



TOWN OF WEST TISBURY WETLANDS PROTECTION BYLAW REGULATIONS

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Town of West Tisbury

Wetlands Protection Bylaw Regulations

SECTION I – GENERAL PROVISIONS

A. Introduction

These regulations are promulgated by the West Tisbury Conservation Commission (the “Commission”) under the authority of Town of the West Tisbury Wetlands Protection Bylaw (the “Bylaw”). The regulations should be read together with the Bylaw, which has important provisions not repeated in these regulations. The Bylaw and these Regulations are adopted under Home Rule and are independent of the Massachusetts Wetlands Protection Act (the “Act”) and the Massachusetts Rivers Protection Act (M.G. L. Ch. 131 sec 40) and Regulations thereunder (310 CMR 10.00).

B. Purpose

The purpose of these regulations is to establish definitions, criteria, design specifications, performance standards, and uniform procedures by which the Commission is to carry out its responsibilities under the Bylaw with respect to regulation of activities deemed by the Commission likely to have a significant or cumulative effect upon public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture, and aquaculture.

C. Jurisdiction

Except as permitted by the Commission or as provided in the Bylaw, no person shall remove, fill, dredge, build upon, degrade, discharge into or otherwise alter the following resource areas: any freshwater or coastal wetlands, marshes, wet meadows; bogs, swamps, vernal pool habitats, banks, lakes, ponds with a surface area of at least 2,500 square feet, rivers; streams, creeks, beaches, dunes, estuaries, the ocean, lands under water bodies, lands subject to flooding or inundation by groundwater or surface water, lands subject to tidal action, coastal storm flowage or flooding, lands within 100 feet of the aforesaid resource areas (the “Buffer Zone”), lands within 200 feet of perennial streams or rivers (the “Riverfront Area”), bordering land subject to flooding; or isolated land subject to flooding. Said resource areas shall be protected whether or not they border surface waters or other resource areas. The Bylaw provides protection in addition to the Wetlands Protection Act (G. L. Ch. 131§ 40) and Regulations there under (310 CMR 10.00) to wetland resources such as Vernal Pools, Isolated Land Subject to Flooding and the Buffer Zone for additional values, with additional standards and procedures stricter than those of the Wetlands Protection Act (G. L. Ch. 131§ 40) and Regulations there under (310 CMR 10.00) subject however, to the right and benefits accorded to agricultural uses and structures of all kinds under the laws of the Commonwealth.

SECTION II- DEFINITIONS

The following definitions are for terms as used in the Bylaw and in these regulations. To the extent not defined herein or in the Bylaw, words used in the Bylaw or in these regulations shall have the definitions contained in the Massachusetts Wetlands Protection Act (M.G.L. c.131, s. 40) and its rules and regulations (310 CMR 10.00), as amended.

Abutter means an owner of land in any direction sharing a common boundary with the site of the proposed activity, including any land located directly across a street, way, stream, pond, or diagonally across from an intersection of roads including owners of land directly opposite on any public or private street or way, and abutters to abutters, within 300 feet of the property line of the applicant, including any in another municipality or across a body of water. A landowner more than 300 feet across a pond shall not be considered an abutter.

Activity has the same meaning as work.

Alter means without limitation, the following activities when undertaken to, upon, within or affecting resource areas protected by the Bylaw:

- A. Removal, excavation, or dredging of soil, sand, gravel or aggregate materials of any kind;
- B. Changing of preexisting drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns, flow patterns or flood retention characteristics;
- C. Drainage or other disturbance of water level or water table;
- D. Dumping, discharging or filling with any material that may degrade water quality;
- E. Placing of fill, or removal of material, that would alter elevation;
- F. Driving of piles, erection or expansion of buildings or structures of any kind;
- G. Placing of obstructions or objects such as docks, boardwalks or floats in water;
- H. Destruction of plant life, including cutting or trimming of trees, shrubs and brush (mowing of existing lawns, brush cutting existing meadows, and normal maintenance of trees and shrubs is not considered destruction);
- I. Changing temperature, biological oxygen demand, chemical oxygen demand, or other physical, biological or chemical characteristics of any waters;
- J. Any activities, changes, or work that pollute in any way any body of water or groundwater;
- K. Activities that will have a significant or cumulative adverse impact on the resource areas protected by the Bylaw.

Applicant means any person who files a Request for Determination of Applicability, Notice of Resource Delineation or Notice of Intent, or on whose behalf such an application is filed.

Areas Subject to Protection means the resource areas protected as set forth in Section II of the Bylaw.

Bank means the land area which normally abuts and confines a water body; the lower boundary being the mean annual low flow level, and the upper boundary being the first observable break in the slope or the mean annual flood level, whichever is higher.

Bank (coastal) means the seaward face or side of any elevated landform, other than coastal dune, which lies at the landward edge of a coastal beach, coastal dune, land subject to tidal action or coastal storm flowage, or other coastal wetland. Any minor discontinuity of the slope notwithstanding, the top of the bank shall be the first significant break in slope as defined by site specific topographic plan information, site inspection, wetland habitat evaluation, geologic origin, and/or relationship to land subject to coastal storm flowage. A bank may be partially or totally

vegetated, or it may be comprised of exposed soil, gravel, stone, or sand. A bank may be created by man and/or made of man-made materials.

Bank (inland) means the portion of land surface that normally abuts or confines a water body. A bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, stone, or sand. The upper boundary of a bank is the first observable break in slope above the ten-year flood level. The lower boundary of a bank is the annual high water elevation of the water body. A bank may be created by man and/or made of man-made materials. The top of the bank of a river, as defined within these regulations, shall constitute the starting point for measuring the 200 foot wide Riverfront Area.

Beach means unconsolidated sediment subject to wave, tidal, or storm action, which forms the gently sloping shore of a body of water, including land that is separated from other land by a body of water or a marsh system. Beaches extend from the mean low water line landward to the dune line, bank line, or the edge of existing man-made structures, when these structures replace one of the above lines, whichever is farthest from the defining water body.

Best Available Measures means the most up-to-date technology or the best designs, measures, or engineering practices that have been developed and that are commercially available.

Best Practical Measures means technologies, designs, measures, or engineering practices that are in general use to protect similar interests.

Bog means areas where standing or slowly running water is near or at the surface during a normal growing season, where soils exhibit hydric characteristics, where a plant community has a significant portion of the ground or water surface covered with Sphagnum moss (*Sphagnum*) and where the plant community is made up of a significant portion of one or more, but not limited to nor necessarily including all, of the following plants or groups of plants: aster (*Aster nemoralis*), azaleas (*Rhododendron canadense* and *R. viscosum*), bog cotton (*Eriophorum*), cranberry (*Vaccinium macrocarpon*) high-bush blueberry (*Vaccinium corymbosum*), laurels (*Kalmia angustifolia*), leatherleaf (*Chamaedaphne calyculata*), orchids (*Arethusa*, *Calopogon*, *Pogonia*), pitcher plants (*Sarracenia purpurea*), sedges (*Cyperaceae*), sundews (*Droseraceae*), and sweet gale (*Myrica gale*).

Bordering means touching at any point.

Bordering Land Subject to Flooding means an area of low, flat topography, or a depression or basin either adjacent to or inundated by floodwaters rising from creeks, streams, rivers, or ponds. The boundary of bordering land subject to flooding is the one hundred year floodplain as determined by the Federal Emergency Management Agency (“FEMA”). It extends from the outer edge of a bank or bordering vegetated wetland. Constructed drainage facilities and /or swales will not be considered as land subject to flooding for purposes of the Bylaw.

Buffer Zone means the land extending 100 feet horizontally in any upland direction from the boundary of the following resource areas: any freshwater or coastal wetlands, marshes, wet meadows, bogs; swamps, vernal pool habitat, banks; lakes, ponds with a surface area of at least 2,500 square feet; rivers; streams, creeks, beaches, dunes, estuaries, the ocean, lands under water bodies, lands subject to flooding or inundation by groundwater or surface water, lands subject to tidal action, coastal storm flowage or flooding. The Buffer Zone is a resource area protected under the Bylaw but does not itself have a buffer zone.

Build Upon means construction of any kind of structure, whether on land or in water, placing of obstructions or objects in water (other than boats, moorings, fish or shellfish traps, pens or trays used in conjunction with aquaculture, or aids to navigation).

Bylaw means the West Tisbury Wetlands Protection Bylaw.

Certificate of Compliance means a written determination by the Commission that the proposed work or portion thereof has been completed as required by a Permit. In some instances a Certificate of Compliance may also be issued stating that no work has been undertaken or completed within the time frame allowed by the Permit issued.

Coastal Wetland means any bank, beach, dune, estuary, marsh, swamp, meadow, flat, or other lowland subject to tidal action or coastal storm flowage from the ocean or an estuary.

Commission or Conservation Commission means West Tisbury Conservation Commission as a body of members lawfully appointed pursuant to M.G.L. c. 40 s. 8c.

Conditions means those requirements set forth in a written Permit issued by the Commission for the purpose of permitting, regulating, or prohibiting any activity that removes, fills, dredges, builds upon, degrades, discharges into, or otherwise alters a resource area under the Bylaw.

Creek has the same meaning as stream.

Cumulative Impact shall mean an effect that is significant when considered in combination with other activities that have occurred, are going on simultaneously, or that are likely to occur, whether such other activities have occurred or are contemplated as a separate phase of the same project, such as the build-out of a subdivision or an industrial park, or unrelated but reasonably foreseeable actions, including other development projects that are currently under construction, under review or that may be expected to come forward.

Date of Issuance means the date the Permit, Determination, or a Certificate of Compliance is mailed, as evidenced by a postmark, or the date it is hand delivered to the applicant or the applicant's representative.

Date of Receipt means the date of delivery of an application to the office of the Commission by mail or hand delivery as evidenced by a signed receipt.

Determination of Applicability means a written finding by the Commission as to whether the site or the work proposed thereon is subject to the jurisdiction of the Act and/or the Bylaw.

Dock means the entire structure of any pier, wharf, walkway, bulkhead, or float, and any part thereof including pilings, ramps, walkways, float and/or tie-off pilings, whether seasonal or fixed.

Dredge means to deepen, widen, or excavate under water, either temporarily or permanently.

Dune means any hill, mound, or ridge of loose sediment (usually sand-size) lying landward of a coastal beach deposited by wind action, storm overwash, or man-made.

Engineering Structure means any bulkhead, revetment, wall, riprap, groin, jetty, plastic sheeting, or other structure intended, or constructed so as, to prevent or alleviate storm damage or modify wave action, littoral flow, erosion, or surface water pollution.

Erosion and Sedimentation Control means the prevention or reduction of the detachment or movement of soil or rock fragments by water, wind, ice, and/or gravity.

Estuary means any area of a partially enclosed coastal body of water where fresh and salt water meet and mix and where tidal effects are evident.

Extension Permit means a written extension of time granted by the Commission within which the authorized activity shall be completed.

Fill means to deposit any material so as to change any grades or raise an elevation, either temporarily or permanently.

Fisheries mean all species of fresh and saltwater finfish and shellfish including the nutrient sources and habitat in which they live all or part of their life cycle.

Flat means any nearly level part of a shoreline or coastal beach that usually extends from the extreme low-water line landward to the more steeply sloping face of a coastal beach or bank. The flat may be separated from the beach by land under the ocean.

Flood Control means the prevention or reduction of flooding and flood damage.

Freshwater (Inland) Wetland means a wet meadow, freshwater marsh, swamp, bog, pond, lake, creek, or stream; an area of low topography where ground water, flowing water, standing surface water, or ice provides a significant part of the supporting substrate for a plant community for at least five months of the year; characterized by emergent and submergent plant communities in inland waters; exhibits hydric soil characteristics and includes that portion of any bank which touches any inland waters. Freshwater wetlands are not defined to include drainage facilities constructed to include wetland vegetation as treatment from stormwater runoff.

Great Pond means any body of brackish or salt water over ten (10) acres subject to intermittent tidal action either natural or induced.

Ground Water means water below the earth's surface in the zone of saturation.

Hydric soils means a soil that in its undrained condition is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation including, but not limited in future definition to those soils listed in Hydric Soils of New England, 1987.

Habitat means a place where living organisms find what they need to survive and procreate: food, water, cover from predators and weather, breeding and staging areas, and over-wintering areas.

Isolated Land Subject To Flooding means any isolated depression without an inlet or outlet which at least once a year confines standing water to a volume of at least 1/4 acre-foot of water with an average depth of at least six inches. The boundary is the perimeter of the largest observed or recorded volume of water confined in the basin.

Issuing Authority means the West Tisbury Conservation Commission.

Land Containing Shellfish means land under the ocean, tidal flats, salt marshes, and land under salt ponds when any such land contains shellfish.

Land Subject to Coastal Storm Flowage means land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record, or storm of record, whichever is greater.

Land Subject to Flooding or Inundation by Groundwater or Surface Water means an area of low, flat topography, or a depression or basin either 1) hydrologically directly connected with a water body, extending from the banks or the upland edge of the vegetated wetlands surrounding this water body, or 2) an isolated depression or basin which on the average at least once every five years confines standing water over an area of at least 1,000 square feet as observed under conditions of average rainfall. The boundary of Land Subject to Flooding which is hydrologically connected to a water body is the estimated lateral extent of the flooding, which shall be based on the 100-year storm event defined by FEMA during a year of average rainfall, or by actual record if that is higher. Constructed drainage facilities and/or swales will not be considered as land subject to flooding for the purposes of the Bylaw.

