

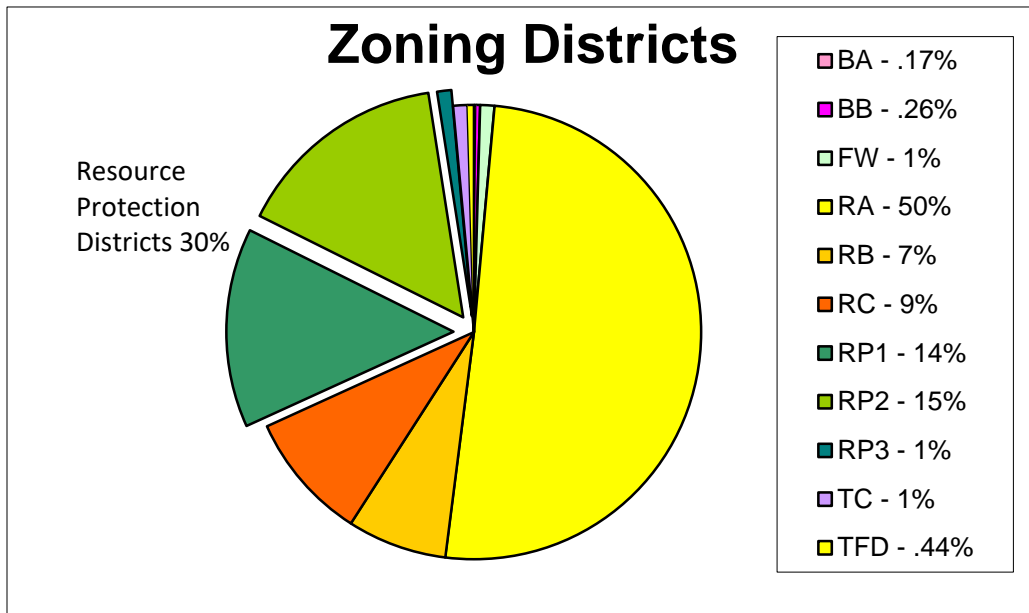
1 | **NATURAL RESOURCES**

2
3 Protecting the natural environment is the highest priority for residents in the
4 2019 comprehensive plan.* Cape Elizabeth adopted stringent local wetland
5 regulations in 1990 that remain the state model for communities that value
6 environmental protection. These regulations both restrict activities and mandate
7 natural buffers adjacent to wetlands and water bodies and complement the
8 town's open space preservation efforts.
9

10 *Cape Elizabeth 2019 Comprehensive Plan Survey of Community Residents

11
12 Wetlands

13
14 Thirty percent of the town is located in Resource Protection Districts. Most
15 activities in wetlands are prohibited or require a local resource protection permit.
16 The resource protection permit standards of review were adopted in 1990 and
17 might benefit from updating to more explicitly prioritize avoidance and
18 minimization of wetland alterations.
19



20
21
22 The Resource Protection 1 District (RP1) includes all wetlands with very poorly
23 drained soils or obligate wetland vegetation of at least 1 acre in size. The RP1
24 District is complemented by the Resource Protection 1 Buffer District (RP1
25 Buffer), which imposes a buffer of 250' around wetlands of 2 or more acres in
26 size, and a 100' buffer around wetlands from 1 acre up to 2 acres. Activities in the
27 RP1 District and Buffer are severely limited. For example, no *new* road or
28 driveway construction is allowed. Approximately 14% of the town is located in
29 the RP1 (not including the RP1 Buffer).

