen Drive, Concord, New Hampshire 03301 . [603] 271-3503 . www.des.nh.gov

MANAGE .

#### Permitting for Private, Non-Commercial Freshwater Docking Structures

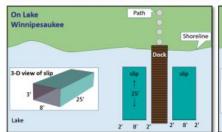
Projects involving dredge, fill, or placement of structures on, or within, the banks and lakebeds of surface waters require wetlands permitting from the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau. The law authorizing NHDES to regulate these activities, RSA 482-A, took effect in 1967 and initially only regulated construction of permanent structures in tidal waters. In 1969, the law was expanded to include permanent and commercial structures in fresh water and, in 1978, the law was amended again to include all seasonal docking structures.

Wetlands permitting is required for all new docking structures and modifications of docking structures, including seasonal and permanent docking structures, and all boat and jet-ski lifts. Wetlands permitting may also be required for repairs of docking structures unless they have a valid registration pursuant to RSA 482-A:3, IV-a(b). Wetlands permitting is not required for devices attached solely to the sides or surfaces of docks for the purpose of securing lines for existing boat slips, such as cleats, whips, or tie-posts, and diving boards, slides, and ladders that are not a navigational hazard.

#### **Boat Slip Limitations**

WB-19

The size and number of boat slips on a property is regulated by state law. A boat slip is the volume of water in which a boat is secured to a dock. The size of a boat slip is a predetermined, waterbody dependent, volume of water. For waterbodies 10,000 acres or less, a boat slip is a volume of water 20 feet long, six feet wide, and three feet deep. For waterbodies greater than 10,000 acres, a boat slip is a volume of water 25 feet long, eight feet wide, and three feet deep. Note that only one lake in New Hampshire is greater than 10,000 acres: Lake Winnipesaukee. State rules allow for as much as two feet of navigation space between a boat slip and any other boat slip or structure. Water depth is measured at the normal high water mark (Figure 1).



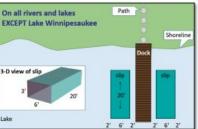


Figure 1 - Boat slip dimensions.

# **RESOURCES**

#### **NHDES Wetlands Website**

- Wetlands & Stream Crossings FAO
- NHDES Wetland Forms
- NHANRS Membership Directory



# Department of Environmental Services

Home Organizations



Sign In

**Create Account** 

#### **Organizations**

Select the organization from which you would like to submit a form.

Select Organization

#### **Forms**

To locate a specific form please use our form finder.

#### New Hampshire Department of Environmental Services Wetlands Forms

The NHDES Wetlands Rules outline how to apply for authorizations, registrations, notifications, or permits available to the public to legally impact wetlands and other jurisdictional areas protected under RSA 482-A. The forms specific to these processes can be found by following these links:

Emergency Authorization Request: NHDES strongly encourages those seeking Emergency Authorizations to call the Wetlands Bureau at (603) 271-2147 *before* filling out the form. Wetlands Bureau staff will assess eligibility and provide guidance through the process.

Routine Roadway Maintenance Registration (RRMR) Forms: Nine minimum impact routine roadway maintenance activities *may* be undertaken under RRMRs.

#### What are the wetlands setbacks?

## **Shoreland Water Quality Protection Act & NHDES Wetland Rules**

# SEPTIC SYSTEMS MAY REQUIRE NHDES WETLANDS AND/OR SHORELAND PERMIT(S)

#### **WETLANDS**

Poorly drained soils **50 feet** 

Very poorly drained soils **75 feet** 





#### **SHORELAND**

Ponds, lakes, estuaries, & ocean **75-125 feet** (soil dependent)

