

## **PORTSMOUTH COMPREHENSIVE COMMUNITY PLAN**

### **ELEMENT 1 – NATURAL RESOURCES**

This element addresses Portsmouth’s natural resources inventory and protection programs.

#### **1.1. PORTSMOUTH’S NATURAL RESOURCES VISION**

PORTSMOUTH WILL BE A COMMUNITY THAT HAS PRESERVED AND PROTECTED ITS ABUNDANT NATURAL RESOURCE ASSETS FOR THE BENEFIT OF CURRENT AND FUTURE GENERATIONS.

#### **1.2. NATURAL RESOURCES INVENTORY**

This section includes an inventory of Portsmouth’s natural resources under the following categories:

- Geography
- Soil characteristics
- Floodplains
- Wildlife and habitat areas
- Water resources

Beaches, greenways and other primarily recreation-related resources are discussed in Element 2 - Recreation.

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##### **1.3.1. GEOGRAPHY**

The Town of Portsmouth is a residential coastal island community of approximately 23.3 square miles. Portsmouth is located at the northern end of Aquidneck Island and incorporates six other islands in Narragansett Bay including Prudence Island and Hog Island, which are the only two of the six with year-round residents. The Aquidneck Island portion of Portsmouth is surrounded by three major waterbodies - Narragansett Bay to the west, the Sakonnet River to the east, and Mount Hope Bay to the north of the Town. Most of the Portsmouth landscape on Aquidneck Island is characterized by steep slopes that run east and west to Narragansett Bay and the Sakonnet River. Northern areas of Town, including the neighborhoods of Island Park, Hummocks, and Common Fence Point and can be characterized as low lying with sandy soils.

Portsmouth was established in 1638 and is Rhode Island’s second oldest community. Several important institutional buildings remain from early settlements including a meeting house erected in 1700 on East Main Road, and a schoolhouse erected in 1716 on East Main Road. A number of important buildings also remain in Portsmouth center, which was gradually settled in 1740.

### 1.3.2. SOIL CHARACTERISTICS

For comprehensive planning purposes, the natural and functional characteristics of Portsmouth’s soils are important for two reasons. First, as is evident in our historic land use and economic development, Portsmouth is blessed with an abundance of soils that support a wide range of agricultural activity. See the Agriculture Element of this plan for discussion and mapping of “prime agricultural” soils and “additional soils of statewide importance.”

Second, and of equal importance, is the fact that we rely on our soils to treat our wastewater. Except for a few customers in the Melville area, there are no sewers in Portsmouth. All wastewater treatment is done by on-site septic systems which rely on the soils beneath the system to do the actual treatment of effluent before it comes into contact with the groundwater. And our soils are, for the most part, not well suited to perform that function.

Limitations for the installation of sanitary facilities for the 8,400+ acres of “prime agricultural” soils in Portsmouth are characterized by the USDA – NRCS in their Soil Survey of Rhode Island as “severe”. That is, “soil properties or site features are so unfavorable or difficult to overcome that major soil reclamation, special designs, or intensive maintenance is required.” Slow percolation rates and high groundwater are primarily the causes of this characterization. For the 4000+ acres of Portsmouth soils “of additional statewide importance,” limitations for sanitary facilities range from “severe” (ex., Stissing soils), as above, to “slight” or “moderate” (ex., Hinckley and Quonset soils), meaning “limitations are minor and easily overcome” to “unfavorable but limitations can be overcome by special planning and design,” respectfully. There is a caveat to both of these characterizations. The problem with soils in these “slight” and “moderate” categories is not slow percolation rates but just the opposite. Soil types here have high permeability rates which may allow effluent from septic systems to pass through too quickly for effective treatment, risking groundwater pollution problems. Taken together, this 12,400+ acres of soils considered unsuitable by degrees for the installation of sanitary facilities accounts for more than 80% of the total land area of Portsmouth. This problem is nowhere more apparent than in the neighborhood of Portsmouth Park, with its poor percolation rate soils and the next-door neighborhoods of Island Park and Common Fence Point with their sandy soils having excessive percolation rates. Both are unsuitable but for different reasons.