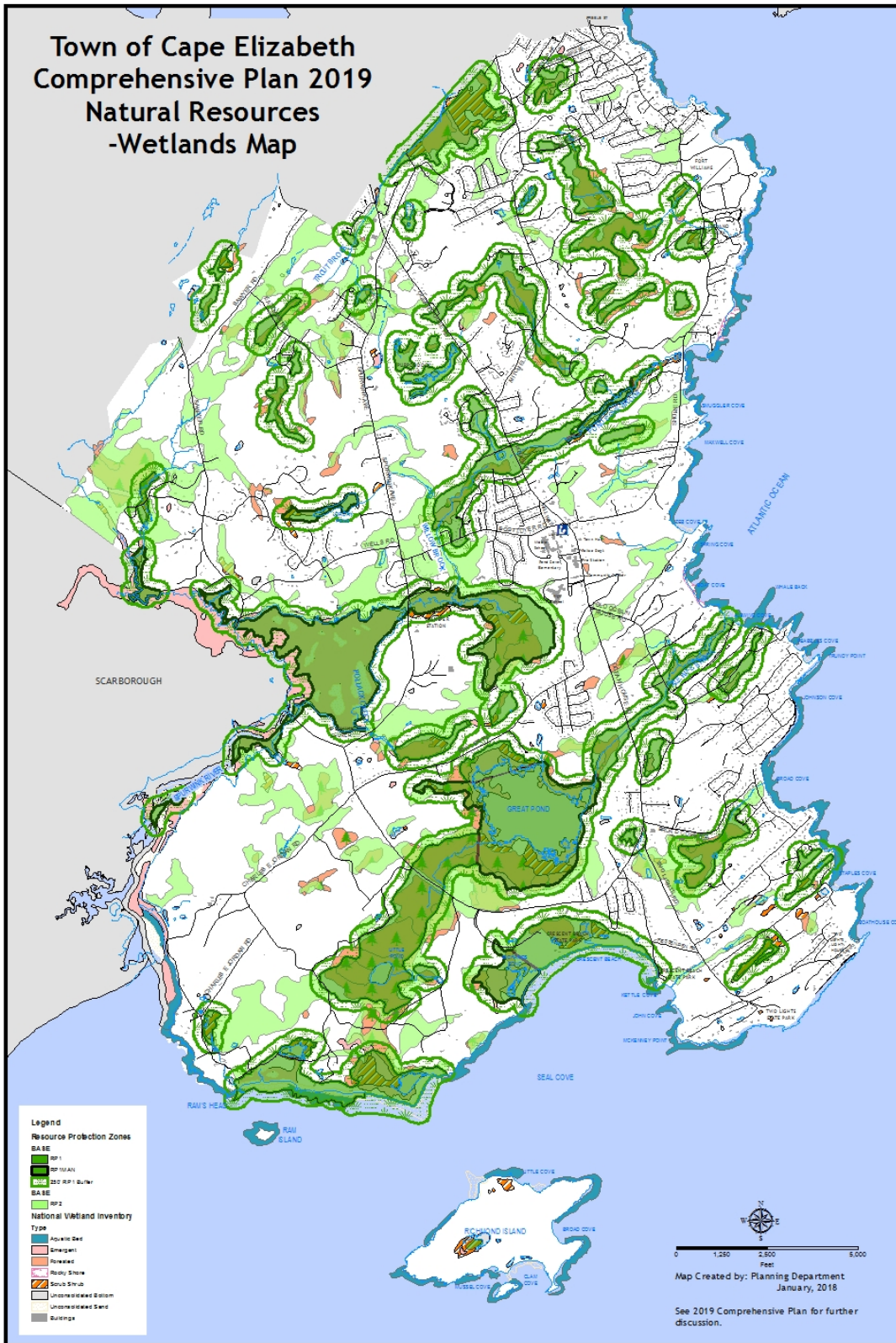
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The Resource Protection 2 District (RP2) includes wetlands of less than 1 acre in size with very poorly drained soils or obligate wetland vegetation, plus wetlands of any size with poorly drained soils and facultative wetland vegetation. Some activities are allowed in this district with a permit from the Planning Board. Permit applicants must demonstrate that there is no reasonable alternative to the wetland alteration, that the minimal amount of wetland alteration is proposed, and that performance standards prohibiting flooding and erosion are met. There is no mandatory buffer from RP2 wetlands, but the Planning Board is authorized by ordinance and requires buffers as part of permit issuance. Approximately 15% of the town is in the RP2 District.

The Resource Protection 3 (RP3) District is land located in the 100 year floodplain. Development is generally prohibited in these areas, although infrastructure is allowed with a permit from the Planning Board. Mapping of this district tends to overstate the area in locations where rocky coastline is present. Approximately 1% of the town is in the RP3 District.

Wetlands are located throughout town and range from classic salt water marshes to forested wetlands and wet meadows. The map below combines the types of wetlands mapped by the Department of Inland Fisheries and Wildlife (IFW), depicted in non-green colors, and the wetlands protected by local regulations, depicted in green. The map indicates that practically all IFW wetlands are mapped as protected. Areas not identified by IFW are also protected by local regulation. In addition, the town regulates wetlands based on plant, soil and hydrology criteria and requires field confirmation of mapping, so wetlands that have not been mapped are still protected.

Town of Cape Elizabeth Comprehensive Plan 2019 Natural Resources -Wetlands Map



1
 2 The most significant wetland complex is located in the center of town and
 3 extends west to join the Spurwink Marsh, and then into Scarborough. Further
 4 south, Great Pond, the largest fresh water body in town, is surrounded by
 5 wetlands that extend southwest to Little Pond and its surrounding wetlands.
 6 Significant wetlands exceeding ten acres in size are also located on the southern
 7 end of town adjacent to Crescent Beach and on the Sprague property, and on the
 8 northern end of Spurwink Ave extending into South Portland.

9
 10 Both the Spurwink Marsh and Great Pond wetlands have been rated high value
 11 for wildlife habitat by the Maine Department of Inland Fisheries and Wildlife.

12
 13 Threats to wetlands in Cape Elizabeth have been almost eliminated by local
 14 wetland regulations that are more restrictive than state wetland protection.
 15 Unlike state regulation, when up to 4,300 sq. ft of wetland may be altered with
 16 minimal permitting, no alteration of these areas is exempt from local review.
 17 Consequently, what limited growth occurs in Cape Elizabeth is directed away
 18 from wetland areas.