Rivers & streams **75 feet** 

## **Shoreland Water Quality Protection Act & NHDES Wetland Rules**

# **SEPTIC SYSTEMS**

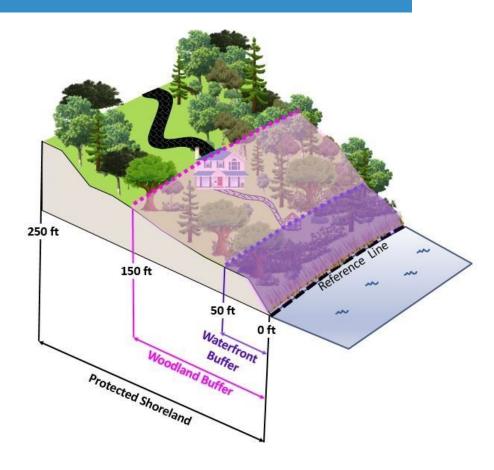
#### **NEW AS OF SEPTEMBER 2024**

#### House Bill 1113 updated RSA 485 A:39

Waterfront property transfers - buyer must hire a state-licensed septic system evaluator if any portion of the septic system is within 250 feet of a water body's reference line.



Maintains a list of septic designers, installers, evaluators, etc.



## **Shoreland Water Quality Protection Act & NHDES Wetland Rules**



Replacement in Stratham, NH \$28,000



# **Polling Questions**

Please take out your phones and scan the QR code



# 5. Where can homeowners and buyers learn about rules and regulations about what they can do on their property?

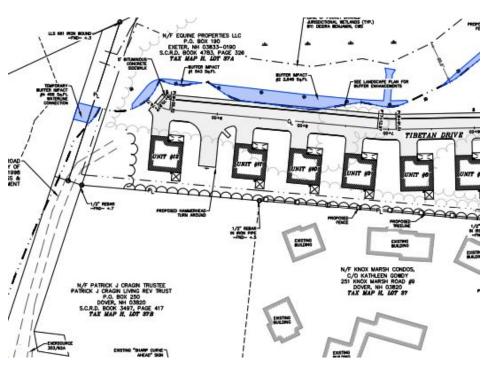
- a. A property owner can do anything they want on or to their property
- b. Consult your real estate agent
- c. Ask the neighbors
- d. Meet with municipal staff (i.e., City or Town Planner)

### **Local Ordinances & Regulations**

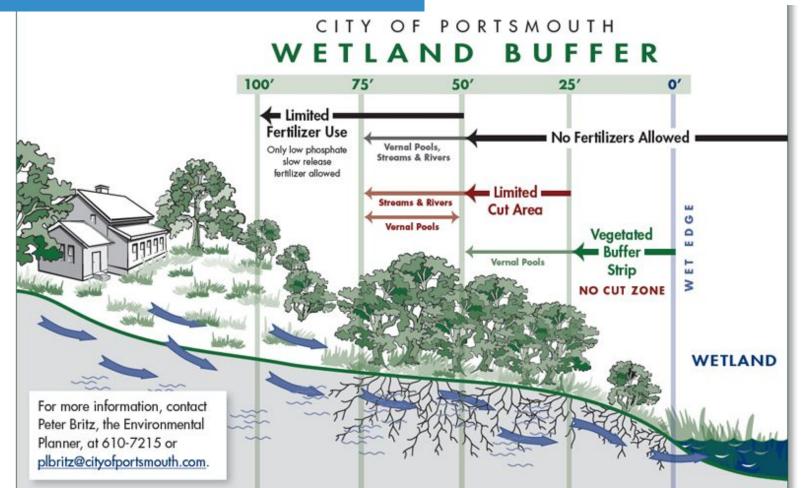
# What about local protections?

- Local & thorough review
- Prevent cumulative impacts
- Reflects community interests
- Protects functions & values
- Local inspection & enforcement

management, buffers and setbacks for wetlands, and floodplain management.



## **Local Ordinances & Regulations**



## **Local Ordinances & Regulations**

# **RETAINING WALL - CAUTIONARY TALE**

50 Odiorne Point Portsmouth, NH

DON'T ask for forgiveness, ask for permission - always!



# **RECAP: Shoreland and Wetland Regulations**

# Shorelands and wetlands support for clean water, wildlife

habitat, and property protections

Regulations are in place at the State and municipal level to protect these ecosystems

Always check for local regulations before a project!