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### 1.3.3. FLOODPLAINS

Current FEMA Flood Insurance Rate Maps (last revision July 2012) indicate that all the lands adjacent to the coastal waters of the Town of Portsmouth are designated as in the V-zone. In addition, at the northern tip of Aquidneck Island, nearly all of Island Park and a good deal of Common Fence Point are in the 100-year flood zone (A zone).

### 1.3.4. WATER RESOURCES

This section discusses saltwater, freshwater and groundwater resources in Portsmouth.

#### *Coastal Waters*

Table 1.1. Estuarine Waterbodies	
Waterbody	Description
Sakonnet River	The Sakonnet river is located between the mainland and the eastern shore of Rhode Island. The width of the river fluctuates between 0.7 to 2 miles. The river is used predominantly by fishing vessels and small craft.
Town Pond	A major 2007-08 Army Corp rehabilitation project dredged out Town Pond and re-opened the area to tidal influence. The newly restored 23-acre salt pond is now providing habitat for coastal fish and wildlife, such as shellfish, flounder and other finfish, herons, egrets, and waterfowl, and restoring the productivity and ecological value of the area.
The Cove	The Cove is a saltwater embayment just south of the Sakonnet River Bridge. It contains several beaches popular with tourists. The area is also great for kayaking and birding. The Cove is impaired due to pathogens and is, therefore, closed to shellfishing.
Bluebill Cove	Bluebill Cove is a saltwater area just south of the Sakonnet River Bridge. It is impaired due to pathogens and is, therefore, closed to shellfishing. The area is a well-known resource for kayaking and birding.

#### *Fresh Waterbodies*

Prominent fresh waterbodies in Portsmouth include:

Table 1.2. Lakes and Ponds	
Waterbody	Description
<b>Saint Mary's Pond</b>	Saint Mary's Pond is approximately 100 acres in area. It is part of the Newport Water Supply System. It is an important recreational finfishing resources and is stocked for the fishing season. These are also popular spots for birding. This waterbody is considered impaired for total phosphorus and total organic carbon.
<b>Sisson Pond</b>	Sisson Pond is approximately 65 acres in area. It is part of the Newport Water Supply System. It is an important recreational finfishing resources and is stocked for the fishing season. These are also popular spots for birding. This waterbody is considered impaired for total phosphorus and total organic carbon.
<b>Lawton Valley Reservoir</b>	Lawton Valley Reservoir is approximately 60 acres in area. It is part of the Newport Water Supply System. This waterbody is considered impaired for total phosphorus and total organic carbon.
<b>Melville Ponds</b>	Melville Ponds is approximately 6 acres in area. Upper Melville Pond (recently renamed Thurston Gray Pond) is stocked for the fishing season. These are also popular spots for birding and observing other wildlife. This waterbody is considered impaired for total phosphorus.
<b>Jenny Pond</b>	Jenny Pond is approximately 7 acres in area. It is a resource for recreational fishing as well as popular spots for birding.

<b>Nag Pond</b>	Nag Pond is approximately 18 acres. It is a relatively small pond east of the throat of Prudence Island.
<b>Town Pond</b>	Town Pond is approximately 3/4 acres in area. Restoration of the pond was completed in 2008 through the Narragansett Bay Ecosystem Study. The pond now includes a walking trail to the shore. This is a popular birding spot that provides habitat to hawks, owls, great blue heron, and osprey.

Table 1.3. Rivers and Streams	
Waterbody	Description
<b>Founders Brook</b>	Founders Brook is a stream on the north side of town. It runs south to north just west of Route 2 and empties to Town Pond. There are a number of historic and cultural sites along Founders Brook.
<b>Bloody Run Brook (Barker Brook)</b>	Bloody Brook is a stream located in Newport County and is a popular spot for fishing. It got its name during The Battle of Rhode Island in 1778, where the bloodshed caused the stream to run red.
<b>Mill Creek</b>	Mill Creek is a small stream on Prudence Island running south to north just east of Nag Pond. It discharges to the East Passage near North-East Point.