19
 20 The effectiveness of this approach may be demonstrated by the annual Wetland
 21 Loss Tracking Reports compiled by the DEP. The table below demonstrates that
 22 Cape Elizabeth is altering far less wetland areas than its suburban counterparts
 23 in the Greater Portland Region. Note also that wetland alterations of less than
 24 4,300 sq. ft. would not be included in the table below, but still requires review in
 25 Cape Elizabeth under local regulations.

26
 27 **Wetland Loss Report**
 28 (2002, 2005 and 2017)

29
 30 Acres of wetland filled

31 <u>Town</u>	<u>2002</u>	<u>2005</u>	<u>2017</u>
32 Cape Elizabeth	.84	0.0	0.0
33 Cumberland	2.85	n/a	0.0
34 Falmouth	8.55	1.74	0.18
35 Freeport	5.21	.45	0.25
36 Gorham	5.26	12.7	1.05
37 South Portland	6.18	0.3	0.12
38 Scarborough	9.75	4.06	1.78
39 Yarmouth	1.32	0.13	0.23

40
 41
 42 *Source: Maine Department of Environmental Protection*

1 Vernal pools are natural, temporary bodies of water that occur in shallow
2 depressions and have no inlet and no viable populations of predatory fish. They
3 typically fill with water during the spring or fall, and may dry out during the
4 summer. Significant vernal pools provide breeding habitat for wood frogs,
5 spotted salamanders, blue-spotted salamanders, and fairy shrimp, as well as
6 habitat for other plant and animal species. Because the vernal pool depression
7 typically includes hydric soils, any alteration to vernal pools is regulated by the
8 Cape Elizabeth wetland regulations. Vernal pools have been identified during
9 development reviews, and buffers have been created to preserve the area around
10 a vernal pool utilizing the existing local wetland regulations.

11
12 ~~Future wetland preservation efforts may take wetland protection to the next level~~
13 ~~by emphasizing the quality, in addition to the quantity, of wetland buffers.~~
14 ~~Qualitative requirements have been advocated in conjunction with a reduced~~
15 ~~depth of the wetland buffer.~~

16
17 Opportunities to convert existing uses adjacent to wetlands from septic systems
18 to public sewer may also be appropriate. In 2009, the town adopted amendments
19 to the Business A District that allowed the wetland buffer to be reduced from
20 250' to 100' if the septic system was replaced with a public sewer connection. In
21 the Business A District located on Ocean House Rd, a nonconforming
22 commercial area has already removed buffer up to 100' away from the nearby
23 RP1 wetland and those businesses were served by septic systems located within
24 250' of the wetland. The adopted changes created an incentive for businesses to
25 connect to public sewer. See the Public Facilities and Services Chapter for more
26 discussion on sewers.

27 28 Plant Habitats

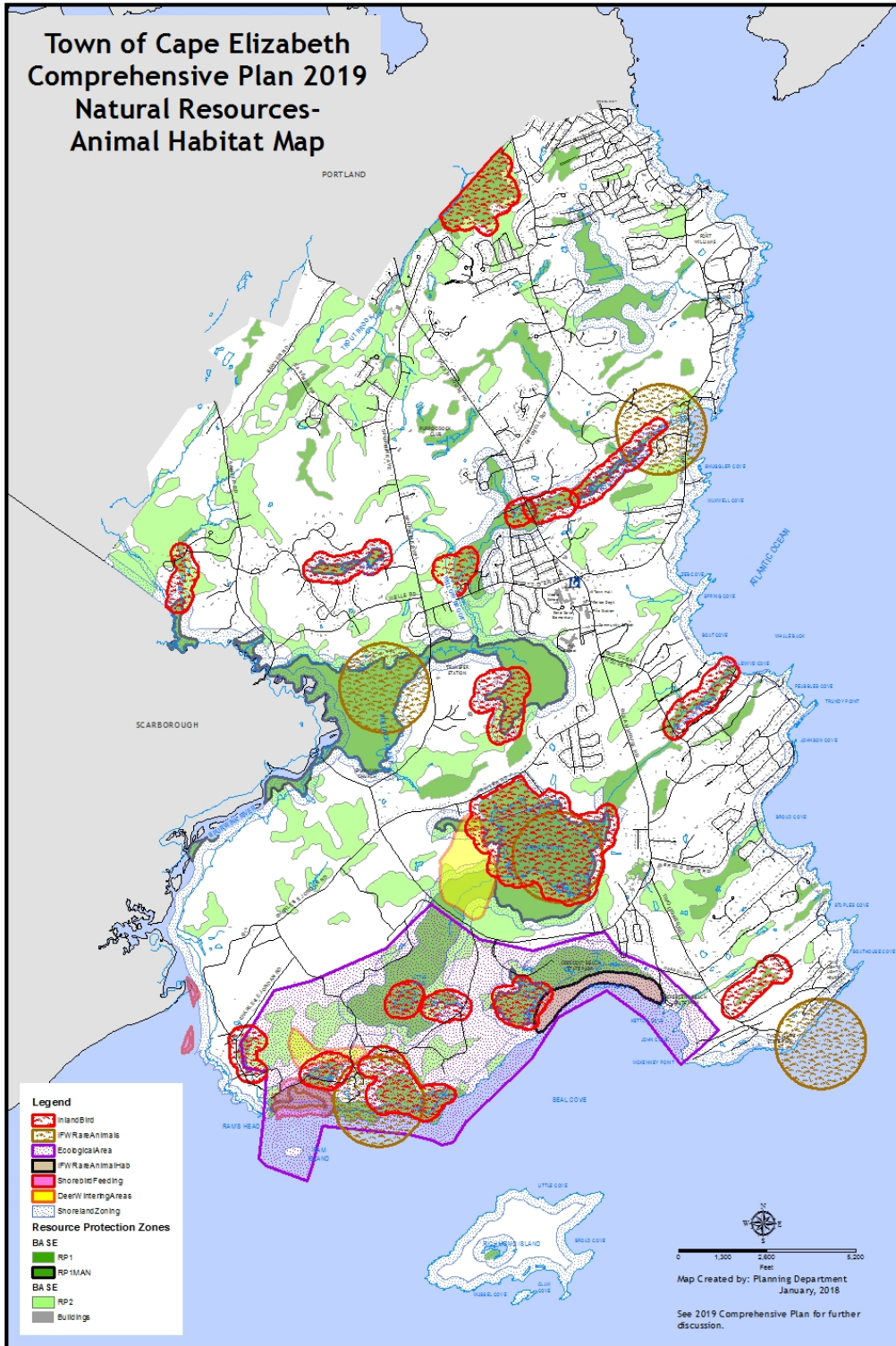
29
30 State mapping indicates that Cape Elizabeth includes wildlife habitat for inland
31 birds, rare animals, shorebird feeding areas, and deer wintering areas. Not
32 surprisingly, as shown on the map below, much of the animal habitat areas
33 coincide with wetland areas protected by local regulations.

