

**TOWN OF DENNIS
DENNIS CONSERVATION COMMISSION
MEMBERSHIP AND CHARGE**

To protect the foreshores, wetlands and resource areas within the Town of Dennis and promote environmental protection within the Town by enforcing the provisions of Massachusetts General Laws Chapter 131 Section 40 and the Dennis Wetlands Bylaw.

Further, to preserve and maintain all lands held by the Town for conservation purposes as described in Massachusetts General Laws Chapter 40 Section 8C.

As stated in Article VII, Removal of Appointed Officers
[Adopted 10-26-1999, STM, Art. 16]

Failure to attend meetings.

Where not inconsistent with Massachusetts General Laws, any appointed official who is a member of a multi-member board, committee or commission may be removed by the appointing authority after a public hearing for failure to attend more than three consecutive meetings. Failure to attend, if not adequately explained to the satisfaction of the appointing authority, shall be considered cause for removal.

TOWN OF DENNIS
CONSERVATION COMMISSION
RULES & REGULATIONS

Effective May 19, 2011

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**TOWN OF DENNIS
CONSERVATION COMMISSION
RULES & REGULATIONS
(EFFECTIVE DATE AUGUST 19, 2011)**

The following are the Dennis Conservation Commission's Rules and Regulations which are to be used in conjunction with Massachusetts General Laws Chapter 131, Section 40 and Dennis Wetlands Bylaw.

SECTION 1: DEFINITIONS

The following definitions shall apply as regulations to the Town of Dennis Wetlands Bylaw as provided in Section 9. Unless otherwise defined here, definitions found in 310 CMR 10.00 are incorporated as definitions to the Town of Dennis Wetlands Bylaw as provided in Sections 7 & 9.

ABANDONED: a structure of land use within a resource area or buffer zone that has fallen into a state of disrepair and/or loss of use due to neglect and/or damage and has not been repaired *or* replaced for a period greater than five years.

ACTIVITY: All activities set forth in the Bylaw, Section 2, including altering, removing, filing, dredging or building upon.

AESTHETICS/WETLAND SCENIC VIEWS: The landscape setting/viewshed available to the public over, across, or within wetland resource areas and their buffer zones.

ADVERSE EFFECT: A greater than negligible change in the resource area or one of its characteristics, functions or factors that diminishes the value of the resource area to one or more of the specified interests of the Town of Dennis Wetlands Protection Bylaw and Regulations, as determined by the Commission. "Negligible" means small enough to be disregarded and shall be defined in relation to the wetland resource areas impacted.

AGRICULTURE: Any work which produces food or other products for commerce or subsistence which occurs in, on, or within the Buffer Zone *to* a resource area or which is directly or indirectly dependent upon wetlands values for proper agricultural functions, such as prevention of pollution or maintenance of adequate water flow for irrigation. Agriculture includes, but is not limited to the growing of crops, including cranberries, and the raising of livestock.

ALTER: To change the condition of areas within the jurisdiction (as listed in Section 2 of the Town of Dennis Wetlands Bylaw) of the Conservation Commission. Activities presumed to alter these areas include, but are not limited to the following:

- a. Removal, excavation or dredging of soil, sand, gravel or aggregate materials of any kind.
- b. Changing of pre-existing 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.
- e. Placing of fill or brush or removal of material.
- f. Erections of buildings or structures of any kind; installation of piles except in accordance with pier maintenance conditions of the Commission.
- g. Destruction of any vegetation. (Reference Section 5: General Policies 3A).
- h. Cutting vegetation (Reference Section 5: General Policies 3A).
- i. Changing water temperature, biological oxygen demand, or other physical or chemical characteristics of water.
- j. Any activities, changes of work which pollute in any way any body of water or ground water.
- k. Any activities which change the aesthetics of a resource area in a significant manner and for more than a temporary period.

AQUACULTURE: The growing, raising, breeding, storing or producing of specified freshwater and marine organisms at specified locations for private, commercial, municipal or scientific purposes as approved by appropriate agencies. Organisms in aquacultural use include, but are not limited to: shellfish, such as oysters, quahogs, clams, mussels, scallops, crustaceans, lobsters and crabs; finfish such as flounder, trout, eel, herring, salmon, smelt and bass; amphibians, such as frogs; reptiles, such as turtles; seaweeds, such as Irish moss and dulse; edible freshwater plants, such as watercress; and plankton grown as a food source for other organisms.

BOARDWALK: Wooden planks or other material used for access over any wetland resource area or buffer zones.

BORDERING VEGETATED WETLAND: Bordering vegetated wetlands are freshwater wetlands, which border on creeks, rivers, streams, ponds, lakes and saltmarshes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering vegetated wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The ground and surface water regime and the vegetational community which occur in each type of freshwater wetland are as specified in MGL Ch 131 Section 40, 310 CMR 10.55(2) and in the U.S. Fish and Wildlife Service National List of Plant Species that Occur in Wetlands: Massachusetts 1988, or other approved source within indicator categories as obligate wetland, facultative wetland and facultative.