*Groundwater*

As noted by Trench (USGS) in Ground-Water Resources in Rhode Island (1991), the East Bay Region of Rhode Island is primarily underlain by sedimentary and metamorphosed sedimentary rock, which is mantled by a till and tends to limit groundwater production. Only about 3 percent of the area is underlain by stratified drift and much of this is near saltwater resources. Large withdrawals in this area would be likely to result in saltwater intrusion. Nevertheless, groundwater flows recharge many local surface water resources including streams, wetlands and water supplies. The quality of surface water in Portsmouth relies in no small part on the quality of groundwater.

No large public groundwater supplies have been developed in the East Bay Region of the state.

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**1.3.5. WILDLIFE AND HABITAT AREAS**

This section discusses wildlife and habitat areas in Portsmouth including estuarine and freshwater fisheries, submerged aquatic vegetation, intertidal flats and tidal wetlands.

*Fisheries*

The discussion below describes recreational and commercial fishing areas and habit in Portsmouth. The discussion focuses on shellfish as there are no anadromous fish runs or known spawning areas in town waters.

Shellfishing in Portsmouth's waters has been and, in some cases, still is productive. Though slowing over time, commercial clamming and lobstering remain active. Scalloping has become nonexistent since Hurricane Carol. The oyster population which was wiped out after the 1938 hurricane shows some signs of comeback. Commercial aquaculture operations for growing and harvesting clams and oysters (regulated and permitted by RIDEM) have expanded in Portsmouth waters in recent years with operations in Blue Bill Cove and on the west side of Hog Island.

Applications are pending for waters on the west side south of Carr Point and in the Sakonnet River north of Black Point and in the vicinity of the Glen Manor House. Blue shell crabs were abundant in all Portsmouth waters but presently may be found only in Blue Bill Cove in Island Park. Town Pond has been dredged out by the Army Corp of Engineers and there is high hope of restoring shellfish beds in these rehabilitated tidal waters. Due to water quality concerns, the taking of shellfish for human consumption is prohibited by RIDEM in several locations in Portsmouth. These include:

- Waters from Arnolds Point northward along the Mt. Hope Bay shoreline, around Common Fence Point and southward to Stone Bridge, thence to a range marker at Morningside Lane, including the southern half of Blue Bill Cove.
- Waters immediately adjacent to the outfall of Barker Brook (a.k.a. Bloody Brook).
- Waters from Coggeshall Point southward to Carr Point out to the southeastern point of Dyer Island.

Commercial fishing areas including all the waters of Narragansett Bay, Mount Hope Bay and the Sakonnet River surrounding Portsmouth have traditionally supported some type of commercial fishing and shellfishing activities. The most prosperous commercial fishing enterprise over the years has been the taking of menhaden to be processed into fishmeal and used as lobster trap bait. Occasional fishing for menhaden continues, but shellfishing has become the most prominent fishery in Town waters.

In addition to commercial fishing, the waters of Narragansett Bay, Mount Hope Bay and the Sakonnet River have traditionally supported recreational fishing activities from both shore and by boat. Some popular recreational fishing areas are the Stone Bridge, the Railroad Bridge, Sandy Point Beach, McCorrie Point, Musselbed Shoals and the Blue Bill Cove.

#### *Submerged Aquatic Vegetation*

Eelgrass (*Zostera Marina* L.) has been identified along the shoreline of Prudence Island near the T-wharf and along the northwest shoreline. A small area exists on the west side of Aquineck Island in Portsmouth north of East Passage Yachting Center.

#### *Intertidal Flats*

Small scale intertidal flats exist in several areas of Blue Bill Cove and along the eastern shore of Common Fence Point, south of the Weaver Cove Boat Ramp and at the outfall to Town Pond.