34
35 The Great Pond area supports both inland bird habitat, rare animal habitat and a
36 mapped deer wintering area. The Spurwink Marsh is also ~~has been~~ mapped for
37 inland bird and rare animal habitat. Both these areas also include substantial
38 permanently protection open space owned by the Town of Cape Elizabeth and
39 CELT.

40
41 In contrast, the southwestern corner of town is a significant ecological area and
42 privately owned by the Sprague Corporation. The Pond Cove Brook corridor,
43 located west of Shore Rd, also is a significant wildlife habitat area. Much of the

- 1 land south of the brook has been conserved through efforts of CELT and the
- 2 Town of Cape Elizabeth. (For a map of open space areas, see the Open Space and
- 3 Recreation Chapter.)

Town of Cape Elizabeth Comprehensive Plan 2019 Natural Resources- Animal Habitat Map



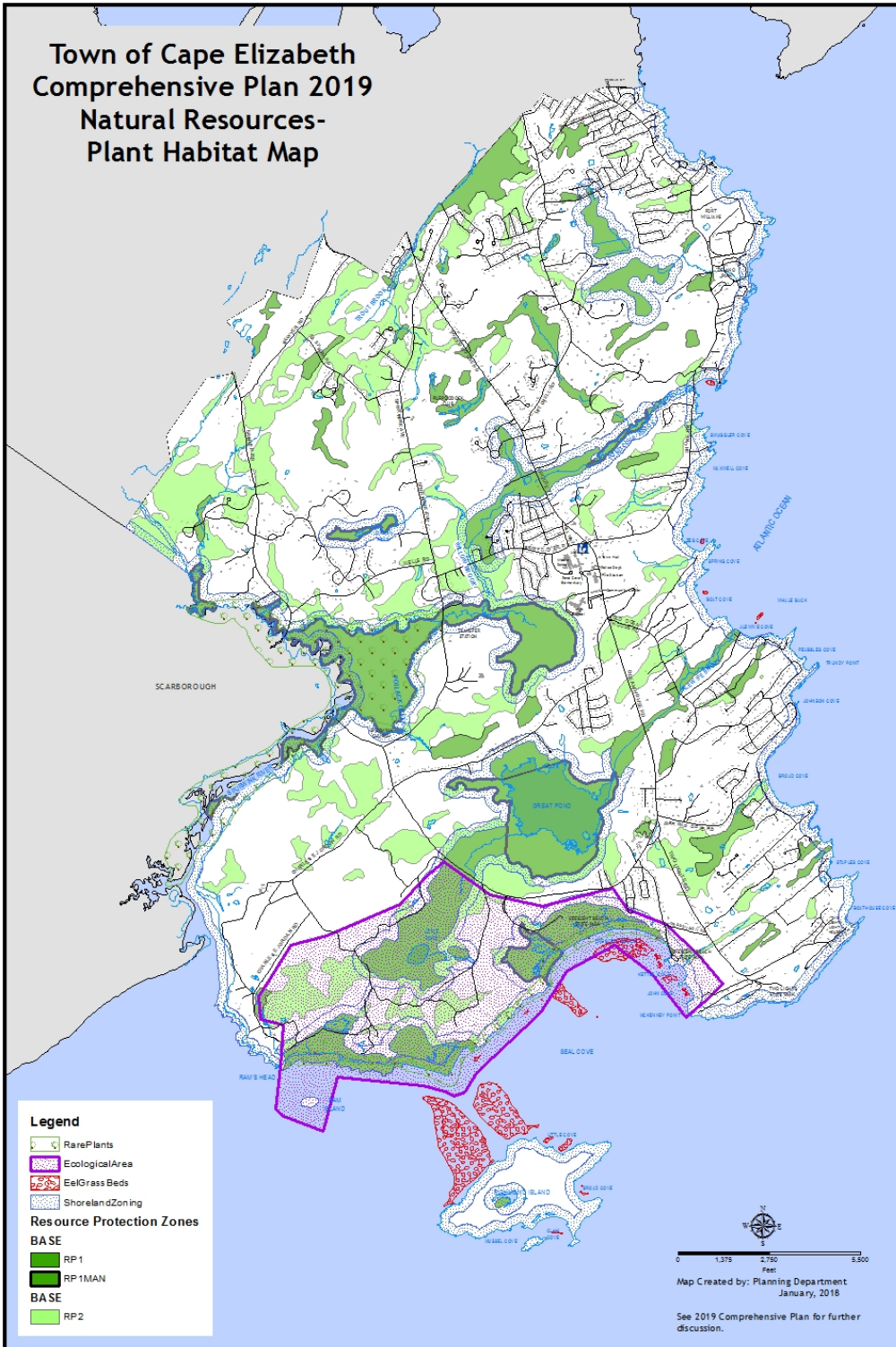
1 The New England Cottontail has been identified as a rare animal with habitat in
2 Cape Elizabeth. The Town is managing 15 acres of town owned land located in
3 the area of Sawyer Road jointly with 12 acres owned by the U. S. Fish and
4 Wildlife Service as a New England Cottontail habitat. (See Winnick Woods
5 Master Plan)