Marsh (Freshwater) means areas where a plant community exists in standing or running water during the growing season, where soils exhibit hydric characteristics, and where a significant part of the plant community is composed of, but not limited to nor necessarily including all, the following plants or groups of plants: arums (*Araceae*), bladderworts (*Utricularia*), bur reeds (*Sparganiaceae*), button bush (*Cephalanthus occidentalis*), cattails (*Typha*), duck weeds (*Lemnaceae*), eelgrass (*Vallisneria*), frog bits (*Hydrocharitaceae*), horsetails (*Equisetaceae*), hydrophilic grasses (*Graminae*), leatherleaf (*Chamaedaphne calyculata*), pickerel weeds (*Pontederiaceae*), pipeworts (*Eriocaulon*), pond weeds (*Pontederiaceae*), rushes (*Juncaceae*), sedges (*Cyperaceae*), smartweeds (*Polygonum*), sweet gale (*Myrica gale*), water milfoil (*Haloragaceae*), water lilies (*Nymphaeaceae*), water starworts (*Callitrichaceae*), or water willow (*Decodon verticillatus*).

Marsh (Saltwater) means a coastal wetland that extends from the ocean landward up to the highest spring tide line, where soils exhibit hydric characteristics, and where a significant part of the plant community is composed of, but not limited to nor necessarily including all, the following plants or groups of plants: salt meadow cord grass (*Spartina patens*), salt marsh cord grass (*Spartina alterniflora*), spike grass (*Distichlis spicata*), sea lavender (*Limonium nashii*), seaside plantain (*Plantago juncooides*), aster (*Aster subulatus*), sea-blite (*Suaeda maritima*),

black-grass (*Juncus gerardi*), samphire (*Salicornia europaea*), glasswort (*Salicornia bigelovii*), reed (*Phragmites communis*), salt marsh bulrush (*Scirpus robustus*), or cattails (*Typha*).

Meadow (Wet) means areas where ground water is at the surface for a significant part of the growing season, where soils exhibit hydric characteristics including mottling within 12-18" of the ground surface and near the surface throughout the year, and where a significant part of the plant community is composed of various grasses, sedges, and rushes, made up of, but not limited to nor necessarily including all of the following plants or groups of plants: blue flag (*Iris*), vervain (*Verbena*), thoroughwort (*Eupatorium*), dock (*Rumex*), false loosestrife (*Ludwigia*), hydrophilic grasses (*Graminae*), loosestrife (*Lythrum*), marsh fern (*Dryopteris thelypteris*), rushes (*Juncaceae*), sedges (*Cyperaceae*), sensitive fern (*Onoclea sensibilis*), smartweed (*Polygonum*), or jewelweed (*Impatiens capensis*).

Notice of Intent (NOI) means the written permit application filed by any person intending to remove, fill, dredge, build upon, degrade, discharge into, or otherwise alter an Area Subject to Protection Under the Massachusetts Wetlands Protection Act, M.G.L. c. 131 s. 40, and/or the Bylaw.

Order of Conditions means the document issued by the Commission, or the Department of Environmental Protection (DEP), containing conditions that regulate or prohibit an activity under Massachusetts Wetlands Protection Act, M.G.L. c. 131 s. 40, and/or the Bylaw.

Permit Application means any application for a permit or other action under the Massachusetts Wetlands Protection Act, M.G.L. c 131 sec 40 or the Bylaw. Examples include Notice of Intent, Abbreviated Notices of Resource Area Delineation, Requests for Determinations of Applicability, Requests for an Extension to an Order of Conditions, Requests for an Amended Order of Conditions, Requests for a Certificate of Compliance and Requests for Amended Order of Resource Area Delineation.

Permit means the document issued by the Commission containing conditions that regulate or prohibit an activity under the Bylaw.

Person means any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or political subdivision thereof to the extent subject to town bylaws, administrative agency, public or quasi-public corporation or body, this municipality, and any other legal entity, its legal representatives, agents, or assigns.

Pier has the same meaning as dock.

Plan means such data, maps, engineering drawings, calculations, specifications, schedules and other materials, if any, deemed necessary by the Commission to describe the site and/or the work, to determine the applicability of the Bylaw or to determine the impact of the proposed work upon the interests identified in the Bylaw.

Pond means any open body of fresh, brackish or salt water with a surface area of at least 2,500 square feet. Ponds may be either naturally occurring or man-made by impoundment, excavation, or otherwise. Ponds shall contain standing water except for periods of extended drought.

The following man-made bodies of open water shall not be considered ponds:

- a. Swimming pools or other impervious man-made basins;
- b. Individual gravel pits or quarries excavated from upland areas unless inactive for five or more consecutive years.

Pollution means contamination of land, or surface or ground water with materials not normally present in those waters, or with elevated levels of naturally occurring materials.

Protection of Wildlife Habitat means protection of the ability of a resource area protected by the Bylaw to provide food, water, breeding and overwintering habitat, staging areas, shelter or escape cover to any species falling within the definition of wildlife set forth in these regulations.

Quorum means a majority of the members of the Commission.

Rare species means without limitation, all vertebrate and invertebrate animal and all plant species listed as endangered, threatened or of special concern by the Massachusetts Division of Fisheries and Wildlife, regardless of whether the site in which they occur has been previously identified by the Division.

Request for Determination of Applicability (RDA) means the written request filed by any person seeking the Commission's determination as to whether the Bylaw or Act or both applies to any area or work thereon.

Resource Area means any of the areas specified in Section II of the Bylaw.

Resource Values Protected by the Bylaw means the wetland interests either singly or collectively specified in Section I of the Bylaw.

River means any naturally flowing body of water that flows throughout the year and empties into the ocean, a lake or pond, or into another river. For a more extensive definition see also 310 CMR 10.58(2).

Riverfront Area means the area of land two hundred feet (200') between a river's mean annual high water line and a parallel line measured horizontally. The Riverfront Area may include or overlap other resource areas or their buffer zones. The Riverfront Area itself does not have a buffer zone.

Seasonal use means the dock, ramp, floats and all supporting materials that are not in place in any wetland resource area prior to May 1 of each year and are removed prior to December 1 of each year.

Significant means plays a discernable role. A resource area is significant to an interest identified in the Act or Bylaw when it plays a role in the provision or protection, as appropriate, of that interest.

Shellfish means species including but not limited to the following: bay scallop (*Argopecten irradians*), blue mussel (*Mytilus edulis*), ocean quahog (*Arctica islandica*), oyster (*Crassostrea*

virginica), quahog (*Mercenaria merceneria*), razor clam (*Ensis directus*), sea clam (*Spisula solidissima*), sea scallop (*Placopecten magellanicus*), soft shell clam (*Mya arenaria*), lobster (*Homarus americanus*), and blue crab (*Callinectes sapidus*).

Structure means a combination of materials assembled at a fixed location to give support or shelter such as a building, framework, deck, shed, retaining wall, platform, bin, radio antenna mast, or the like. The term structure may also be applied to appurtenances that are constructed of impervious surfaces, such as, but not limited to, dams, piers, septic systems, leaching fields, swimming pools, recreational playing courts, walkways, etc. Drainage basins, fences, signs, and roads are not structures. The word "structure" shall be construed, where the context requires, as though followed by the words "or part or parts thereof."

Stream means an open body of water, including brooks and creeks, which moves in a definite channel, natural or man-made, in the ground due to a hydraulic gradient, year-round or intermittent. Such bodies of running water that are intermittent (do not flow throughout the year) are streams, except for those that serve only to carry the immediate surface runoff from stormwater or snowmelt. A portion of a stream may flow through a culvert or beneath a bridge.

Vernal Pool Habitat means in addition to definitions found in the regulations under the Wetlands Protection Act, any confined basin or depression not occurring in existing lawns, gardens, landscaped areas or driveways that, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, is free of adult predatory fish populations, and provides essential breeding and rearing habitat functions for amphibian, reptile or other vernal pool community species, regardless of whether the site has been certified by the Massachusetts Division of Fisheries and Wildlife. This includes the area within 100 feet of the mean annual boundaries of such depressions. Such areas need not lie within other resource areas subject to the Bylaw to be protectable hereby. These areas are essential breeding habitat and provide other extremely important wildlife habitat functions during non-breeding seasons particularly for a variety of amphibian species.

Swamp means areas where groundwater is at or near the surface of the ground for a significant part of the growing season or where runoff water from surface drainage frequently collects above the soil surface, where soils exhibit hydric characteristics, and where a significant portion of the plant community is made up of, but not limited to nor necessarily including all, the following plants or groups of plants: alders (*Alnus*), ashes (*Fraxinus*), azaleas (*Rhododendron canadense* and *R. viscosum*) black alder (*Ilex verticillata*), button bush (*Cephalanthus occidentalis*), highbush blueberry (*Vaccinium corymbosum*), poison sumac (*Toxicodendron vernix*) red maple (*Acer rubrum*), sphagnum mosses (*Sphagnum*), black gum tupelo (*Nyssa sylvatica*), sweet pepper bush (*Clethra alnifolia*), willow (*Salicaceae*), and common reed (*Phragmites communis*).

Vegetated Wetland means freshwater wetlands whether bordering water or not, classified as wet meadows, marshes, swamps, and bogs. They are usually areas where the topography is relatively flat, or areas of sheet flow on moderate slopes, and where the soils are annually saturated.

Walkway means the entire structure of any pier, wharf, walkway, or bulkhead, and any part thereof including pilings, or ramp, that is located on a Bordering Vegetated Wetland, Salt Marsh, Dune, Coastal Bank or that portion of a Coastal Beach landward of the mean high water line.

Water Dependent Project or use means projects that require direct wetlands access for their intended use and therefore cannot be located out of the resource areas protected by the Bylaw. Examples include but are not limited to: docks, piers, boat landings, boathouses, marinas, stairs to beaches, and boardwalks over wetland vegetation. Projects which benefit from wetlands access but which do not require it are not water dependent uses. Examples include: restaurants, dwellings, and commercial enterprises servicing marine-related uses such as fish markets, repair facilities, ships' chandleries, and general use recreational trails.

Wet Meadow has the same meaning as Meadow (Wet).

Wildlife means all non-domesticated mammals, birds, reptiles, amphibians, fishes, or invertebrates, which are dependent upon a wetland resource defined by the Bylaw for any part of their life cycle. Special consideration shall only be given to members of the class *Insecta* if they are rare or endangered as defined by the Massachusetts Natural Heritage Program or its successor, or if they are a major food source of other wildlife, but not if the insect species is determined by the Commission and/or the Board of Health to constitute a pest whose protection under the Bylaw would be a risk to man at the proposed project site.

Work has the same meaning as activity.

Wrack Line (Drift Line) means marine vegetation accumulated in a mass or piled up in heaps during high tides or storms.

SECTION III – PROCEDURES

A. Advice From Town Staff

Any advice, opinion, or information given to an Applicant by a Commission member, or by any agency, officer or employee of the Town, shall be considered advisory only and not binding on the Commission, which acts through quorum votes or consensus at its meetings.

B. Filing Fees

Bylaw filing fees are payable at the time of application and are not refundable. Town projects are exempt from fees. These fees are in addition to and separate from State fees required to be paid to the Commonwealth and the Town for filing under the Massachusetts Wetlands Protection Act M.G. L. c 131, sec 40, as from time to time amended, and shall be permitted under the Bylaw.

- Request for Determination of Applicability \$25.00
- Notice of Intent \$25.00
- Abbreviated Notice of Intent \$25.00

C. Time Periods

All time periods shall be the same as those set forth in the Massachusetts Wetlands Protection Act M.G. L. c 131, sec 40 and 310 CMR 10.00.

D. Actions by the Conservation Commission

Where the Bylaw states that a particular action is to be taken by the Commission, that action is to be taken by more than half the members present at a meeting of at least a quorum. Where the

Bylaw states that a permit or notification shall be issued by the Commission after Commission approval, that action is to be by a majority of the members then in office, who need not convene as a body in order to sign said permit or notification, provided they met pursuant to the Open Meeting law, M.G. L. c 39, Sec. 23A-23C, when voting on the matter.

E. Consultant Fees

Upon receipt of a Request for Determination of Applicability, a Notice of Intent or a Notice of Resource Area Delineation, or at any point in its deliberations, the Commission may deem it necessary to obtain expert engineering or other outside consultant services in order to reach a final decision on the application as set forth in Section IV of the Bylaw.

F. Administrative Review

Any person who is proposing to undertake an activity and desires to know what is required of them may arrange a preliminary discussion by contacting the Commission office or arranging a time at a Commission meeting.

For the smallest projects, the Commission invites applicants to submit an informal letter together with a plan of the proposed project. After a site visit and review at a Commission meeting, the Commission will issue a written reply as to whether the project requires either a Request for Determination of Applicability, a Notice of Resource Area Delineation, or a Notice of Intent.