#### *Tidal Wetlands*

Town Pond is the only major tidal wetlands in Portsmouth. A tidally influenced open water salt pond and salt marsh area prior to the early 1950s, Town Pond was designated a dredge spoils storage area by the Army Corp of Engineers and quite dramatically filled in at that time. A major 2007-08 Army Corp rehabilitation project dredged out Town Pond and re-opened the area to tidal influence. The newly restored 23-acre salt pond is now providing habitat for coastal fish and wildlife, such as shellfish, flounder and other finfish, herons, egrets, and waterfowl, and restoring the productivity and ecological value of the area.

### 1.3. SIGNIFICANT NATURAL RESOURCES AND ASSOCIATED THREATS

Local priorities for natural resource conservation focus on five significant natural resources.

Surface Waters – The surface waters of Portsmouth are of critical importance to our quality of life in that they provide not only a variety of recreational opportunities but are the source of drinking water as well as water for agricultural uses for residents and farmers of Aquidneck Island. The principal threats to water quality in our surface waters are non-point source pollution in the watersheds associated with our surface waters and natural hazards/climate change. Policies and supporting actions in this comprehensive plan designed to address these threats include: Policy NR – 1.1, Policy SF – 1.10, Policy WS – 1.1, Policy R – 1.2, Policy LU – 5.1 and Policy NH/CC – 1.2.

Coastal Features – Portsmouth abundant coastal features provide protection from natural hazards as well as commercial and recreational opportunity for our citizens. The principal threats to the environmental quality and beneficial use of our coastal features are overdevelopment and encroachment, non-point source pollution, natural hazards/climate change and trash/misuse. Policies and supporting actions in this comprehensive plan designed to address these threats include: Policy NR – 1.2, Policies R – 1.2 & 1.3, Policy SF – 1.10, Policy LU – 5.2 and Policy NH/CC – 1.1.

Soils – As noted above, Portsmouth’s soils are a significant natural resource providing two critical functions, they support our agricultural operations and treat our wastewater. Threats to the quality of our soils and by extension our quality of life are loss of prime agricultural land to development and improperly managed septic systems. Policies and supporting actions in this comprehensive plan designed to address these threats include: Policy NR – 1.3, Policy AG – 1.1, Policy SF – 1.11 and Policies LU 6.1 and 6.2.

Groundwater Aquifers on Prudence Island – A critical natural resource, drinking water for Prudence Island residents is sourced exclusively from groundwater wells. Threats to both the quantity and quality of drinking water on the island are dwindling supply and non-point source pollution in the groundwater recharge areas. Policies and supporting actions in this comprehensive plan designed to address these threats include: Policy NR – 1.1 and Policy WS – 1.2.

Scenic Landscapes & Lands in an Undeveloped State – Multiple vision statements in this comprehensive plan describe a future for Portsmouth based on the quality and character of our natural environment, open spaces and traditional landscapes. Preserving these attributes is of vital importance to our community character and quality of life with the primary threat being a lack of commitment to do so. Policies and supporting actions in this comprehensive plan designed to address this threat include: Policy NR – 1.4, Policy HRC – 2.2, Policy ED – 2.1, Policy AG – 1.1 and Policies LU – 5.1 and 6.1.

### 1.4 PROTECTION PLANS, PROGRAMS AND POLICIES

This section discusses natural resources protection provided through:

- Conservation programs

- Stormwater management
- Wastewater management
- Local enforceable policy

#### 1.4.1 Conservation programs

The Portsmouth Open Space Committee was re-established in 1999 and authorized by the Portsmouth Town Council to set up the criteria for purchasing land or acquiring development rights to land in the Town of Portsmouth. Funding for this purpose was to be provided by a dedicated portion of the Real Estate Conveyance Tax. The Committee functioned for approximately ten years but was ultimately disbanded and the funds from the conveyance tax were re-routed to the Town's general fund. Currently, apart from the occasional partnership with the Aquidneck Land Trust in establishing conservation easements for property in Portsmouth as opportunities arise, the Town has no formal land conservation program. This comprehensive plan calls for the development of an open space acquisition plan. The responsible party for creating such a plan should be a newly-reestablished open space committee with a reestablished funding source from the real estate conveyance tax.