6
7 One of the challenges to animal habitat is the breaking up of large tracts into
8 smaller or isolated parcels with dramatically less value as habitat. The experience
9 with new development in Cape Elizabeth, however, is that wildlife corridors
10 have been continued and preservation areas expanded as adjacent land is
11 developed. Most new development in Cape Elizabeth utilizes cluster
12 development provisions that prioritize preservation of large parcels and
13 corridors over buffer strips. The Land Use Amendments package, adopted in
14 2015, implemented recommendations from the 2007 Comprehensive Plan.
15 Notable is the increase in the minimum open space area preserved from 40% to
16 45% and more stringent standards require preservation of blocks of open space
17 over narrow strips. New neighborhoods with large intact open spaces include
18 Cross Hill, Blueberry Ridge, Eastman Meadows and Cottage Brook. These
19 developments not only permanently protected open space, but also connected to
20 previously preserved land.

21
22 Plant Habitats

23
24 Again, the map below depicts significant overlap between locally protected
25 wetlands and areas identified as significant plant habitats.
26

**Town of Cape Elizabeth
Comprehensive Plan 2019
Natural Resources-
Plant Habitat Map**



1 Rare plants in Cape Elizabeth include Sea-beach sedge, Beach plum, Dune
2 grassland, Pitch pine dune woodland and Eel grass beds. The ecological area
3 located at southwestern corner of the town, located on privately held Sprague
4 Corporation land, is an important plant habitat.

5
6 The ecological focus area is "intended to draw attention to these truly special
7 places in hopes of building awareness and garnering support for land
8 conservation by landowners, municipalities, and local land trusts." Beginning
9 with Habitat Natural Resource Cooccurrence map (The map is non-regulatory
10 and intended for planning purposes only).

11
12 In 1999, the Sprague Corporation obtained town approval for a subdivision plan
13 of 1800 acres. This master plan created lots to accommodate the next 2
14 generations of family members. Lots were clustered, resulting in vast tracks of
15 land remaining undeveloped for decades. In 2018, most of these lots remain
16 undeveloped, and no changes to the master plan have been proposed. Changes
17 require unanimous consent and are therefore unlikely. The eastern edge of the
18 ecological area includes Crescent Beach State Park. While there is little public
19 preserved land in the ecological area, the Sprague Corporation has been effective
20 as a private landowner in land preservation.

21 22 Invasive species

23
24 In the past decade, Cape Elizabeth has experienced both invasive plant and
25 animal species impacts. Invasive plants, such as the black swallowwort, oriental
26 bittersweet, Japanese knotweed and Japanese barberry outcompete native
27 species found in the town's forests and fields. Invasive plants impact not only the
28 native flora, but also the native fauna that depend on native plants. Similarly,
29 invasive insects, such as the winter moth and hemlock wooly adelgid, are
30 altering Cape's community forest (See Public Facilities and Services Chapter).
31 Invasives are also posing a significant risk to humans by transmitting tick-borne
32 diseases such as Lyme and anaplasmosis.