G. Determinations of Applicability

1. Any person who desires a determination as to whether the Bylaw applies to a resource area protected by the Bylaw, or to work to be performed in a resource area protected by the Bylaw, shall submit a written Request for Determination of Applicability form to the Commission by certified mail or hand delivery.
2. The Commission may accept as the application and plans under the Bylaw, the Request for Determination of Applicability and plans filed under the Wetlands Protection Act M.G. L. c 131, sec 40, along with a check for the filing fee mailed or hand delivered to the Commission office. The Commission may, at its discretion, accept less detailed plans for a Determination than are generally required for a Notice of Intent. Plans submitted shall clearly and accurately show the present conditions and proposed work. Plans shall show the location of water bodies, and all resource areas and be signed/dated by the person who prepared them. The Commission may require that the plans be prepared and signed by a qualified wetlands scientist and a Professional Registered Engineer.
3. Within twenty-one (21) days after the date of receipt of the Request for a Determination of Applicability, the Commission shall hold a public meeting on the Request of Determination and shall issue a written determination after the close of the public meeting or any continuance thereof. Prior to making a determination, the Commission may require the submission of additional data deemed pertinent to the determination. The meeting may be continued and the determination issued after 21 days with the permission of the applicant.
4. At the public meeting the Commission will determine:
 - a. Positively: that the area and Activity thereon is subject to the jurisdiction of the Bylaw and requires the filing of a Notice of Intent; or
 - b. Negatively: that the area in which the proposed Activity is to take place is not subject to the jurisdiction of the Bylaw, or that the

resource values protected by the Bylaw are fully protected by the project as proposed.

5. The Determination shall be signed by a majority of the Commission present and shall be sent by the Commission to the person making the request and the owner if other than the applicant.
6. A Determination shall be valid for three years from the date of issuance.
7. In the event of a positive Determination, an Application for a Permit shall be filed and all of the procedures set forth in Section III. H shall apply.

H. Application for Permits or Notice of Intent (NOI)

1. Any person who proposes to do work that will remove, fill, dredge, alter, or build upon any area resource area protected by the Bylaw shall submit a Notice of Intent and other application materials in accordance with the Bylaw.
2. The Commission may accept as the application and plans under the Bylaw the Notice of Intent and plans filed under the Massachusetts Wetlands Protection Act (M.G.L. c.131, s. 40) and its rules and regulations (310 CMR 10.00).
3. Any person filing an application for a permit with the Commission under the Bylaw at the same time shall give written notice thereof, by certified mail or hand delivery, to all abutters according to the most recent records of the assessors, in accordance with the provisions of Section V. of the Bylaw. The abutter notification format may be the same as that sent under the Massachusetts Wetlands Protection Act (M.G.L. c.131, s. 40) and its rules and regulations (310 CMR 10.00). The Commission shall place a legal ad of the date and time of the hearing in the local newspaper at least five (5) days before the public hearing at the applicant's expense.
4. When a person filing an application is other than the owner, the NOI must contain the signature or other authorization of the owner. The Commission shall send a copy of the findings and decision of the Commission to the owner as well as to the person filing the application, and the applicant shall supply the Commission with the name and current address of the owner.
5. When a filing is only required under the provisions of the Bylaw, a separate bylaw file number will be assigned. The designation of a file number shall not imply that the plans and supporting documents have been judged adequate for the issuance of a permit but only that copies of the minimum submittal requirements have been filed.
6. In the event that only part of the work proposed lies within a resource area protected by the Bylaw, all aspects of the work shall be briefly described on the permit application. Only those work components that lie within areas subject to jurisdiction shall be conditioned.
7. Where the Bylaw states that the Commission is to receive a request or notice; such request or notice shall be given in writing to the Commission office.
8. Notwithstanding the foregoing, when the Commission has determined that an activity outside a resource area protected by the Bylaw has in fact altered a resource area protected by the Bylaw, it may require such plans, supporting calculations and other documentation as are necessary to describe the entire activity.

I. Notice and Hearings

The Commission in an appropriate case may combine its hearing under the Bylaw with the hearing conducted under the Wetlands Protection Act, M. G. L. c. 131 s. 40.

1. When a person filing a NOI is not the owner, the applicant shall give notice of the time and place of the hearing to the owner by certified mail return receipt requested.
2. Any changes in the plans or the proposed work made by the applicant during the course of the public hearings, shall be made in writing and shall be filed by the applicant with the Commission and copies sent to DEP if it is also an application under the Wetlands Protection Act. Such changes must be filed prior to the close of the public hearing on the NOI, unless otherwise specified by the Commission during a public hearing.
3. A Public hearing may be continued in the same manner as that set for in 310 CMR 10.05 (5).

J. Permits Regulating the Work

1. Within twenty-one (21) days of the close of the public hearing, the Commission shall issue or deny the Permit or issue a Notice of Non-significance if the Commission determines that the area on which the proposed work is to be done is not significant to any interest identified in the Bylaw.
2. If the Permit is issued, it shall impose such conditions as are deemed necessary for the protection of one or more of the interests identified in the Bylaw. The Permit shall prohibit any activity or portion thereof that cannot be conditioned to protect said interests.
3. The Permit shall impose conditions upon an activity or the portion thereof that will in the judgment of the Commission result in removing, dredging, filling, building upon, or altering a resource area. The Permit shall impose conditions setting limits on the quantity and quality of discharge from any point source (whether closed or open channel) when said limits are appropriate to protect the interests identified in the Bylaw. The Commission may take into account the cumulative adverse effects of loss, degradation, isolation, and replication of protected areas throughout the community and the Tisbury Great Pond watershed, resulting from past activities, permitted and exempt, and foreseeable future activities.
4. If the Permit is denied, it shall be for one or more of the following reasons:
 - a. For failure to meet the requirements of the Bylaw;
 - b. For failure to submit information the Commission deems necessary or plans requested by the Commission;
 - c. For failure to meet design specifications, performance standards or other requirements set forth in these regulations;
 - d. For failure to avoid or prevent unacceptable significant or cumulative effects upon the resource area values protected by the Bylaw; or
 - e. where no conditions are adequate to safeguard the wetland values protected by the Bylaw.
5. A Permit shall expire three (3) years from the date of issuance and may be extended as provided in 310 CMR 10.05(8).

6. The Permit shall be signed by a majority of the Commission members and shall be mailed, certified mail return receipt requested or hand delivered to the applicant, its agent, or the owner of record.
7. After the close of a public hearing, the Commission will discuss one or more draft orders of conditions for possible approval. Approval consists of a successful motion to approve the order and the signatures of a majority of the Commission. Review and approval will take place at a public meeting, held either at the same meeting that the public hearing was closed, or at a subsequent meeting.
8. The Commission in an appropriate case may combine the Permit or other action on an application issued under the Bylaw with the Order of Conditions issued under the Wetlands Protection Act.
9. A copy of the plans describing the work and the Permits shall be kept on file by the Commission and shall be available to the public at reasonable hours.
10. Prior to the commencement of any work permitted or required by the Permit, the Permit shall be recorded in the Dukes County Registry of Deeds or the Dukes County Land Registration office. Notification of the recording shall be made in writing including the date of recording and the recording information to the Commission prior to commencement of the work.
11. For good cause the Commission may revoke or modify a Permit issued under the Bylaw and these regulations after public notice and public hearing and notice to the holder of the Permit.

K. Extensions of Permits shall be handled in the same manner as set forth in 310 CMR 10.05 (8).

L. Certificates of Compliance shall be handled in the same manner as set forth in 310 CMR 10.05 (9).

M. Emergencies

The application and permit required by the Bylaw shall not be required for emergency projects necessary for the protection of the health and safety of the public, provided that the work is to be performed by or has been ordered to be performed by an agency of the Commonwealth or a political subdivision thereof; provided that advance notice, oral or written, has been given to the Commission prior to commencement of work or within 24 hours after commencement; provided that the Commission or its agent certifies the work as an emergency project; provided that the work is performed only for the time and place certified by the Commission for the limited purposes necessary to abate the emergency; and provided that within 21 days of commencement of an emergency project a permit application shall be filed with the Commission for review as provided by the Bylaw. Upon failure to meet these and other requirements of the Commission, the Commission may, after notice and a public hearing, revoke or modify an emergency project approval and order restoration and mitigation measures.

N. Waivers

Where no conditions are adequate to protect the resource area values as set forth in the Bylaw, the Commission is empowered to deny a permit for failure to meet the requirements of the Bylaw and these regulations. It may also deny a permit: for failure to submit necessary information and plans requested by the Commission; for failure to meet the procedures, design specifications, performance standards, and other requirements in these regulations; or for failure to avoid, minimize or mitigate unacceptable significant or cumulative effects upon the resource area values

protected by the Bylaw. Due consideration shall be given to any demonstrated hardship on the applicant by reason of denial, as presented at the public hearing.

The Commission may waive specifically identified and requested procedures, design specifications, performance standards, or other requirements set forth in these regulations, provided that the Commission finds in writing after said public hearing that there are no reasonable conditions or alternatives that would allow the proposed activity to proceed in compliance with said regulations; and that avoidance, minimization and mitigation have been employed to the maximum extent feasible; and that the waiver is necessary to accommodate an overriding public interest or to avoid a decision that so restricts the use of the property as to constitute an unconstitutional taking without compensation.

O. Title 5 State Sanitary Code

In all cases of Title 5 issues, all state and town regulations will be followed except that both bordering and nonbordering wetlands are protected.

If a septic system is proposed on a lot that cannot meet the local Board of Health regulations without a variance, the applicant is not entitled to the presumption that all wetland interests are protected under 310 CMR 10.3 (3) Presumption Concerning 310 CMR 15.00 Subsurface Disposal of Sanitary Sewage (Title 5). Even with the issuance of a variance, the applicant is not entitled to the presumption. The Commission notes that the presumption, were the applicant entitled, only applies to the impacts of the discharge from a sewage disposal system and not to the impacts from construction of that system, such as erosion and siltation from the excavation, placement of fill or removal of vegetation or other impacts from the construction of that system. Applicants must demonstrate that all wetland interests are protected and have an approved current Order of Conditions before any work can proceed on these projects.

SECTION IV – BUFFER ZONE

A. Characteristics

Buffer zones are highly likely to be significant to the wetland resource values identified in Section I of the Bylaw. Buffer zones help to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion and mitigate flooding and storm damage, and provide sedimentation control. The Commission finds that regulations applicable to activities involving the Buffer Zone are necessary and proper for the following reasons:

1. **Temperature:** Shade and cover provided by riparian vegetation can moderate air and water temperature in streams and the shallows of ponds and other water bodies.
2. **Sediments and Other Contaminants:** Buffer zones filter sediments and other contaminants, including but not limited to pesticides and heavy metals, from surface water flow. Buffer zones also prevent erosion in and into resource areas and preclude development that could lead to increased contaminant loading.
3. **Nutrients (nitrogen and phosphorous):** Buffer zones reduce nutrient loading in water bodies by: filtering from surface water flow the nutrients bound to sediments, removing nutrients from ground water through uptake in vegetation, and precluding development which could increase nutrient loading as a result of septic systems and activities like lawn fertilizing and landscaping.

4. Maintenance of Stream Flow: Buffer zones can store water and help maintain ground water, stream base flow, and water quality during low-flow and flood periods.
5. Wildlife Habitat: The vegetated uplands adjacent to wetlands constitute one of the richest zones for aquatic organisms, mammals, birds, and amphibians because they provide shade and cover, food, shelter, breeding habitat, and corridors critical for wildlife movement.

Construction and other activities or alterations within buffer zones can harm resource areas through siltation, regrading, compaction of soil, and loss of pervious ground. Following construction or other alterations, use of the buffer zone frequently degrades adjacent resource areas as a result of the deposition of lawn and yard debris, increased runoff, nutrient loading, habitat degradation, and increased temperatures.

These adverse impacts can arise from both construction and from the ultimate use of the project involved. They include, but are not limited to, erosion, siltation, loss of groundwater recharge capability, contamination of water bodies by surface runoff carrying heavy metals such as lead, cadmium, copper and zinc, hydrocarbons such as gasoline and motor oil, pesticides and herbicides, bacteria, viruses, and sediments. Nutrient loading of water bodies results from misuse of lawn fertilizers as well as septic effluent. Wildlife habitat diversity may be lost through introduction of invasive plants.

B. Presumption of Significance

When a proposed activity involves the removing, filling, dredging, degrading, discharging into, building upon, or altering of a Buffer Zone, the Commission shall presume the Buffer zone is significant to the protection of all the resource values protected by the Bylaw. These presumptions may be overcome only upon a clear showing that the Buffer Zone does not play a role in the protection of those interests. No work will be permitted in the Buffer Zone that has a significant adverse impact upon the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

The Buffer Zone shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. No-Disturbance Zone

That portion of the buffer zone extending twenty-five (25) feet from the wetland, bank, dune, or water body defining the buffer zone's inner edge, is designated as a No-Disturbance Zone. No activity/alteration will normally be permitted within this twenty-five (25) foot No Disturbance Zone. It is presumed that this first twenty-five (25) feet of the Buffer Zone is essential to the interests associated with the adjacent resource area. Alterations, including but not limited to grading, landscaping, removing (clearing or cutting) of vegetation, filling, excavating, operation of vehicles or machinery, paving, and construction of roads shall not be permitted in a No-disturbance Zone. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw including but not limited to requiring that a buffer strip be created where none currently exists, due to previous activities.