While not a true land conservation program with conservation easements and other legal mechanisms at its disposal, the Portsmouth farm property tax assessment program adopted in 1990 offers an incentive to farmers keep their land in an undeveloped state. The program assesses qualified farmland at its current use value rather than its "highest and best use" value and assigns a reduced property tax assessed value thereby giving farmers a property tax savings that can be used to offset operational costs. The State Farm, Forest, and Open Space Act, administered by RIDEM's Division of Agriculture, performs a similar function at the state level. Both programs involve farmland conservation land that does not have permanent, legal protection but where land owners have expressed a "conservation intent" to preserve the land from development. Participation offers temporary protection in that there are tax ramifications if a land owner wishes to no longer participate.

#### *Natural Estuarine Sanctuary*

The Narragansett Bay National Estuarine Research Reserve is a state-owned and federally recognized estuarine sanctuary of in the approximate geographic center of Narragansett Bay and within the boundaries of Portsmouth. The sanctuary is composed of 1,035 acres of permanently conserved land on Prudence, Patience, and Hope Islands and 1,591 acres of water adjoining the islands out to the 18-foot MLW.

#### 1.4.2 STORM WATER MANAGEMENT PLAN

The United States Environmental Protection Agency (USEPA) has determined that municipal separate storm sewer systems (MS4s) are a major pathway for the introduction of pollutants to waterways and are a leading cause of the impairment of ambient water quality, for both fresh and coastal waters. The USEPA developed regulations governing storm water in association with industrial and construction activities, and for MS4s in 40 CFR Part 122. The Rhode

Island Department of Environmental Management (RIDEM) has written and enforces equivalent regulations in their Regulations for the Rhode Island Pollutant Discharge Elimination System (RIPDES) (Rule 31).

Portsmouth is one of 36 communities currently subject to MS4 jurisdiction in Rhode Island. Rhode Island Department of Environmental Management requires subject communities to develop stormwater management program plans (SWMPs). The six minimum control measures required in the SWMP and addressed in Section 3.0 are:

- Public Education and Outreach on Storm Water Impacts
- Public Participation / Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention / Good Housekeeping for Municipal Operations

In addition, the General Permit specifies that if a total maximum daily load (TMDL) has been approved by EPA (which it was in March 2005 for impaired waters south of Island Park and in Blue Bill Cove) for any waterbody into which storm water discharges from the MS4 contribute directly or indirectly the pollutant(s) of concern, the Town of Portsmouth must address the provisions and recommendations of the TMDL in its SWMP. In our case, the pollution of concern is pathogens sources to failing septic systems

#### 1.4.3 ON-SITE WASTEWATER MANAGEMENT PLAN

Portsmouth has developed and adopted an Onsite Wastewater Management Plan (OWMP) as well as enforceable policy under its Wastewater Management District Ordinance.

The Onsite Wastewater Management Plan (OWMP) for the Town of Portsmouth provides a set of strategies and implementation items to ensure the proper management, inspection, use and maintenance of on-site wastewater treatment systems. The Town recognizes that poorly managed on-site systems are prone to failure with age, outmoded design, overuse, poor soil conditions, or improper installation, repair or maintenance and that failing on-site systems jeopardize the health, safety and welfare of the community. The Town also recognizes that a properly developed and implemented OWMP can mitigate these circumstances and provide an efficient, environmentally safe and cost-effective alternative to municipal sewers.

In part, the OWMP addresses recommendations in the 2005 Sakonnet River – Portsmouth Park and The Cove – Island Park TMDL, which was written to address pathogen impairments to the Sakonnet River and the Cove, to establish “a comprehensive Town-wide wastewater management strategy.”