33
34 The town has had some success when focusing a response to invasives. The
35 invasive purple loosestrife plant was taking over open fields when the Rachel
36 Carson Wildlife Refuge pioneered a program to offer beetles that feed on the
37 loosestrife. The Cape Elizabeth Conservation Commission partnered with the
38 Wildlife refuge to distribute beetles in several locations, such as the corner of
39 Scott Dyer Rd and Spurwink Ave. This multi-year effort significantly reversed
40 the spread of purple loosestrife. The development of the Fort Williams
41 Arboretum was inspired by drastic changes in vegetation in the park as natives
42 were crowded out by invasive plants. (See Recreation and Open Space Chapter
43 for more information on Fort Williams Park) Today, the town is engaging

1 community members in banding oak trees to save them from winter moth
2 deforestation. Given the forecast for climate change, invasive species will
3 continue to be a challenge for the town.

4 5 Pesticides

6
7 The town has evaluated its use of pesticides on athletic fields and significantly
8 reduced pesticide use to a minimal level that also allows for maintenance to a
9 standard the community expects. Pesticides and fertilizers are widely used in the
10 community. The Town Council has discussed pesticide use generally and agreed
11 that the town should support public education about the appropriate use of
12 pesticides. The Cumberland County Soil and Water Conservation District
13 promotes a Healthy Yardscaping program which includes tips on how to avoid
14 pesticide use.

15 16 Coastal Islands

17
18 Richmond Island (226 acres) and Ram Island (3 acres) are located off the
19 southern coast of Cape Elizabeth. Both are owned by the Sprague Corporation
20 and both are subject to Shoreland Zoning. Neither island has year round
21 occupancy. Richmond Island has a lodge, keeper's quarters and boat dock.
22 Camping is allowed with the permission of the Sprague Corporation.

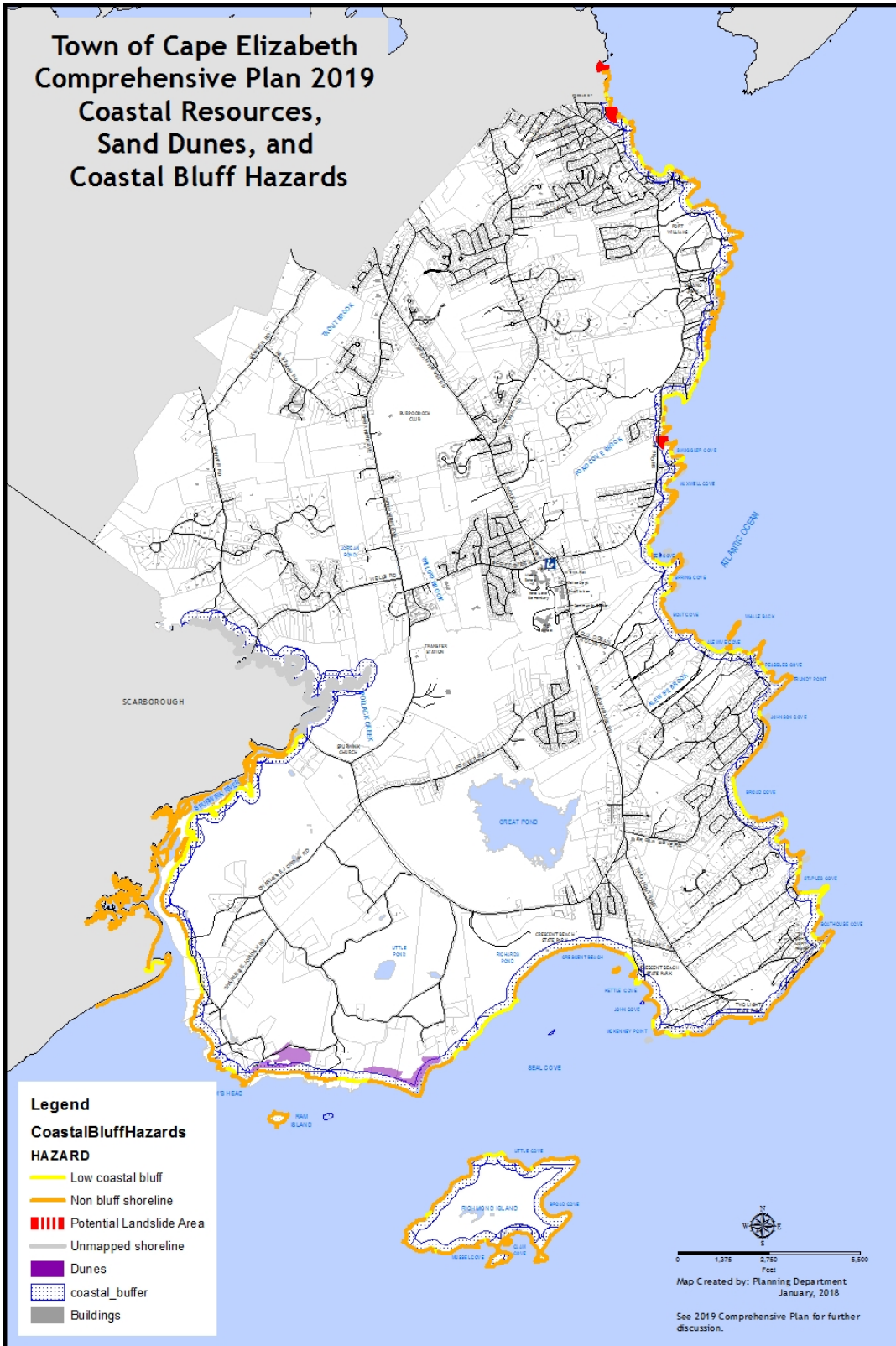
23
24 The Sprague Master Plan, which lays out the extent of development of
25 corporation land expected for the next 40 years, was granted subdivision
26 approval by the Town and does not include development of either island.