2. No-Build Zone.
No structure as defined in these regulations or roads and paths will normally be permitted within the first fifty (50) feet upland of a resource area.
3. Outer Buffer Zone.
The Outer Buffer Zone consists of all areas in the Buffer zone not located in a No Disturbance Zone or No-Build Zone. No activity/alteration shall be permitted in the Outer Buffer Zone that is more likely than not to harm or eventually harm the Buffer Zone or the adjacent resource area.
4. Waiver
Notwithstanding any of the foregoing prohibitions, the Commission may allow certain activities or structures in a No-Disturbance or No Build Zone by waiver, as provided in Section III. N of these regulations, when no other practicable alternative exists. Petitions for a waiver shall be included in writing in the Notice of Intent filed under the Bylaw.
5. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION V- LAND UNDER THE OCEAN

A. Characteristics

Land under the ocean is significant to the wetland resource values identified in Section I of the Bylaw. Land under the ocean is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect. Land under the ocean helps to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion, and provide sedimentation control. The Commission finds that regulations applicable to activities involving land under the ocean are necessary and proper for the following reasons:

1. Fisheries and Wildlife Habitat: Land under the ocean provides feeding areas, spawning and nursery grounds, and shelter for many coastal organisms related to marine fisheries and wildlife. Destruction of eelgrass beds (*Zostera marina*) will harm shellfish production.
2. Erosion Control, Flood Control and Storm Damage Prevention: Nearshore areas, and in some cases offshore areas, of land under the ocean help reduce storm damage, erosion, and flooding by diminishing and buffering the high energy effects of storms. Submerged sand bars dissipate wave energy. Such areas provide a source of sediment for seasonal rebuilding of coastal beaches and dunes. The bottom topography and sediment type of nearshore areas of land under the ocean is critical to erosion control, storm damage protection, and flood control.
3. Water Quality: Water circulation and flushing rates, distribution of grain size, water quality (including but not limited to turbidity, temperature, nutrients, pollutants, salinity, and dissolved oxygen), and the habitat of wildlife, finfish, and shellfish are all

factors critical to the protection of significant wildlife habitat and marine fin and shell fisheries.

4. Fisheries and Shellfisheries: Land under the ocean in an unobstructed state is important to fishing and shellfishing.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, building upon, degrading, discharging into or otherwise altering land under the ocean, the Commission shall presume that land under the ocean is significant to the protection of the following interests: flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, and aquaculture. These presumptions may be overcome only upon a clear showing that land under the ocean does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Land under the ocean and land within 100 feet of land under the ocean shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. Improvement and maintenance dredging for navigational purposes shall be designed and carried out using the best available measures as determined by the Commission so as to have the least possible adverse effects or changes in marine productivity caused by changes in, or resulting from suspension or transport of pollutants, sediment transport, smothering of bottom organisms, accumulation of pollutants by organisms, destruction of habitat or nutrient source areas, or changes in water circulation and water quality. Dredging, particularly improvement dredging, shall also use such best available measures to minimize adverse effects caused by changes in bottom topography resulting in an increase in the height and velocity of waves hitting the shore, localized changes in circulation patterns or changes in sediment transport which affect natural replenishment of beaches or maintenance of channels.
2. There shall be no new residential piers as per the Wild and Scenic North Shore District DCPC dated March 22, 2001 as may be amended.
3. Aquaculture projects shall be undertaken pursuant to such means as may be established by the Commission so as to have the least possible adverse effect on wildlife, erosion control, storm damage prevention, or flood control. No destruction of habitat or areas where shellfish feed, or change in water quality or circulation in any manner that adversely affects productivity of marine fisheries or shellfish beds shall be permitted.
4. No new bulkheads or coastal engineering structures shall be permitted to protect residential structures and accessory buildings constructed or substantially improved after the effective date of the Bylaw. Bulkheads may be rebuilt only if the Commission determines that there is no environmentally better way to control an erosion problem, including in an appropriate case the moving of the threatened building. Other coastal engineering structures may be permitted only upon a clear showing that no other alternative exists to protect a structure built prior to the effective date of the Bylaw but not substantially improved, from imminent danger.

5. Water dependant projects shall be designed and performed so as to cause no adverse effects on wildlife, erosion control, marine fisheries, shellfish beds, storm damage prevention, or flood control.
6. No activity on land under the ocean that is not water dependent shall be permitted by the Commission except activity allowed pursuant to a waiver from these regulations as set forth in Section III.N.
7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION VI- COASTAL BEACHES

A. Characteristics

Coastal beaches are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a coastal beach is considered to be important to the protection and maintenance of coastal beaches, and therefore to the protection of the wetland values which these resource areas serve to protect. Characteristics of coastal beaches that are critical to storm damage prevention, erosion control, or flood control include sediment volume and form, their ability to respond to wave action, natural erosional and depositional cycles and wave intensities. The Commission finds that regulations applicable to activities involving coastal beaches are necessary and proper for the following reasons:

1. **Storm Damage Prevention:** Coastal beaches aid in storm damage prevention, erosion and flood control, and serve as a sediment source for downdrift coastal resource areas. Coastal beaches serve the purpose of storm damage prevention, erosion control, and flood control by dissipating wave energy, by reducing the height of storm waves, and by providing sediment to supply other coastal features including coastal dunes, land under the ocean, and other coastal beaches. Interruptions of these natural processes by man-made structures and/or activities reduce the ability of the coastal beach to perform these functions.
2. **Flood Control and Beach Sediment:** Coastal beaches dissipate wave energy by their gentle slope, their permeability, and their regular granular nature, which permit changes in beach form in response to wave conditions. A coastal beach at any point serves as a sediment source for coastal areas downdrift from that point. Waves move beach sediment alongshore in the direction of wave action.
3. **Wildlife Habitat:** Coastal beaches serve as important wildlife habitat to rare, endangered, and otherwise significant wildlife, and serve to protect and provide habitat for marine fisheries and shellfish. Coastal beaches serve as important habitats for a wide variety of wildlife, including but not limited to, coastal birds, turtles, shellfish, and finfish. They are used in particular by coastal birds for feeding and nesting sites. The natural erosion and depositional cycles, sediment grain size, water quality (including but not limited to turbidity, temperature, nutrients, pollutants, salinity, and dissolved oxygen) and circulation, and elevation of the land surfaces are all features of wildlife habitat, which are critical characteristics for the protection of wildlife. Characteristics of coastal beaches that are critical to the protection of marine fisheries, and shellfish, and their habitat include: distribution of sediment grain size, movement of sediment, water quality (including the characteristics given above) and circulation, and beach relief and elevation.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into or otherwise altering a coastal beach, the Commission shall presume that the coastal beach is significant to the protection of the following values: flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and aquaculture. These presumptions may be overcome only upon a clear showing that the coastal beach does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

A coastal beach and land within 100 feet of a coastal beach shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. The provisions of Section V (Land under the Ocean) shall apply to coastal beaches.
2. Clean fill of similar grain size and type may be used on a coastal beach only if the Commission authorizes its use and such fill is to be used for a beach or dune nourishment project. All possible mitigation measures shall be taken, as determined by the Commission, to limit the adverse effects of the fill.
3. No part of any septic system shall be placed in shifting sands or on a coastal beach. The septic leach facility shall be at least 100 feet from a coastal beach.
4. All work on projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a coastal beach. All structures that are not water dependent shall be at least 50 feet from a coastal beach.
5. In areas of eroding shore line, the distance from all buildings to the coastal beach shall be at least 20 times the average rate of annual shoreline erosion or 100 feet, whichever is the greater. The average annual shoreline erosion rate shall be determined by averaging the annual erosion rate over a 150-year period ending on the date the Notice of Intent was filed, or if no Notice of Intent was filed, the date construction began. If erosion data is not available for the 150-year period, the Commission shall determine the average annual erosion rate from such lesser time period for which erosion data is available. In cases where documentation can be provided to show that the use of the 150-year period is inappropriate to existing shoreline characteristics and trends, alternate shoreline change rates may be used when based on a preponderance of credible evidence.
6. Vehicular access for existing houses or for recreational use shall be as unpaved ways and shall be done in accordance with such procedures as the Commission determines will minimize any adverse effect on the beach and the resource values protected by the Bylaw.
7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION VII - COASTAL DUNES

A. Characteristics

Coastal dunes are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a coastal dune is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect. Coastal dunes help to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion, and provide sedimentation control. Characteristics of coastal dunes which are critical for storm damage prevention, erosion control, or flood control include: ability of the dune to erode and change in response to coastal beach conditions; dune volume, sediment grain size, and slope; dune form which can change with wind and natural water flow; amount, continuity, density of vegetative cover and the ability to move landward and laterally. The Commission finds that regulations applicable to activities involving coastal dunes are necessary and proper for the following reasons:

1. **Storm Damage Prevention:** Coastal dunes serve as a source of sediment for downdrift coastal resource areas and aid in storm damage prevention, erosion, and flood control by supplying sand to coastal dunes. Coastal dunes protect inland coastal areas from storm damage and flooding by storm waves and elevated sea levels because such dunes are higher than the coastal beaches they border. Vegetative cover contributes to the growth and stability of coastal dunes by providing conditions favorable to sand deposition. On retreating shorelines, the ability of coastal dunes bordering a coastal beach to move landward at a rate of shoreline retreat allows these dunes to maintain their form and volume.
2. **Wildlife Habitat:** Coastal dunes are important habitats for a wide variety of rare, endangered, and otherwise significant wildlife for feeding and nesting areas as they provide dense vegetative cover. The amount of vegetation, dune height and slope, sediment grain size, and degree of isolation from human-caused disturbances are all features of dunes that are critical characteristics for the protection of wildlife.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering a coastal dune, the Commission shall presume that the coastal dune is significant to the protection of the following values: flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and aquaculture. These presumptions may be overcome only upon a clear showing that the coastal dune does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

A coastal dune and land within 100 feet of a coastal dune shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. No coastal revetments or coastal engineering structures of any type shall be constructed, rebuilt, or repaired on a coastal dune.

2. All projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a coastal dune. All structures that are not water dependent shall be at least 50 feet from a coastal dune.
3. No excavation or disturbance of vegetative cover shall be allowed on a coastal dune unless the area is completely restored, replanted, and stabilized to its original form and volume.
4. Fill from a coastal beach may be used only if the Commission authorizes its use and if such fill is going to be used for beach and dune nourishment projects.
5. No part of any septic system shall be placed in shifting sands or in a coastal dune. The septic leach facility shall be at least 100 feet from a dune.
6. Any activity allowed on a coastal dune or within 100 feet of a dune shall be restricted to such activity that is determined by the Commission not to have an adverse effect on the dune by altering the ability of wind or waves to remove sand from or deposit sand on a dune; by disturbing vegetative cover in a manner sufficient to destabilize the dune; by causing any modification of the dune form and slope which would increase the potential for erosion, storm or flood damage; by interfering with landward or lateral movement of the dune; or by causing the rate of sand removal to increase through man-made means or structures.
7. No activity shall be permitted, other than the maintenance and repair of a structure existing on the effective date of these regulations that will result in construction of a building upon a coastal dune or within 50 feet of any coastal dune.
8. Any pedestrian walkway must be designed as determined by the Commission so as to minimize disturbances of vegetative cover.
9. Vehicular access for existing houses or for recreational use shall be as unpaved ways and shall be done in accordance with such procedures as the Commission determines will minimize any adverse effect on the dune and the interests of the Bylaw.
10. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION VIII - BARRIER BEACHES

A. Characteristics

Barrier beaches are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a barrier beach is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the values which these resource areas serve to protect. Barrier beaches are composed of tidal flats, beaches, and dunes. As such, barrier beaches perform the same functions and are critical to the same values as referenced in the Bylaw and therefore these provisions shall also apply to barrier beaches. Barrier beaches help to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion, and provide sedimentation control. The Commission finds that regulations

applicable to activities involving barrier beaches are necessary and proper for the following reasons:

1. **Flood Control:** Barrier beaches protect landward areas from flooding and erosion because they provide a buffer to storm waves and to sea levels elevated by storms. Barrier beaches protect from wave action such highly productive areas as dunes, tidal flats, salt marshes, estuaries, lagoons, harbors, salt ponds and freshwater marshes and ponds, which are in turn important to fisheries, shellfish and wildlife habitat.
2. **Sediment Control:** Barrier beaches are maintained by the alongshore movement of beach sediment caused by wave action. The coastal dunes, beaches, and tidal flats of a barrier beach are made up of sediment supplied by wind action, storm wave overwash, and tidal inlet deposition. Barrier beaches in Massachusetts undergo a landward or alongshore migration caused by the landward and alongshore movement of sediment by wind, storm waves, and tidal current processes. The continuation of these processes maintains the volume of the landform, which is necessary to carry out its storm and flood buffer function. The ability of barrier beaches to respond to wave action, including storm overwash sediment transport, is critical to the protection of wetland values of barrier beaches.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, building upon, degrading, discharging into or otherwise altering a barrier beach, the Commission shall presume that the barrier beach is significant to the protection of the following interests: flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, and aquaculture. Barrier beaches shall be found significant to private water supply and groundwater if there are existing houses with wells on or near the barrier beach or if the barrier beach abuts, creates or protects a swamp, freshwater marsh or pond. These presumptions may be overcome only upon a clear showing that a barrier beach does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Barrier beaches and land within 100 feet of a barrier beach shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. No coastal revetments or coastal engineering structures of any type shall be constructed, rebuilt, or repaired.
2. There shall be no new residential piers as per the Wild and Scenic North Shore District DCPC dated March 22, 2001 as may be amended.
3. Fill may be used only if the Commission authorizes its use and only if such fill is to be used for beach or dune nourishment projects. Fill to be used will be sediment of grain size and type compatible with that of the adjacent beach.
4. No septic system or buildings shall be constructed on a barrier beach. Buildings, which pre-exist these regulations, may be maintained and repaired.
5. Engineering structures (such as pipes) for the controlled release of water from a saltwater or freshwater pond behind a barrier beach may be constructed, using such procedures as

the Commission determines are the best available measures, through or over the barrier beach. Design of said structure shall be accomplished as determined by the Commission to minimize the adverse effect on the barrier beach and in no way to prevent the continuation of the natural processes on a barrier beach, particularly by not disrupting the barrier beach's sediment source, ability to move and natural storm wave overwash.