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For Draft Submission to Planning Board

The Town will continue to rely on on-site wastewater treatment in the future and is committed to working cooperatively with the State and its agencies to manage the collective population of on-site treatment systems in Portsmouth.

#### 1.4.4 ENFORCEABLE POLICY

This section discusses key local enforceable policy, such as ordinances and regulations that set standards and structure for the protection of Portsmouth’s natural resources. Enforceable policies discussed include Portsmouth’s:

- Wastewater Management District Ordinance
- Stormwater Discharge Control Ordinance
- Soil and Sediment Control Ordinance
- Zoning Ordinance:
  - Flood Hazard Areas
  - Watershed Protection Overlay District
- Tree Preservation and Protection Ordinance

##### *Wastewater Management District Ordinance*

The Town has adopted a wastewater management district ordinance pursuant to R.I.G.L. Title 45, Chapter 45-24.5. Since the Town relies almost entirely on onsite wastewater treatment systems (OWTSs) for its wastewater disposal and treatment needs, the district includes the entire town. The purpose of the ordinance is to establish the Portsmouth Wastewater Management District to ensure that OWTSs are properly operated, regularly inspected, routinely maintained and administratively managed to prevent system malfunction and to operate as an alternative to municipal sewer systems. The ordinance provides a framework for the efficient inspection, repair and maintenance of OWTS within the District and recognizes the homeowners' responsibility to ensure that their system is well maintained and properly functioning.

##### *Storm Water Discharge Control Ordinance*

Improperly managed storm water runoff is a major cause of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; and flooding. The purpose of Portsmouth’s storm water ordinance is to provide for the health, safety, and general welfare of the citizens of Portsmouth through the regulation of non-storm water discharges to the municipal storm drainage system (MS4) to the maximum extent practicable as required by federal and state law. The ordinance addresses five key objectives:

- To prevent (or reduce to the maximum extent practicable) pollutants entering Portsmouth's municipal separate storm sewer system (MS4).
- To prohibit illicit connections and unauthorized discharges to the MS4.
- To require the physical removal of all such illicit connections and discharges.

- To comply with state law and federal statutes and regulations relating to stormwater discharges.
- To set forth the legal authority and procedures to carry out all inspection, monitoring and enforcement activities necessary to ensure compliance with this article.

#### *Soil and Sediment Control*

Without proper management excessive quantities of soil may erode areas that are undergoing development for nonagricultural uses such as housing developments, industrial areas, recreational facilities and roads. This may cause the need for costly repairs to gullies, washed-out fills, roads, and embankments. The resulting sediment clogs the storm sewers and road ditches and muddies streams, leaves deposits of silt in ponds and reservoirs and is considered a major water pollutant. Construction debris, litter and spills also clog the storm water management system and contaminate surface water and groundwater. The Town's soil erosion and sediment control ordinance sets policy and standards to prevent soil erosion and sedimentation from occurring.

#### *Zoning Ordinance – Flood Hazard Areas*

Provisions of the Zoning Ordinance put in place to protect watercourses from encroachment and to maintain the capability of floodplains to retain and carry off flood waters will be discussed. Section F of the Town's zoning ordinance addresses proper management of development in flood hazard areas including the use of inland and tidal land subject to flood hazards. The purpose of this ordinance is to ensure public safety, to minimize hazards to persons and property from flooding, to protect watercourses from encroachment, and to maintain the capability of floodplains to retain and carry off floodwaters. In part the purpose is also to comply with the requirements of the National Flood Insurance Act of 1968.

#### *Zoning Ordinance—Watershed Protection Overlay District*

Portsmouth has established a watershed protection overlay district as codified in section H of the town zoning ordinance. The purpose of the overlay district is to protect, preserve, and maintain the quality and quantity of drinking water supplies and the primary water recharge areas. The watershed protection overlay district includes the land area, surface water, and ground water in the district. Land uses or activities posing a severe threat to water quality are prohibited in the watershed protection overlay district. Prohibited uses include any use that would generate a wastewater discharge other than domestic sewage; and any use involving the storage or processing of hazardous material. Environmentally sensitive site design standards are required for all uses within the District. The standards are developed to optimize water quality and include buffer requirements, surface water runoff controls, parking lot controls, and setbacks.