27 28 Coastal Resources

29
30 With its peninsular characteristics, Cape Elizabeth has 22 miles of abundant
31 coastline (~~#miles~~). Most of the eastern coastline is rocky and rising 30' and more
32 above the waters of the Atlantic Ocean. Exceptions to this are the small Cliff
33 House Beach (located on the northeastern border with South Portland at Seaview
34 Ave), Fort Williams Park beach and private beaches located in between. Alewife
35 Brook is another location where the land adjacent to the sea is lowlying and
36 sandy.

37
38 The southern coastline, west of Two Lights State Park, is predominantly sand.
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**Town of Cape Elizabeth
Comprehensive Plan 2019
Coastal Resources,
Sand Dunes, and
Coastal Bluff Hazards**



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Sand Dunes

Sand dunes (28 acres) are located on the southern coast of Cape Elizabeth at Crescent Beach and coastline to the west. Both are protected under local Resource Protection regulations that do not allow development of the dunes and establish a 100' buffer from new development.

Coastal Hazard Areas

The Maine Geological Survey has mapped coastal hazard areas where landslides have occurred or may potentially occur. Most of Cape Elizabeth's coastline is a rocky-coastline. Two of the sandy coastline areas have been identified as a potential landslide area. These areas are located at Pond Cove, adjacent to Shore Rd, and Cliff House Beach, at Seaview Ave. Both areas are owned in whole or in part by either the Town of Cape Elizabeth or the Land Trust. Public access to these areas is allowed, but new construction is restricted by existing regulations.

Floodplains

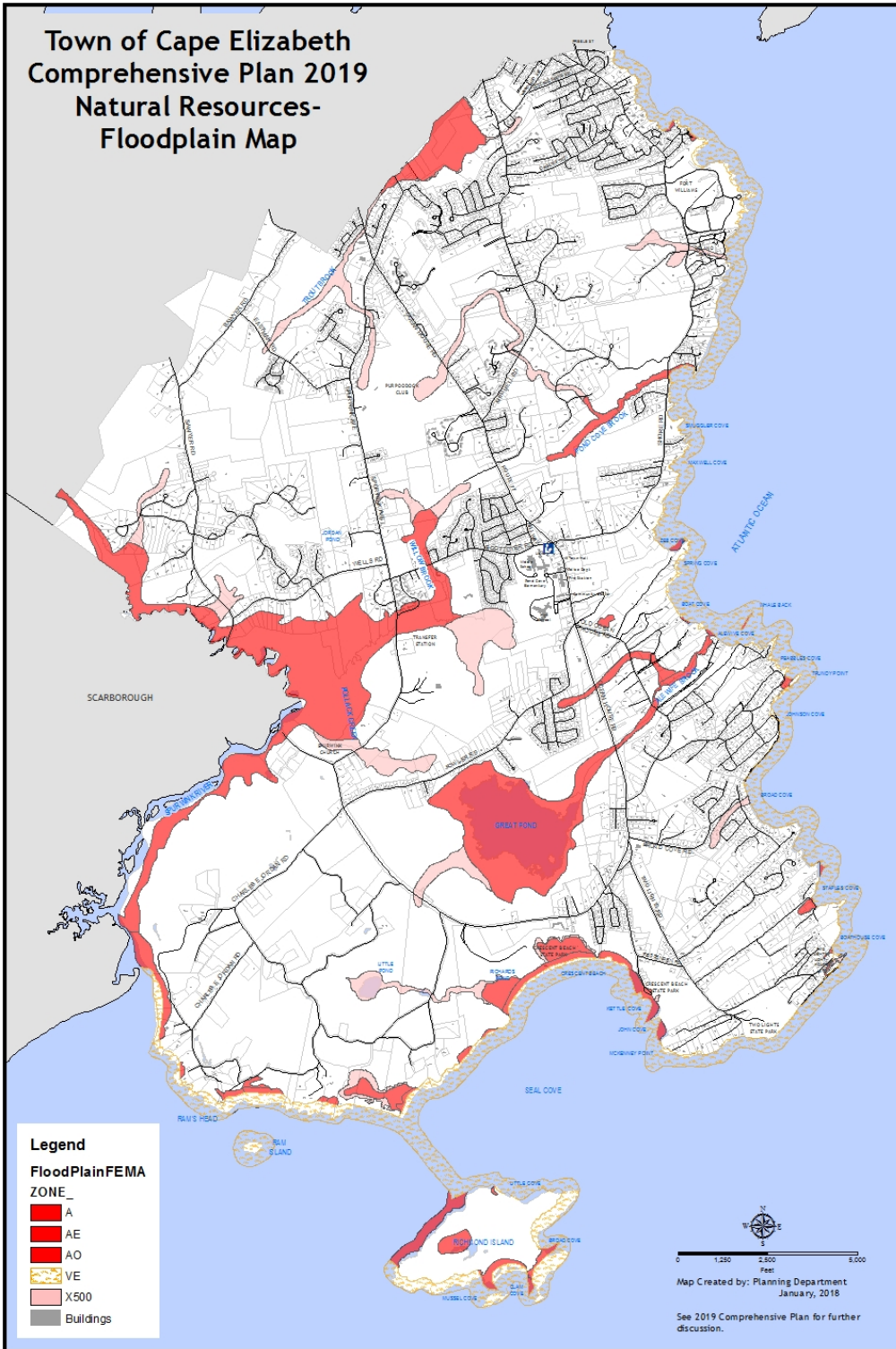
Inland, the one hundred year floodplain in Cape Elizabeth closely follows the large wetlands already prohibited from development by local wetland regulations. These areas include the Spurwink Marsh, Great Pond, Crescent Beach and the wetland on the Cape/South Portland boundary off Spurwink Ave. The Town also regulates these areas with a Floodplain Management Ordinance consistent with Federal regulations.