BUFFER ZONE: land within 100 feet of any wetland resource area. No buffer zones exist adjacent to isolated lands subject to flooding or land subject to coastal storm flowage.

COASTAL BANK: A seaward face or elevated land form, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, land subject to coastal storm flowage or other coastal wetland. The slope of the bank must be greater than 10% (10:1) and serve to contain storm flowage, rather than being inundated by it, or function as a sediment source. A bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, stone or sand. A bank may or may not contribute sediment to coastal dunes, beaches and/or to the littoral drift system. A bank may be significant as a major source of sediment, as a vertical buffer, for wildlife habitat and/or for aesthetics.

TOP OF COASTAL BANK: The first significant break in slope beyond the 100 year storm elevation (determined by FEMA) on a seaward face or elevated land form, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, land subject to coastal storm flowage, or other coastal wetland.

COASTAL DUNE: Any natural hill, mound, ridge, or field (or interactive assemblage or grouping of ridges, hills or mounds) composed of sediment, any portion or component of which touches upon and exchanges sediment with and is landward of a coastal beach deposited by wind action and/or storm overwash. Coastal dune shall also mean sediment deposited by artificial means. All coastal dunes are considered significant to the interests of the Town of Dennis Wetlands Protection Bylaw including storm damage prevention, prevention of flooding, prevention of pollution, groundwater supply, sediment and erosion control, wildlife habitat, recreation and aesthetics unless determined by the Commission, based on a preponderance of evidence from a credible source, not to be so.

COASTAL WETLAND: Any bank; beach; dune; barrier beach; ocean; bay; estuary; tidally dominated river, stream or creek; marsh; swamp; meadow; flat or other lowland subject to tidal action or coastal storm flowage from the ocean, bay or estuary.

COMMERCIAL SPACE: Land area and/or structures within resource areas or buffer zones presently and primarily used in a manner related to, and customarily and necessarily used in commerce, work area intended for commerce or any area/space other than a single family or multi family residential unit the purpose of which is to generate income (exclusive of farm income).

CUMULATIVE EFFECTS: Activities regulated under this Bylaw, which may be individually minor, but when considered in relation to other past, present or reasonably anticipated future activities in a given area may be significant in the aggregate.

DEPTH TO GROUNDWATER (groundwater/water table elevations): the perpendicular distance between the upper edge of the land surface and evidence of a freestanding water level as determined by:

- a) direct observation of highest groundwater elevation (including seasonal and perched groundwater).
- b) direct observation of mottling (redoximorphic features); and
- c) by calculation using the USGS Frimpter high groundwater adjustment method.

The actual recorded depth to groundwater shall be the highest groundwater elevation determined by a, b and c (based on NGVD datum).

DOCK/PIER FACILITIES: A structure extending out from shore to the water to serve as a landing place or a recreation facility in itself. A dock/pier facility is comprised of, but not limited to, a boardwalk, ramp and floats.

- a) Boardwalk: an elevated structure that crosses or extends in a resource area.
- b) Floats: buoyant structures which serve as a loading place or as a recreational facility in itself
- c) Ramp: a structure connecting a boardwalk to a float or grade in the absence of a boardwalk.

ENVIRONMENTALLY SENSITIVE AREAS: Land area (whether developed or not) as defined within the jurisdiction of the Conservation Commission in the Town of Dennis Wetlands Protection Bylaw Section 2; land containing subsurface water which is six feet (6 ft.) or less below natural ground surface elevation; existing or known future drinking water supplies, and/or terrestrial and/or aquatic plant/animal life habitats or threatened or endangered species habitats when certified by the Dennis Department of Natural Resources and/or environmental science.

EROSION AND SEDIMENTATION CONTROL: Erosion Control: The ability of the wetland resource area and its buffer zone to buffer forces or processes which would threaten or cause to be threatened the stability of landforms and the soil and/or vegetation associated with wetlands and adjoining land areas, in particular. Erosion can be caused by a wearing away of the surface soil, by undermining the interior portion of the landform and/or by altering vegetative cover.

Sedimentation Control: The ability of wetland resource areas and their buffer zones to settle out sediments and other air and/or waterborne material by reducing and/or slowing wind and water flow by passing it through vegetation or by diffusing flow and reducing velocity.

FLOOD CONTROL CHARACTERISTICS AND FUNCTIONS: The ability of wetland resource areas to absorb, buffer, provide a vertical barrier to, store

and/or slowly release flood waters to minimize peak flood levels and coastal storm damage. Flooding can be caused by precipitation, rising water table and/or coastal storm events.