*Tree Preservation and Protection Ordinance*

The Town’s tree preservation and protection ordinance regulates the planting, maintaining, maintenance and removal of trees in the public rights-of-way, parks and all public property within the Town. In part the ordinance establishes a tree commission, which together with the tree warden, have prepared and implement tree regulations.

1.4. GOALS, POLICIES AND IMPLEMENTATION

GOAL NR - 1

***Produce a comprehensive set of programs and policies that guide how we grow our community in a manner which conserves and protects in perpetuity the abundant natural resources that sustain us and enhance our quality of life.***

*Policy NR - 1.1*

***Ensure that new development and redevelopment in Portsmouth takes place in a manner which protects environmentally sensitive areas and resources.***

Action NR – 1.1a – Investigate hiring a Town Engineer.

Action NR – 1.1b – Continue to pursue acquisition of development rights, particularly parcels containing environmentally sensitive characteristics.

Action NR – 1.1c – Study Portsmouth’s site plan review processes and amend as necessary to strengthen protection of freshwater wetlands and other natural resources.

Action NR – 1.1d – Develop criteria and identify environmentally sensitive areas as a guide reference for the site plan review process.

~~Action NR – 1.1e – Define and inventory environmentally sensitive areas as a guide reference for the site plan review process.~~

Action NR – 1.1f – Adopt a Post-Construction Storm Water Runoff Control Ordinance.

~~Action NR – 1.1g – Define and inventory environmentally sensitive areas as a guide reference for the site plan review process.~~

Action NR – 1.1h – Review Portsmouth’s Residential Open Space Development subdivision regulations for their effectiveness and amend as necessary.

~~Action NR – 1.1i – Use hydrologic soil groups mapping to identify areas in which the spread of impervious surfaces may be especially detrimental to surrounding ecosystems and amend land development regulations accordingly.~~

~~Action NR – 1.1j – After analysis, require Residential Open Space Development subdivisions on residentially zoned sites larger than a given minimum acreage.~~

~~Action NR – 1.1k – Review land development regulations to ensure groundwater quality on Prudence and Hog islands is protected.~~

~~Action NR – 1.1l – Develop a wetlands protection checklist to be used in development plan review.~~

~~Action NR – 1.1m – Work with CRMC to ensure that assents and permits granted in SAMP areas within the community are consistent with the goals and policies of the Comprehensive Community Plan.~~

~~Action NR – 1.1n – Continue to work with adjacent towns state, federal, NGO and private organizations to develop effective natural resource protection plans and strategies.~~

~~Action NR – 1.1o – Require Low Impact Development (LID) strategies as part of any new or redevelopment project.~~

*Policy NR - 1.2*

***Preserve, protect and restore Portsmouth's valuable coastal resources and shoreline features.***

~~Action NR – 1.2a – Adopt and implement Portsmouth's Draft Harbor Management Plan and update the Harbormaster Ordinance.~~

~~Action NR – 1.2b – Study salt marsh migration and make land use / zoning recommendations to guide future development.~~

~~Action NR – 1.2c – Update the Flood Hazards Areas section of the Portsmouth Zoning Ordinance as directed by FEMA.~~

~~Action NR – 1.2d – Assess and amend Portsmouth's zoning districts to bring land uses into compatibility with RIDEM / CRMC water type designations.~~

~~Action NR – 1.2e – Review implementation of Portsmouth's Storm water Management for its effectiveness in preventing pollutants from entering coastal waters.~~

~~Action NR – 1.2f – Develop an outfall monitoring program in cooperation with RIDEM for the Island Park / Portsmouth Park neighborhoods.~~

~~Action NR – 1.2g – Review Portsmouth's land development regulations for compliance with CRMC's relevant Special Area Management Plans (SAMPs).~~

Action NR – 1.2h – Evaluate rezoning identified undeveloped barrier beach, salt marsh, and coastal wetland areas as open space.