The map below depicts what is commonly called the 100-year floodplain (also called the Special Flood Hazard Area) as the A, AE, AO and VE zones. The VE zone features potential flooding due to velocity wave action. Even accounting for expectations of sea level rise and climate change, which will produce more severe and more frequent storms, most of the town will not be vulnerable due to its rocky coastline. The exception is the Alewife Brook area, which includes a neighborhood enclave on small lots which has flooded in the past and will be more vulnerable in the future. Along the southern sandy coastline, Crescent Beach State Park and the Sprague Corporation may also experience climate change impacts. Fortunately, most of this coastline is undeveloped and new construction must comply with the new normal high water line requirements, which added 3' vertical feet from the point where minimum setbacks must be measured.

The Federal Emergency Management Agency (FEMA) is nearing the end of a multi-year effort to update the floodplain maps in this area. Town staff and

1 residents have attending meetings and reviewed draft maps. FEMA now
2 estimates that the maps will be finalized in early 2019.
3

**Town of Cape Elizabeth
Comprehensive Plan 2019
Natural Resources-
Floodplain Map**



1 Scenic Areas

2
3 The Town of Cape Elizabeth conducted an inventory, mapping and assessment
4 of scenic areas in 1989 (See 1989 Visual Resources Assessment). Several scenic
5 views and vistas were identified and prioritized. In 1997, scenic overlay districts
6 were drafted to restrict infringement on these areas from new development. The
7 districts were reduced in size twice, and ultimately not adopted due to concerns
8 regarding interference with private property rights. Without the restrictions,
9 many, if not most, of the views remain protected through the residual effects of
10 the local Resource Protection regulations, Shoreland Zoning and conservation
11 restrictions on key parcels.

12
13 The number one rated view is the Spurwink Marsh. Due the wide open nature of
14 the marsh, some threat to the view remains despite the large amount of the
15 marsh that is owned by the Town (150 acres). The marsh is somewhat like a bowl
16 and “edges” of the bowl are privately owned. As these parcels are developed as
17 home lots, the scenic vista of the marsh is affected.

18
19 ~~Critical~~ Natural Resources Goal

20
21 **Goal 1: The Town ~~should retain its 's critical natural resources are clustered~~**
22 **~~together in areas that currently enjoy strict local protection from~~**
23 **~~alterations and impacts. This current regulatory structure that~~**
24 **~~effectively protects natural resources, which includes Resource~~**
25 **~~Protection regulations, Shoreland Zoning and Floodplain Management,~~**
26 **~~should be maintained.~~**

27
28 Implementation Steps

- 29
30 1. Retain the current, stringent Resource Protection Regulations, Shoreland
31 Zoning, ~~and Floodplain Management Ordinance, and cluster development~~
32 ~~requirements, and update as needed.~~
33
34 2. Review and update the Resource Protection Permit standards to
35 emphasize avoidance and minimization of wetland alterations.
36
37 3. ~~Continue to evaluate and minimize impacts to significant wildlife habitat~~
38 ~~through application of subdivision and site plan review standards.~~
39
40 4. Adopt the updated FEMA floodplain maps.

41
42 **Goal 2: The Town should be prepared to respond to evolving environmental**
43 **conditions that may stress natural resources.**

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Implementation Steps

4. Convene community volunteers and resources to respond to changing environmental conditions that stress natural resources, including but not limited to invasive plants and animals.

5. Encourage residents to minimize pesticide use and take advantage of programs such as the Cumberland County Soil and Water Conservation District (CCSWCD) Healthy Yardscaping initiative.