6. Excavation of sand around existing houses may be permitted, but no new projects shall be permitted which will require periodic sand removal for maintenance. All disturbed areas (including blowouts) shall be stabilized through planting of vegetation. The evacuated sand must be retained in the area and be part of the barrier beach.
7. Vehicular access for existing houses or for recreational use shall be unpaved roads and shall be done in accordance with such procedures as the Commission determines will minimize any adverse effect on the barrier beach.
8. No excavation or disturbance of vegetation shall be permitted on a barrier beach unless the area is completely restored, replanted, and stabilized to its original form and volume.
9. The Commission may impose such additional requirements as are necessary to protect the values projected by the Bylaw.

SECTION IX – COASTAL BANKS

A. Characteristics

Coastal Banks are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a coastal bank is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect. Coastal banks help to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion, and provide sedimentation control. The Commission finds that regulations applicable to activities involving coastal banks are necessary and proper for the following reasons:

1. **Sedimentation Control:** Coastal banks serve as a major source for sediment for other coastal landforms including beaches, dunes, barrier beaches, and land under the ocean. Coastal banks composed of unconsolidated sediment and exposed to wave action serve as a major source of sediment for other coastal landforms. The supply of sediment is removed from banks by wave action. It is a naturally occurring process necessary to the continued existence of coastal beaches, coastal dunes, and barrier beaches.
2. **Storm Damage Prevention:** Coastal banks act as a vertical buffer, which protects upland areas from storm damage, erosion, and flooding. The beaches, dunes, and barrier beaches nourished by sediment from coastal banks dissipate storm energy, thus protecting structures and coastal wetlands landward of them from storm damage, erosion, and flooding. Coastal banks, because of their height and stability, may act as a buffer or natural wall, which protects upland areas from storm damage, erosion, and flooding. While erosion caused by wave action is an integral part of shoreline processes and furnishes important sediments to downdrift land forms, erosion of a coastal bank by wind and rain runoff, which plays a minor role in beach nourishment, should not be increased unnecessarily. Disturbances to a coastal bank which reduce its natural resistance to wind and rain erosion cause cuts and gullies in the bank, and decrease its value as a buffer. Vegetation tends to stabilize a coastal bank and reduce the rate of erosion due to

wind and rain runoff. Undisturbed vegetated areas along banks are critical to reducing wind and rain erosion from the top of the bank. A particular coastal bank may serve both as a sediment source and as a buffer or it may serve only one role.

3. **Wildlife Habitat:** Coastal banks provide habitat for wildlife, particularly nesting birds, and endangered and otherwise significant, wildlife. Characteristics of coastal banks that are critical to wildlife habitat are bank steepness, height, stability, soil size and compaction, and vegetative cover. Undisturbed vegetated areas along banks are critical to reducing wind and rain erosion from the top of the bank and for providing important habitat and biodiversity.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering a coastal bank, the Commission shall presume that the coastal bank is significant to the protection of the following values: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture, and aquaculture. These presumptions may be overcome only upon a clear showing that the coastal bank does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Coastal Banks and land within 100 feet of a coastal bank shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. No new bulkheads, coastal revetments, groins, or other coastal engineering structures shall be permitted to protect structures constructed or substantially improved after the effective date of the Bylaw except for public infrastructures. Bulkheads and groins may be rebuilt only if the Commission determines there is no environmentally better way to control an erosion problem, including in appropriate cases the moving of the threatened building and/or public infrastructure. Other coastal engineering projects may be permitted only upon a clear showing that no alternative exists to protect from imminent danger, a structure that had been substantially improved or built prior to the effective date of the Bylaw.
2. Piers shall be constructed and maintained in compliance with Section XXII.
3. All projects shall be restricted to activity determined by the Commission to have no adverse effect on bank height, bank stability, wildlife habitat, vegetation, or the use of the bank as a sediment source.
4. Any pedestrian walkway must be designed as determined by the Commission so as to minimize disturbances of vegetative cover.
5. All projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a coastal bank. All structures that are not water dependent shall be at least fifty (50) feet from a coastal bank.

6. Any septic leach facility of a septic system shall be at least 100 feet, measured horizontally from the spring high tide line and shall not be located within the face of a coastal bank.
7. In areas of eroding shore line, the distance from all buildings to the coastal bank shall be at least 20 times the average rate of annual shoreline erosion or 100 feet, whichever is the greater. The average annual shoreline erosion rate shall be determined by averaging the annual erosion rate over a 150-year period ending the date the NOI was filed, or if no NOI was filed the date construction was begun. If erosion data is not available for the 150- year period, the Commission shall determine the average annual erosion rate from such lesser time period for which erosion data is available. In cases where documentation can be provided to show that the use of the 150- year period is inappropriate to existing shoreline characteristics and trends, alternate shoreline change rates may be used when based on a preponderance of credible evidence.
8. All permits issued for the construction of buildings under the Bylaw within 100 feet landward of the top of a coastal bank shall contain the specific condition that no coastal engineering structure of any kind shall be permitted on an eroding bank in the future to protect the project allowed by this permit, except those coastal engineering structures allowed by a waiver pursuant to Section III.N of these regulations.
9. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION X- SALT MARSHES

A. Characteristics

Salt marshes are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a salt marsh is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect. Salt marshes support marine organisms, including finfish and shellfish, provide critical wildlife habitat, remove pollutants from surrounding waters, aid in erosion control and storm damage prevention, and are important to fishing and shellfishing. The Commission finds that regulations applicable to activities involving salt marshes are necessary and proper for the following reasons:

1. Fisheries and Shellfisheries: A salt marsh produces large amounts of organic matter. A significant portion of this material is exported as detritus and dissolved organics to estuarine and coastal waters, where it provides the basis for a large food web that supports many marine organisms including finfish and shellfish. Salt marshes also provide spawning and nursery habitat for several important estuarine finfish and shellfish.
2. Pollution Control: Salt marsh plants and substrate remove pollutants from surrounding waters. The network of salt marsh vegetation, roots, and rhizomes bind sediments together. The sediments absorb chlorinated hydrocarbons and heavy metals such as lead, copper, and iron. The marsh also helps retain nitrogen and phosphorus compounds that can cause algal blooms and changes in ocean plankton and plant communities, particularly eelgrass.

3. **Erosion Control:** Salt marsh vegetation and underlying peat are resistant to erosion and dissipate wave energy, thereby providing a buffer that reduces wave damage and coastal erosion.
4. **Wildlife Habitat:** A salt marsh is an important feeding and spawning area for many types of fish and aquatic and terrestrial wildlife. The marsh, including its creeks and open water, also provides important shelter for many aquatic and migratory birds. Marshes help absorb pollutants, but there is a careful balance of nutrients and pollutant input which if exceeded will result in accumulation of pollutants and/or changes in the marsh community. Because the marsh is the basis for such a large food web, bioaccumulations of pollutants and toxins can mean that relatively low levels of pollutants may be detrimental.
5. **Water Quality:** Characteristics of salt marshes which are critical to their health and ability to protect wetland values include: the amount, flow and level of both tidal and fresh water; the quality (including but not limited to turbidity, temperature, nutrients, pollutants, salinity, and dissolved oxygen) of both tidal and fresh water; the presence and depth of peat; rate of marsh productivity; and the diversity of the animals and plants making up the marsh community. The underlying peat serves as a barrier between fresh groundwater landward of the marsh and the ocean, thus helping to maintain the level of groundwater.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering a salt marsh, the Commission shall presume that the salt marsh is significant to the protection of the following interests: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and aquaculture. These presumptions may be overcome only upon a clear showing that the salt marsh does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Salt marshes and land within 100 feet of a salt marsh shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. Salt marshes shall not be filled.
2. Salt hay may be harvested from a salt marsh only if performed in a manner that does not disturb the salt marsh substrate.
3. No proposed project in a salt marsh, or in lands within 100 feet of a salt marsh, shall destroy any portion of the salt marsh, change species composition of the marsh, have any adverse effect on salt marsh productivity, pollute the salt marsh, or adversely affect water quality.

4. All work on projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a salt marsh. All structures that are not water dependent shall be at least 50 feet from a salt marsh.
5. The septic leach facility of a septic system shall be at least 100 feet from the salt marsh.
6. Piers shall be constructed and maintained in compliance with Section XXII.
7. Elevated walkways determined to be for a water dependent use and designed not to affect marsh vegetation or existing water circulation patterns shall be required for pedestrian passage over the marsh.
8. The Commission may impose such additional requirements as are necessary to protect the Interests Protected by the Bylaw.

SECTION XI - SALT PONDS

A. Characteristics

Salt ponds are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a salt pond is likely to be significant to the protection and maintenance of the resource and therefore to the protection of the interests which these resource areas serve to protect. Salt ponds support marine organisms, provide critical wildlife habitat, remove pollution and are important to fishing and shellfishing. The Commission finds that regulations applicable to activities involving salt ponds are necessary and proper for the following reasons:

1. **Wildlife Habitat:** Salt ponds provide excellent wildlife habitat. The high productivity of plants and phytoplankton provides food for shellfish, crustaceans, and juvenile fish. The bottom sediments and shallow water are excellent habitat for many bivalves. The ponds may also serve as spawning and nursery areas for crabs and fish. The productivity of salt ponds and the food web they support provides ideal habitat for many types of wildlife, particularly ducks and shore birds.
2. **Pollution Control:** Because of their semi-enclosed nature, salt ponds are sensitive to pollution or nutrient inputs. These inputs can be detrimental to fish, shellfish, and wildlife. Bioaccumulation through food webs can also create dangerous levels of pollutants for wildlife and humans.
3. **Water Quality:** Characteristics of salt ponds which are critical to various wetland values include water circulation and flushing rates, distribution of sediment grain size, amount of freshwater and saltwater inflow, productivity of plants, water quality (including but not limited to turbidity, temperature, nutrients, pollutants, salinity, and dissolved oxygen).

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering land under a salt pond, the Commission shall presume that the salt pond is significant to the protection of the following interests: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and aquaculture. These

presumptions may be overcome only upon a clear showing that the salt pond does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Salt ponds and land within 100 feet of a salt pond shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. The work shall be done in accordance with procedures determined by the Commission to have no adverse effect on wildlife, fisheries, shellfish, existing water quality, and so as not to pollute the pond or alter critical characteristics.
2. All work on projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a salt pond. All structures that are not water dependent shall be at least 50 feet from a salt pond.
3. The septic leach facility of a septic system shall be at least 100 feet from the adjacent salt pond. In the event that nutrient loading levels in a pond are found to exceed the currently acceptable level of dissolved nutrients, all new construction, or major reconstruction projects, will be required to install appropriate measures to reduce septic nutrient discharge amounts.
4. Projects designed to enhance a particular fishery or shellfish shall be designed in accordance with such procedures as the Commission determines will minimize adverse ecological effects on the salt pond, including adverse effects on plants and animals which are not species targeted for management. If such management projects have adverse effects on any resource value protected by the Bylaw, such projects shall be permitted only pursuant to a waiver as set forth in Section III.N. of these regulations.
5. Piers shall be constructed and maintained in compliance with Section XXII.
6. Elevated walkways determined to be for a water dependent use and designed not to affect vegetation or existing water circulation patterns shall be required for pedestrian passage over the pond.
7. The Commission may impose such additional requirements as are necessary to protect the Interests Protected by the Bylaw.

SECTION XII - LAND CONTAINING SHELLFISH

A. Characteristics

Land containing shellfish is significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of land containing shellfish is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect.