~~Action NR – 1.2i – Conduct Town-sponsored periodic beach clean-ups and other natural resource maintenance activities in cooperation relevant volunteer organizations.~~

Action NR – 1.2j – Continue to implement the recommendations of Portsmouth’s RIPDES Phase II Storm water Management Program Plan.

*Policy NR - 1.3*

***Maintain the natural and functional characteristics of Portsmouth’s soils.***

Action NR – 1.3a – Perform a complete inventory and assessment of Portsmouth’s town-owned storm water infrastructure and develop a capital improvement program to upgrade the system as needed.

Action NR – 1.3b – Review Portsmouth Wastewater Management District and Storm Water Management ordinances for their effectiveness in abating non-point source pollution of our soils.

Action NR – 1.3c – Map prime agricultural soils as a guide reference for the site plan review process.

*Policy NR - 1.4*

***Protect the natural and rural open space character of Portsmouth and encourage the use and enjoyment of its abundant natural resources.***

Action NR – 1.4a – Develop an open space acquisition plan.

~~Action NR – 1.4b – Evaluate and update the charter of the Portsmouth Conservation Commission.~~

~~Action NR – 1.4c – Develop policies and use plans for “Town Rights of Way” to the shoreline.~~

Action NR – 1.4d – Continue to monitor water quality at the Melville ponds in cooperation with the URI Watershed Watch program.

Action NR – 1.4e – Pursue Conservation easements on Town-owned parcels in the Glen Park/Seveney/Fields/Glen Manor House area.

Action NR – 1.4f – Develop comprehensive educational packages on the subject of Portsmouth’s natural resources to be presented to the public and in the Portsmouth School System.

Action NR – 1.4g – Develop land use management plans for Town-owned opens space properties.

~~Action NR – 1.4h – Establish and publish a registry of Portsmouth’s outstanding scenic vistas.~~

~~Action NR – 1.4i – Update Portsmouth’s public education material regarding everyday activities homeowners can take to reduce non-point source pollution.~~

Action NR – 1.4j – Support the preservation of open space in watersheds, along the shore, and in other environmentally sensitive areas through acquisition, conservation easements, and purchase of development rights.

Action NR – 1.4k – Reinforce standards for outdoor lighting to limit light pollution in all areas of town.

*Policy NR - 1.5*

***Support the conservation of Portsmouth’s forested areas, tree resources, native plants and wildlife species.***

~~Action NR – 1.5a – Identify and preserve contiguous tracts of open land as potential wildlife corridors and greenway corridors.~~

Action NR – 1.5b – Continue to manage trees on town-owned property and roadways. Endeavor to replant with native species wherever possible.

Action NR – 1.5c – Review and update Portsmouth’s land development regulations to require developers to retain existing trees where possible and to provide deciduous street trees in all new development and redevelopment.

~~Action NR – 1.5d – Encourage the planting of native trees and plants where appropriate.~~

Action NR – 1.5e – Undertake a tree cover study to bring Portsmouth’s tree cover into compliance with state recommendations.

Action NR – 1.5f – Continue to control invasive, nuisance and exotic species on all town-owned properties.

Action NR – 1.5g – Continue Portsmouth’s on-going mosquito control program.

Action NR – 1.5h – Work with state, federal and NGO partners to identify natural habitat restoration opportunities to ensure their long-term viability.

*Policy NR - 1.6*

***Promote efforts to maintain good air quality in Portsmouth and its surrounding communities.***

~~Action NR – 1.6a – Study the enactment of air quality performance standards for commercial and industrial uses.~~

Action NR – 1.6b – Encourage the use of alternative transportation modes such as carpooling, public transportation and bicycling.

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