Characteristics of land containing shellfish which are critical to the protection of shellfish include, but are not limited to wildlife habitat, water circulation patterns, rates of water flow, and amounts

of water; the relief elevation, distribution, grain size, and pollutant load of the sediments; and water quality (including turbidity, temperature, pollutants, nutrients, salinity, and dissolved oxygen). The Commission finds that regulations applicable to activities involving land containing shellfish are necessary and proper for the following reasons:

1. Land containing shellfish is found within many of the other resource areas protected by the Bylaw. In addition to the regulations for those resource areas, this section discusses additional protection for shellfish.
2. Shellfish used as a human food resource need very clean uncontaminated water, since they have the ability to concentrate very low levels of pollutants. Shellfish are a valuable renewable resource.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, building upon, degrading, discharging into or otherwise altering land containing shellfish the Commission shall presume that land containing shellfish is significant to the protection of the following interests: fisheries, shellfisheries, wildlife habitat, and aquaculture. These presumptions may be overcome only upon a clear showing that land containing shellfish does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Land containing shellfish or land within 100 feet of land containing shellfish shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. Projects shall not degrade water quality by increasing turbidity, temperature, pollutants, excess nutrients, salinity, and by decreasing dissolved oxygen, water circulation, or natural drainage from adjacent land.
2. Land containing shellfish shall not be compacted by vehicular traffic, boats, docks, or other means. The land's elevation and sediment grain size shall not be altered.
3. Projects shall not obstruct the ability of the public to gather shellfish recreationally or the ability of commercial fishermen to harvest shellfish.
4. Any project that may release pollutants shall use such procedures as the Commission determines to utilize the best-known technology to remove said pollutants or prevent the risk of pollution.
5. If the Commission determines that the nutrient loading of the water over land containing shellfish is reaching unacceptably high levels, new construction shall be required to install systems that minimize the release of nitrogen and nitrates into the leach field.
6. No project detrimental to shellfish shall be permitted, except activity allowed pursuant to a waiver from these regulations, as set forth in Section III.N.
7. Piers shall be constructed and maintained in compliance with Section XXII.

8. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XIII - LAND SUBJECT TO COASTAL STORM FLOWAGE

A. Characteristics

Land subject to coastal storm flowage is significant to the wetland resource values identified in Section I of the Bylaw. Land subject to coastal storm flowage helps to reduce or prevent water pollution, provide and protect wildlife habitat, protects groundwater, helps reduce erosion, and provides sedimentation control. The Commission finds that regulations applicable to activities involving land subject to coastal storm flowage are necessary and proper for the following reasons:

1. **Storm Damage:** Land subject to coastal storm flowage (the coastal flood plan) aids in storm damage prevention and flood control. Direct and collateral damage to man-made structures in the flood plain are caused by wave impacts and inundation by floodwaters and storm driven debris.
2. **Water Quality:** Floodplains often contain areas where the water table is close to the surface. Pollutants in a floodplain, including the contents of septic systems, swimming pools, and fuel tanks, may affect private water supplies, groundwater quality, wildlife, fisheries and shellfish as a consequence of storm flooding.
3. **Wildlife Habitat:** Land subject to coastal storm flowage serves as important habitat for a wide variety of wildlife. The desires of property owners to protect themselves from the effects of storms can lead to pressure to erect engineering structures in wetlands, which have a detrimental effect on wildlife and other wetland values.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, building upon, degrading, discharging into or otherwise altering land subject to coastal storm flowage the Commission shall presume that land subject to coastal storm flowage is significant to the protection of the following interests: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and aquaculture. These presumptions may be overcome only upon a clear showing that the land subject to coastal storm flowage does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Land subject to coastal storm flowage shall be presumed significant to the resource values protected by the Bylaw; therefore the following regulations shall apply:

(Specific resource areas that lie within the area of land subject to coastal storm flowage and the wetland values they protect are otherwise addressed elsewhere in these regulations. The regulations concerning those areas are additional to the regulations set forth in this section.)

1. The work shall not reduce the ability of the land to absorb and contain floodwater, or to buffer inland areas from flooding and wave damage.
2. A project shall not cause ground, surface, or salt-water pollution triggered by coastal storm flowage. All septic systems and leach facilities shall be outside the 100-year floodplain. All private fuel tanks shall be located outside the 100-year flood plain. Commercial tanks shall be located outside the 100-year floodplain, or if the Commission determines that this is not practicable, the commercial tanks shall be secured so that they cannot float loose.
3. When a swimming pool is allowed to be built within the 100-year floodplain it shall be constructed and maintained according to the best available measures so as to ensure that it cannot affect groundwater, freshwater, or salt-water quality in the event that it is flooded.
4. Building upon areas subject to coastal storm flowage in locations where such structures would be subject to storm damage may not be permitted. If permitted, all construction must be in compliance with state and local building code regulations for flood hazard areas.
5. The Commission may impose such additional requirements as are necessary to protect the interests protected by the Bylaw.

SECTION XIV – INLAND BANKS

A. Characteristics

Inland banks are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a bank is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect. Inland banks help to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion, and provide sedimentation control. The Commission finds that regulations applicable to activities involving inland banks are necessary and proper for the following reasons:

1. **Water Quality:** Banks are areas where groundwater discharges to the surface, and under some circumstances, surface water recharges the groundwater. Where banks are partially or totally vegetated, the vegetation serves to maintain the bank's stability, which in turn protects water quality by reducing erosion and siltation.
2. **Flood Control:** By confining floodwaters, banks decrease the erosion of topsoil from adjacent land surfaces and help prevent flood and storm damage to buildings and roads. Confining floodwaters also decreases water pollution by preventing floodwaters from mixing with many contaminants found on roads, near and in dwellings, from fertilized soil, and from septic tanks. Banks act to confine floodwaters, preventing the spread of water to adjacent land thereby maintaining water temperatures and depths necessary for the protection of fisheries. Alterations which permit water to frequently and consistently spread over a larger and more shallow area increase the amount of land which is routinely flooded, as well as elevating water temperature and reducing fish habitat.
3. **Temperature:** Banks may provide shade that moderates air and water temperatures as well as providing breeding habitat, escape cover, and feeding areas, all of which are significant to the protection of fisheries. Banks may also help channel water and thus maintain a water depth that helps keep the water temperatures cool in warm weather, thus protecting the habitat necessary for both fish and food sources for fish.
4. **Wildlife Habitat:** The topography, plant community composition and structure, and soil structure of banks together provide important food, shelter, migratory and overwintering areas, and breeding areas for wildlife. Topography plays a role in determining the suitability of banks to serve as burrowing or feeding habitat. Soil structure also plays a role in determining the suitability for burrowing, hibernation, and other cover. Bank topography and soil structure impact the bank's vegetative structure. Bushes and other undergrowth, trees, vegetation extending from the bank into the water, and vegetation growing along the water's edge are important to a variety of wildlife for shelter, food sources, and to provide cover for wildlife which needs to move between wetlands.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering an inland bank, the Commission shall presume that the bank is significant to the protection of the following values: groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, agriculture fisheries, wildlife habitat, and rare species habitat. These presumptions may be overcome only upon a clear showing that the inland bank does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Inland Banks and land within 100 feet of an Inland Bank shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I, therefore the following regulations shall apply:

1. Projects shall be permitted only where no adverse effect exists on bank stability, groundwater and surface water quality, the water carrying capacity of an existing channel

within a bank, bank height, and the capacity of the bank to provide habitat for fisheries and/or wildlife.

2. Elevated walkways designed not to affect bank vegetation shall be required for pedestrian passage over an inland bank (but not an inland beach that is gently sloping).
3. All projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to an inland bank. All structures that are not water dependent shall be at least 50 feet from an inland bank.
4. The septic leach facility of a septic system shall be at least 100 feet from the seasonal high water line of the water body.
5. Piers shall be constructed and maintained in compliance with Section XXII.
6. No structure of any kind shall be permitted on an eroding bank to protect any building built pursuant to a permit granted after the effective date of these regulations.
7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XV – INLAND BEACHES

A. Characteristics

Inland beaches are significant to the wetland resource values identified in Section I of the Bylaw. Land within 100 feet of a beach is likely to be significant to the protection and maintenance of the resource, and therefore to the protection of the interests which these resource areas serve to protect. Inland beaches help to reduce or prevent water pollution, provide and protect wildlife habitat, protect groundwater, help reduce erosion, and provide sedimentation control. The Commission finds that regulations applicable to activities involving inland beaches are necessary and proper for the following reasons:

1. **Storm Damage:** Inland beaches aid in storm damage prevention, erosion and flood control, and serve as a source of sediment for downdrift inland resource areas. Inland beaches serve the purpose of storm damage prevention, erosion control, and flood control by dissipating wave energy, by reducing the height of the storm waves, and by providing sediment to supply other inland features including sand dunes, land underwater, and other inland beaches. Interruptions of these natural processes by man-made structures and/or activities reduce the ability of the inland beach to perform these functions.
2. **Beach Sediment:** Inland beaches dissipate wave energy by their gentle slope, their permeability, and their regular granular nature, which permit changes in beach form in response to wave conditions. An inland beach at any point serves as a sediment source for inland areas downdrift from that point. Waves move beach sediment alongshore in the direction of wave action.

3. **Wildlife Habitat:** Inland beaches serve as important habitat for a wide variety of wildlife including, but not limited to, inland birds, turtles, shellfish, and finfish. They are used in particular by inland birds for feeding and nesting sites. The natural erosion and dispositional cycles, sediment grain size, water quality (including but not limited to turbidity, temperature, nutrients, pollutants, salinity, and dissolved oxygen) and circulation, and elevation of the land surfaces are all features of wildlife habitat which are critical characteristics for the protection of wildlife.
4. **Flood Control:** Inland beaches characteristics which are critical to storm damage prevention, erosion, control, or flood control, include sediment volume and form, and their ability to respond to wave action, natural erosional and dispositional cycles and wave intensities.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering an inland beach, the Commission shall presume that the beach is significant to the protection of the following values: groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, agriculture, fisheries, wildlife habitat, and rare species habitat. These presumptions may be overcome only upon a clear showing that the inland beach does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Inland Beaches and land within 100 feet of an inland beach shall be presumed significant to the Resource Values by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. The provisions of XVII (Land Under Water Bodies) shall apply to inland beaches.
2. Clean fill of similar grain size and type may be used to maintain an inland beach only if the Commission authorized its use. All possible mitigation measures shall be taken, as determined by the Commission, to limit the adverse affects of the fill.
3. All projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to an inland beach. All structures that are not water dependent shall be at least 50 feet from an inland beach.
4. No part of any septic system shall be placed in shifting sands or on an inland beach. The septic leach facility shall be at least 100 feet from an inland beach.
5. No structure of any kind shall be permitted on an eroding beach to protect any building built pursuant to a permit granted after the effective date of these regulations.
6. Piers shall be constructed and maintained in compliance with Section XXII.
7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XVI –VEGETATED WETLANDS (Wet Meadows, Marshes, Swamps, and Bogs)

A. Characteristics

Vegetated wetlands are significant to the wetland resource values identified in Section I of the Bylaw. Vegetated wetlands serve to support rare/significant species (plant and animal), serve to provide rare/significant species (plant and animal) habitat, serve to remove pollutants from surface and ground waters, serve to aid in prevention of flooding, and are important to fishing and shellfishing. Land within 100 feet of a vegetated wetland is considered to be significant to the protection and maintenance of vegetated wetlands, and therefore to the protection of the interests which these resource areas serve to protect. The Commission finds that regulations applicable to activities involving vegetated wetlands are necessary and proper for the following reasons:

1. **Water Quality:** The plant communities, soils, and associated low flat topography of vegetated wetlands remove or detain sediments, nutrients (such as nitrogen and phosphorous) and toxic substances (such as heavy metal compounds) that occur in runoff and flood waters. Some nutrients and toxic substances are retained for years in plant root systems or in the soils. Others are held by plants during the growing season and released as the plants decay in the fall and winter, thereby reducing the impact on water quality.
2. **Flood Control:** Vegetated wetlands are areas where groundwater discharges to the surface and where, in some circumstances, surface water discharges to the groundwater. The profusion of vegetation and the low, flat topography of vegetated wetlands slows down and reduces the passage of flood waters during periods of peak flows by providing temporary flood water storage, and by facilitating water removal through evaporation and transpiration. This reduces downstream flood crests, erosion, and resulting damage to private and public property. During dry periods the water retained in vegetated wetlands is essential to the maintenance of base flow levels in streams or into the groundwater which in turn is important to the protection of water quality, water supplies, and wildlife.
3. **Temperature and Salinity:** Wetland vegetation provides shade that moderates air and water temperatures important to wildlife. Vegetated wetlands, together with land within 100 feet of a vegetated wetland, serve to moderate and alleviate thermal shock and pollution resulting from runoff from impervious surfaces, which may be detrimental to wildlife, fisheries, and shellfish downstream of the vegetated wetland. The maintenance of base flows by vegetated wetlands is significant to the maintenance of a proper salinity ratio in estuarine areas downstream of the vegetated wetland. A proper salinity ratio, in turn, is essential to the ability of shellfish to spawn successfully and therefore to provide for the continuing procreation of shellfisheries. A proper salinity ratio is also important for many species of fish.

4. **Habitat:** Vegetated wetlands are probably the Town's most important inland habitat for wildlife. The hydrologic regime, plant community composition and structure, topography, and water chemistry provide important food, shelter, migratory, overwintering and breeding areas for many birds, mammals, amphibians, reptiles, fish and invertebrates. A wide variety of vegetative wetland plants, the nature of which are determined in large part by the depth and duration of water, as well as soil and water composition, are utilized by varied species as important areas for mating, nesting, brood rearing, shelter and food directly and indirectly. The diversity and interspersed nature of the wetland structure is also important in determining the nature of its wildlife habitat, which may vary also during summer, winter and migratory seasons. Wetland indicator plants shall include but not be limited to those plant species identified in 310 CMR 10.55.
5. **Erosion Control:** Vegetated wetlands along pond edges can prevent erosion by wind driven waves.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering a vegetated wetland, the Commission shall presume that the vegetated wetland is significant to the protection of the following values: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, agriculture, fisheries, wildlife habitat, and rare species habitat. These findings may be overcome only upon a clear showing that the vegetated wetland does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Vegetated wetlands and land within 100 feet of Vegetated Wetlands shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I; therefore, the following regulations shall apply:

1. All projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to vegetated wetlands. All structures that are not water dependent shall be at least 50 feet from a vegetated wetland.
2. Proposed projects shall not use procedures that the Commission determines will degrade the flood protection function (leveling out of storm surges by storing and slowly releasing water) of vegetated wetlands by significantly changing the rate of water flow through the wetlands (by channelization or other means).
3. The commission may not authorize the creation of a new pond in a vegetated wetland, as this would negatively impact the resource values protected by the Bylaw. The Commission may allow maintenance of existing ponds so long as such maintenance contributes to the resource values protected by the Bylaw. The Commission may authorize the excavation of other vegetated wetlands to create ponds or clear the edge of a pond if the project is designed to increase wildlife habitat diversity and to minimize groundwater or surface water loss.
4. The septic leach facility of a septic system shall be at least 100 feet from the seasonal high water line of the water body.

5. Piers shall be constructed and maintained in compliance with Section XXII.
6. Elevated walkways determined to be for a water dependent use and designed not to affect existing vegetation shall be required for pedestrian passage over vegetated wetlands.
7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XVII – LAND UNDER WATER BODIES (under any Creek, Stream, Pond, or Lake)

A. Characteristics

Land under water bodies is significant to the wetland interests and values identified in Section I of the Bylaw. Land within 100 feet of land under a water body is significant to the protection and maintenance of the resource and therefore to the protection of the interests which these resource areas serve to protect. The Commission finds that regulations applicable to activities involving land under water bodies are necessary and proper for the following reasons:

1. **Water Quality:** Where land under water bodies is composed of pervious material, such land represents a point of exchange between surface and groundwater. Depending upon the hydrologic conditions and water levels at a given point in time, these areas may serve as groundwater exchange or discharge points, or both. This allows pollutants and nutrients easy access into private wells or the general groundwater supply. The physical nature of land under water bodies is highly variable, ranging from deep organic and fine sedimentary deposits to gravel and large rocks. The organic soils and sediments play an important role in the process of detaining and removing dissolved and particulate nutrients from surface water above and serve as traps for toxic substances (such as heavy metal compounds).
2. **Flood Control:** Land under water bodies in conjunction with banks serves to confine floodwater within a definite channel during the most frequent storms. Filling within this channel blocks flow, which in turn causes backwater and over bank flooding during such storms. An alteration of land under water bodies that causes water to frequently spread out over a large area at lower depth increases the amount of property that is routinely flooded.
3. **Wildlife Habitat:** Altering the water flow in streams and creeks can result in an elevation of water temperature and decrease in wildlife habitat in the main channel, both of which are detrimental to fisheries, particularly during periods of warm weather and low flows. Land under ponds and lakes are vital to a large assortment of warm water fish during spawning periods. Many species build nests on the bottom substrates within which they shed and fertilize their eggs. Water bodies and surrounding borders are essential to many species of birds, animals, reptiles, and amphibians for various parts of their life cycles. Characteristics of water bodies that are critical to wildlife, wildlife habitat, and fisheries include water circulation and flushing rates, distribution of sediment grain size, and water quality (including amounts of dissolved oxygen, nutrients, and pollutants). Changes in sediments, water quality, water level, or species composition of food sources or ground cover may be detrimental to any of the above wildlife and wildlife habitat.

4. Erosion Control: Cattail borders or other vegetated borders of large ponds are important in reducing shoreline erosion and storm damage by dissipating the high energy of storm waves and by anchoring the sediments.

B. Presumption of Significance

Whenever a proposed project involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering land under water bodies, the Commission shall presume that the land under water bodies is significant to the protection of the following values: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, agriculture, fisheries, wildlife habitat, and rare species habitat. These presumptions may be overcome only upon a clear showing that the land under a water body does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Land under water bodies and land within 100 feet of land under water bodies shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I, therefore the following regulations shall apply:

1. No proposed project shall use procedures that the Commission determines have an adverse effect on significant wildlife habitat, wildlife, fisheries, or existing water quality or alter the critical characteristics of an inland water body.
2. All projects that are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to an inland bank or beach. All structures that are not water dependent shall be at least 50 feet from an inland bank or beach.
3. The septic leach facility of a septic system shall be at least 100 feet from the seasonal high water line of the water body. Two hundred (200) feet shall separate septic leach facilities from each other if the lot containing one of them contains a water body or fronts on a water body and the septic location is within the jurisdiction of the Bylaw.
4. Piers shall be constructed and maintained in compliance with Section XXII.
5. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XVIII – LAND SUBJECT TO FLOODING OR INUNDATION BY GROUNDWATER OR SURFACE WATER (both Bordering and Isolated Land)

A. Characteristics

Land subject to flooding is significant to the wetland resource values identified in Section I of the Bylaw. Bordering land subject to flooding or inundation by groundwater or surface water provides a temporary storage area for floodwater, which has overtopped the bank of the main channel of a creek, river, or stream or the basin of a pond or lake. During periods of peak runoff, floodwaters are both retained (i.e. slowly released through evaporation and percolation) and detained (slowly released through surface discharge). Over time, incremental filling of these areas causes increases in the extent and level of flooding by eliminating flood storage volume or by restricting flows, and, thereby, increases in damage to public and private properties. The Commission finds that regulations applicable to activities involving land subject to flooding or inundation by groundwater or surface water are necessary and proper for the following reasons:

1. **Water Quality:** Pollutants or contaminants located on bordering land subject to flooding or inundation by groundwater or surface water may be washed into surface waters and from there to groundwater, or percolate directly into groundwater. Sources of pollutants within these areas thus have widespread effect on resource values protected by the Bylaw.
2. **Flood Control:** Isolated lands subject to flooding provides temporary storage areas where run-off and high groundwater collect and slowly evaporate or percolate into the ground. These areas, even though small, usually are numerous and thus very important in preventing more serious flooding somewhere else. Filling causes lateral displacement of ponded water or increased run-off onto contiguous properties, which may result in damage to those properties and others, which were not previously affected as much. The additive nature of the flood protection provided by these isolated areas and the fact that filling one may redirect water so as to radically change watershed sizes means that small changes in one area may have large effects in another area.
3. **Wildlife Habitat:** Bordering land subject to flooding or inundation by groundwater or surface water provides an important source of microscopic plant and animal material, which enriches the nearby water body. It also serves as significant wildlife habitat, provides wildlife access to surface water resources, and can serve as the basis for a food web which supports many fish and wildlife particularly during their breeding periods, some rare plants, and several species of birds.
4. **Erosion Control:** Bordering land is often low and level and thus helps prevent erosion of soil into water bodies by surface water runoff. The topography and location of bordering land is critical for protection of flood control capabilities. Land subject to flooding helps prevent erosion by breaking up watersheds thereby reducing the velocity of the runoff.

B. Presumption of Significance

Whenever a proposed project involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering land subject to flooding or inundation by groundwater or surface water, the Commission shall presume that the land subject to flooding or inundation by

groundwater or surface water is significant to the protection of the following values: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, wildlife habitat, rare species habitat and agriculture. These presumptions may be overcome only upon a clear showing that the land subject to flooding or inundation by groundwater or surface water does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Land subject to flooding or inundation by groundwater or surface water or land within 100 feet of land subject to flooding or inundation by groundwater or surface water shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I, therefore the following regulations shall apply:

1. No proposed project shall use procedures that the Commission determines have an adverse effect on significant wildlife and rare species habitat, wildlife and rare species, existing water quality, or alter the critical characteristics of the inland wetland.
2. Projects on land subject to flooding shall be permitted only when using such procedures determined by the Commission as not having the effect of reducing the ability of the land to absorb and contain floodwaters.
3. If such a site is available on the applicant's land, all septic tanks and leach facilities shall be located outside the 100-year floodplain.
4. Underground fuel oil or gasoline tanks, or tanks designed to hold any hazardous substance, shall not be permitted on land subject to flooding.
5. Proposed projects shall employ such safeguards as determined by the Commission to preclude groundwater or surface water pollution triggered by flooding.
6. The Commission may require compensation of greater flood storage capacity in the same watershed if it permits any filling of land subject to flooding, and all filling of areas subject to flooding shall be strictly minimized. Except as stated in the preceding sentence, no proposed projects shall be permitted to displace or direct floodwaters, through fill or other means, to other areas.
7. Building upon areas subject to flooding shall be in compliance with appropriate state and local building code requirements.
8. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XIX –VERNAL POOL HABITAT

A. Characteristics

Vernal pool habitats, including the upland areas within 100 feet of mean annual boundaries of the pool itself, are significant to the wetland resource values identified in Section I of the Bylaw.

Vernal pools help to reduce or prevent water pollution, provide and protect wildlife habitat, provide erosion and flood control and help maintain water quality. Together with the surrounding upland, they provide important habitat for many threatened and rare wildlife species, including some of which are totally dependent on vernal pool habitats for their survival. The Commission finds that regulations applicable to activities involving vernal pools are necessary and proper for the following reasons:

1. **Erosion and Flood Control:** Vernal pools help prevent erosion by breaking up watersheds so that run-off does not become so great as to have enough force to erode soil. Vernal Pools provide flood control by collecting surface runoff in low-lying areas and allowing it to percolate slowly into the groundwater aquifer.
2. **Water Quality:** Areas where vernal pools are pervious are likely to serve as significant recharge points to the groundwater aquifer. Contamination in the area may find easy access into groundwater and neighboring wells. Land under vernal pools, which are often covered by a mat of organic peat or muck, may help remove contaminants before floodwaters enter the groundwater.
3. **Wildlife Habitat:** Vernal pools may provide important wildlife habitat for amphibians, (particularly during their breeding period), invertebrates, some rare plants, and several species of birds. Several species of wildlife breed only in vernal pools because of the lack of fish predators. The wood frog (*Rana sylvatica*), all species of mole salamander (*Ambystoma spp.*), and the eastern spadefoot toad (*Scaphiophu holbrookii*) have evolved breeding strategies intolerant of fish predation on their eggs and larvae. Fairy shrimp (*Eubranchipus spp.*) are also entirely dependent upon vernal pool habitat.

The extreme edges of vernal pool habitat represent one of the most ecologically valuable portions of these habitats. Shallow water at the edges of a pool is generally the first to thaw in the spring, providing early access to the pool for the earliest breeding species. The shallow water zones also tend to be significantly warmer than the deeper portions of a vernal pool throughout the spring, which provide hospitable breeding ground and promote rapid egg development for the early breeding amphibians. Upland areas around the pool also provide critical habitat for many of the amphibian and invertebrate species that breed in the pool and then spend the rest of their lifecycle in the upland areas surrounding it.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering a vernal pool habitat, the Commission shall presume that the vernal pool habitat is significant to the protection of the following resource values: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, wildlife habitat, and rare species habitat. These presumptions may be overcome only upon a clear showing that the vernal pool

habitat does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

1. A vernal pool is any confined depression which, at least in most years, holds some water for at least two continuous months during the spring or summer will be presumed to be essential breeding habitat and provide other extremely important habitat functions during the non-breeding season for a variety of wildlife, particularly amphibian species. Pools occurring in lawns, landscaped areas, or driveways as of the effective date of the Bylaw are presumed not significant as wildlife habitat.
2. This presumption may be overcome by a clear showing that the presumed vernal pool does not and cannot meet the defining criteria set forth by the Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program for vernal pool certification. Certification of a vernal pool under the state program is not required for protection under the Bylaw or these regulations.
3. Because of the seasonal nature of vernal pools, the Commission may require that evidence presented to overcome this presumption be gathered during the spring or summer during a year in which the level and duration of water in the pool is at or above average.

C. Performance Standards

Vernal pool habitat shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I, therefore the following regulations shall apply:

1. Within a vernal pool habitat area, no activity or alteration is permitted unless it is shown to the Commission's satisfaction that a proposed activity will have no detrimental effect on the vernal pool habitat. Activities and alterations include, but are not limited to, removal or alteration of vegetation; removal or alteration of natural ground cover including leaves, logs, and other vegetative litter; grading; landscaping; filling; construction or placement of structures or pavement of any sort.
2. No proposed project shall use procedures that the Commission determines will have an adverse effect on significant wildlife and rare species habitat, wildlife and rare species, or existing water quality, or alter the critical characteristics of the vernal pool habitat.
3. Projects in vernal pool habitats shall be permitted only if the Commission determines it will not have the effect of reducing the ability of the land to absorb and contain floodwaters or degrade the wildlife habitat value.
4. No part of a septic leach facility of any septic system shall be located in or within 100 feet of vernal pool habitat.
5. Underground fuel oil or gasoline tanks, or tanks designed to hold any hazardous substance, shall not be permitted in or within 100 feet of vernal pool habitat.
6. Proposed projects shall employ such safeguards as determined by the Commission to preclude groundwater or surface water pollution triggered by flooding.

7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XX - RIVERFRONT AREA

A. Characteristics

Riverfront Areas are likely to be significant to the adjacent river and the wetland resource values identified in Section I of the Bylaw. The Riverfront Area helps to reduce or prevent water pollution, provide and protect wildlife habitat, protect ground water, help reduce erosion and provide sedimentation control. Riverfront Areas can play a vital role in protecting rivers. The Commission finds that regulations applicable to activities involving the Riverfront Area are necessary and proper for the following reasons:

1. **Temperature:** Shade and cover can moderate air temperature and water temperature.
2. **Sediments and Other Contaminants:** Riverfront Areas help filter sediments and other contaminants, including but not limited to pesticides and heavy metals, from surface water flow. The Riverfront Area also prevents erosion in and into the river and precludes development that could lead to increased contaminant loading.
3. **Nutrients (nitrogen and phosphorus):** Riverfront Areas reduce nutrient loading in the river by: filtering from surface water flow the nutrients bound to sediments; removing nutrients from ground water through uptake in vegetation and by de-nitrification; and precluding development which could increase nutrient loading as a result of activities like lawn fertilizing and landscaping.
4. **Maintenance of Stream Flow:** Riverfront Areas can store water and help maintain ground water stream base flow, and water quality during low flow periods and flood events.
5. **Wildlife Habitat:** The vegetated uplands adjacent Riverfront Areas constitute one of the richest zones for aquatic organisms, mammals, birds, reptiles, and amphibians because they provide shade and cover, food, shelter, and breeding habitat.

Construction and other activities or alterations within the Riverfront Area can harm resource areas through regrading, siltation, compaction of the soil, and the loss of pervious ground. Following construction or other alterations, use of the Riverfront Area frequently degrades resources as a result of the deposition of yard and lawn debris, increased runoff, nutrient loading, habitat degradation, and increased temperatures.

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging or otherwise altering a Riverfront Area, the Commission shall presume that the Riverfront Area is significant to the protection of the following interests: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and Aquaculture. These presumptions may be overcome only upon a clear showing that the Riverfront Area does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

The Riverfront Area shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I, therefore the following regulations apply:

1. No-disturbance Zone: The following activities are not normally permitted in a Riverfront Area:
 - a. No activity will normally be permitted within the first one hundred feet (100) of the high water mark of a river.
 - b. Activities include but are not limited to, grading, clearing, landscaping, cutting or mowing of vegetation, filling, excavating, and paving.
2. No Build Zone: No structure will normally be permitted within the first one hundred feet (100) feet upland of the high water mark of a river.
3. No activity shall be permitted in the final 100 feet of a Riverfront Areas that is more likely than not to harm, or eventually harm the river or the no-build no-disturbance areas.
4. No structures, including but not limited to, buildings, porches, decks, sheds, pools, septic tanks, leaching fields, parking lots, roads or paths, shall be constructed or placed within a no-disturbance zone.
5. Notwithstanding any of the foregoing prohibitions, the Commission may allow activities in a no-disturbance zone by waiver when no other practicable alternative exists. Petitions for a waiver shall be included in writing in the Notice of Intent filed under the Bylaw, or as allowed pursuant to a waiver from these regulations set forth in Section III.N.
6. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XXI - ESTIMATED HABITATS OF RARE SPECIES AND WILDLIFE (Inland and Coastal Wetlands)

A. Characteristics

Estimated habitats of rare species and wildlife are significant to the wetland resource values identified in Section I of the Bylaw. Any inland resource area in which any state rare species (plant or animal) officially listed by the Massachusetts Division of Fisheries and Wildlife; any species (plant or animal) the Commission has recognized as defined in these Regulations; or any resource area falling within any of the most recent Estimated Habitat or Priority Habitat Maps of the Massachusetts Natural Heritage and Endangered Species Program (the "Program"), shall be considered estimated habitat of rare species and wildlife. The Commission finds that regulations applicable to activities involving estimated habitat of rare species and wildlife for inland and coastal wetlands are necessary and proper for the following reasons:

B. Presumption of Significance

Whenever a proposed activity involves removing, filling, dredging, building upon, degrading, discharging into, or otherwise altering land containing estimated habitat of rare species and wildlife, the Commission shall presume that the estimated habitat of rare species and wildlife is significant to the protection of the following interests: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, agriculture and aquaculture. These presumptions may be overcome only upon a clear showing that the estimated habitat of rare species and wildlife does not play a role in protecting any of the interests given above and only upon a specific written determination to that effect by the Commission.

C. Performance Standards

Estimated habitat of rare species and wildlife shall be presumed significant to the resource values protected by the Bylaw as referenced in Section I, therefore the following regulations shall apply:

1. If a project is within estimated habitat on the most recent map published by the Program the applicant shall comply with the procedures set forth in 310 CMR 10.37.
2. No activity shall be permitted that alters existing vegetation within twenty-five (25) feet of verified estimated habitat of rare species and wildlife.
3. No activity shall be permitted that results in the construction or enlargement of a structure within fifty (50) feet of verified estimated habitat of rare species and wildlife.
4. No alteration of topography (filling or cutting) and/or drainage characteristics shall be permitted within fifty (50) feet of verified estimated habitat of rare species and wildlife.
5. No new construction or enlargement of drainage facilities within twenty-five (25) feet of verified estimated habitat of rare species and wildlife shall be permitted.
6. No part of any septic leach facility of a septic system shall be placed within 100 feet of verified estimated habitat of rare species and wildlife.
7. The Commission may impose such additional requirements as are necessary to protect the resource values protected by the Bylaw.

SECTION XXII– DOCKS AND PIERS

A. Characteristics

Docks and piers are one of the few activities which come before the Commission for regulation which occur entirely within resource areas, i.e. beaches, flats, salt and freshwater wetlands, land under both salt and fresh water bodies, land subject to tidal action, to flooding and to coastal storm flowage. The construction, use, and maintenance of docks and piers are likely to have a significant or cumulative adverse effect on the following interests: erosion and sedimentation control, storm damage prevention, water quality, prevention of water pollution, fisheries, shellfisheries, wildlife habitat, rare species habitat, and aquaculture. The Commission finds that

regulations applicable to the construction, use, and maintenance of docks and piers are necessary and proper for the following reasons:

1. **Erosion and Sediment Control:** Propeller dredging generated from boats near shore; dragging of floats along banks and other wetland areas; and construction and use of docks, piers, ramps and walkways can cause erosion and disturbance in the soil characteristics. Loss of vegetation in the shade created by docks results in loss of sediment trapped by roots and culms, tidal washouts, and localized depressions. Cutting into banks to install walkways or ramps and ancillary activities around a walkway, ramp or pier can provide avenues for wave run-up and rainfall to erode the bank. Flat-bottomed floats can cause hydraulic pumping of the bottom soil resulting in erosion under the float and altered sediment size.
2. **Storm Damage Prevention:** Docks destroyed by storms pose a threat to nearby properties by increasing water borne debris. The cumulative impact of dock proliferation can decrease the ability of the bordering marsh or other wetland resource to absorb storm wave energy.
3. **Water Quality:** Fluctuations in turbidity, addition of pollutants, and the level of dissolved oxygen or temperature affect the water quality in the resource areas under and adjacent to docks and piers. Turbulence and propeller dredging generated by boat traffic, floats dragging or resting on the water bottom, and piling installation can significantly increase turbidity levels. Turbidity reduces sunlight penetration essential for the photosynthetic processes responsible for primary productivity and oxygen regeneration of water; harms fish by clogging gills; and harms fish eggs, larvae, and shellfish by causing abrasions from sediments. Suspended sediments settle on shellfish habitat, smothering existing shellfish and altering the quality of the sand bottom essential for spat (mollusk larvae) colonization. Pollutants might reach the water via leaching of pressure treated wood, preservatives, breakdown of flotation materials, boat fuel spillage, and accidental spillage during the application of paint or other preservatives during maintenance or storage.
4. **Fisheries, Shellfisheries, Wildlife Habitat, and Aquaculture:** Dock and pier structures alter the circulation patterns that affect shellfish settlement. Prop dredging in near shore areas and floats resting on the water bottom destroys shellfish habitat. The shaded conditions docks and piers produce can affect vegetation causing a decrease in plant height, population density, leaf thickness and an alteration of species composition. Reduction in plant density results in loss of sediment normally trapped by roots and culms, causing tidal washouts and localized depressions which concentrate salt through evaporation of trapped water preventing recolonization by the original vegetation. Likewise, turbidity and the resuspension of bottom sediments, redistribution of sediments, alteration in sediment grain size and distribution and changes in bottom topography relief, elevation and grade, including creation of depressions in the bottom and resuspension of sediments into depressions creates deep pockets of sediment which may not be able to physically support shellfish or which can become anoxic and therefore not support shellfish. Resuspension of sediments during the period of shellfish larval settlement hinders or prevents the effective settlement of shellfish larvae. Construction of docks and piers and subsequent boat activity cause resuspension of nutrient-laden sediment particles which may cause a release of sediment-bound nutrients to the water column resulting in a “bloom” of vegetation. Release of nutrients to the water column leads to eutrophication and anoxic bottom conditions. Anoxic sediments and anoxic bottom conditions create adverse impacts on benthic resources, including shellfish and fisheries. Propeller turbulence near or in areas of submerged aquatic vegetation, such as a salt marsh damages vegetation, thereby increasing the rate at which organic detritus is

produced. If this organic detritus does not completely decompose aerobically, then anoxic bottom conditions will result which adversely impact shellfish and fisheries. Dock and pier construction may adversely affect the physical characteristics and functional value of a marsh. Construction and use of docks, walkways, and ramps may interfere with shoreline vegetative cover and bird-nesting habitat.

B. Presumption of Significance

When a proposed project involves the removing, filling, dredging, degrading, discharging into, building upon, or altering an area subject to protection under the bylaw by the construction, repair, replacement, or enlargement of a dock or pier, the Commission shall presume that the proposed activity will have a significant or cumulative effect upon the resource values protected by the Bylaw. These presumptions may be overcome only upon a clear showing that the work does not have a significant or cumulative effect upon the resource values protected by the Bylaw. In the event that the Commission finds that the presumptions have been overcome, it shall make a written determination to that effect.

C. Performance Standards

The construction or repair of a dock or pier shall be presumed to have a significant impact on the resource values protected by the Bylaw as referenced in Section 1, therefore the following regulations shall apply:

1. Only seasonal piers will be permitted.
2. Docks and piers are accessory structures and will only be considered for a lot that has a primary structure on it. Docks and piers may be permitted only on land and over water contiguous to the dwelling served.
3. Docks and piers are prohibited from proven shellfish beds and from areas designated as high probability of development for shellfish beds and eelgrass beds. No project that requires removing and/or replanting shellfish will be allowed.
4. Permitted docks and piers shall not restrict wildlife from lateral access along the shore.
5. There shall be no off-season storage of floats, seasonal dock material or boats on beaches, marshes, coastal dunes, or other wetland resource areas. When a floating section is removed, it may not be dragged through shellfish beds, eel grass beds, dunes, wetland, or buffer zones.
6. To avoid a cumulative adverse impact, no piers shall be located closer than 300 feet from an existing pier; no pier may exceed 80 feet or a length equal to 25% of the distance to the opposite bank measured from the mean low water mark.
7. Multiple-use piers will be encouraged as a means to reduce adverse impacts.
8. The landward approach to the dock must not harm vegetation. A marsh may be crossed by a raised walkway, and coastal banks must be preserved by use of suitable raised stairs.
9. Floating extensions (floats) shall be located at the seaward end of the pier in deeper water. Moorings for floats shall have as short a scope as possible to minimize bottom scouring.
10. In tidal areas floats shall not be allowed to rest on the bottom at any time. Float stops or collar ties shall be used to prevent bottom scouring by the float.

11. Powerboats shall be docked with their engines seaward and may not be idle while tied to a pier. No petroleum products, fuels, paints, chemicals or cleansers may be stored on a pier. No painting, staining, sanding, varnishing, or scraping of a boat at a pier or within a resource area is allowed.

In addition to the regular items required for NOI submission all submissions for dock design shall be done according to the Best Available and Best Practical Measures.

SECTION XXIII- INCORPORATION

Where applicable, the definitions, criteria, design specifications, presumptions of significance, and performance standards, set forth in the Massachusetts Wetlands Regulations, 310 CMR 10.00 *et seq.*, and the Massachusetts Department of Environmental Program Policies, are hereby incorporated herein, except where the language in these regulations is more restrictive, in which event the language in these regulations shall prevail.

SECTION XXIV- SEVERABILITY AND INVALIDITY

The invalidity of any section of these regulations shall not invalidate any other section or provision, nor shall it invalidate any permit or determination, which previously has been issued.

SECTION XXV - EFFECTIVE DATE

The effective date of these regulations shall be the date on which these regulations are approved by vote of the Commission. These regulations shall apply to all NOI's, ORAD'S and RDA's filed after that date.