FRESHWATER WETLAND: Any inland bank, marsh, wet meadow, bog, swamp, creek, river, stream, pond or lake, isolated land subject to flooding, isolated vegetated wetland, land subject to flooding or vernal pool.

GRANDFATHERING/PRE-EXISTING USE: allows for the use and normal maintenance of any structure or alteration of land, within wetland resource areas and their buffers, existing at the time of enactment of MGL Chapter 131 Section 40 (effective date 1972) and/or the Town of Dennis Wetlands Protection Bylaw (effective date 1975) or subsequent revisions. The activities may be continued subject to the following:

- Existing structures, uses and/or alterations may not be extended and/or modified unless such extension or alteration is permitted by a finding of the Commission that such alteration shall have no adverse effect/significant adverse effect on the resource areas relative to the interests protected by the Town of Dennis Wetlands Protection Bylaw.
- Existing structures, uses and/or alterations which have been abandoned or discontinued for five years or more shall not be re-established and any future use shall conform with then-current provisions of the Town of Dennis Wetlands Protection Bylaw, as appropriate.
- Maintenance and/or repair to existing onsite sewage disposal systems and drinking water supply wells are excluded from this definition.

GROUNDWATER: All subsurface water contained within the zone of saturation and/or where it has occurred at its highest point as determined by the methodology described in the definition for DEPTH TO GROUNDWATER.

HABITABLE SPACE: Space in a structure for living, sleeping, eating or cooking. Bathrooms, toilet compartments, closets, halls, storage or utility space and similar areas are not considered habitable space (780CMR Massachusetts State Building Code).

INLAND BANK: The elevated portion of land surface, which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent floodplain, or in the absence of these, it occurs between a water body and upland. A bank may be partially or totally vegetated or it may be comprised of exposed soil, gravel or stone.

INVASIVE PLANT SPECIES: Invasive plants are best defined as plants introduced from somewhere else. A typical harmful invasive plant grows and

matures rapidly, spreads quickly, can flower and/or set seed all season, has no known diseases or pests to control it and is difficult to remove or control. Invasives, typically non-native species often blanket large areas thereby reducing the biodiversity of natural areas. (Reference "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts, dated March 14, 2003 or subsequent updates as available in the Town of Dennis Department of Natural Resources office.

ISOLATED VEGETATED WETLAND: Any area greater than 500 square feet where surface or ground water, or ice, is at or near the surface of the ground and which supports a plant community (cover) comprised of fifty percent or greater of wetland species, or which in the judgment of the Commission supports a significant community of wetland vegetation, and is characterized by hydric soils and/or exhibits hydrologic characteristics and does not border or touch upon any wetland resource area.

MAINTAIN/MAINTENANCE: To keep in its lawfully existing state, without expansion, and preserve from failure, decline or disrepair.

NOTICE OF INTENT: The form filed by any person intending to remove, fill, dredge or alter an area subject to protection and jurisdiction under the Town of Dennis Wetlands Protection Bylaw.

ORDER OF CONDITIONS: The document issued by the Conservation Commission containing conditions which regulate or prohibit an activity.

PERSON: Any individual, group of individuals, associations, partnership, corporation, company, business organization, trust, estate, the Commonwealth or political subdivision thereof to the extent subject Town Bylaws, administrative agency, public or quasi-public corporation or body, the Town of Dennis, and any other legal entity, its legal representatives, agents or assigns.

PRIVATE WATER SUPPLY: Any source or volume of surface or ground water demonstrated to be in a private use for drinking water and/ or irrigation purposes or shown to have potential for private use, including ground or surface water in the zone of contribution around a private well. The significance of private water supply interests shall be evaluated based on its actual and/or intended use.

PUBLIC RECREATIONAL INTERESTS: Use/access by the public including, but are not limited to, bathing, boating, bird watching, hiking, hunting, fishing, shellfishing, horseback riding, etc. of wetland resource areas and associated buffer zones that do not adversely impact wetland resource areas.

PUBLIC TRUST RIGHTS: The right of the citizens of the Commonwealth of Massachusetts to engage in fishing, including shellfishing, fowling and navigation, and access from the water and access along the shore below mean

high water to, on, or over trustlands to pursue these rights, in accordance with the provisions of 310 CMR 9.00 and decisions of the Massachusetts Supreme Judicial Court, and subject to other state and local regulations.

PUBLIC WATER SUPPLY: Any source or volume of surface or ground water demonstrated to be in public use or approval for water supply pursuant to M.G.L. Chapter 111, Section 160, by the Department of Environmental Protection Division of Water Supply, or demonstrated to have a potential for public use, in addition to all surface and ground water in zones of contribution.

RECREATION: Any leisure activity taking place in, on, or within the buffer zone of a resource area. Recreational activities include, but are not limited to the following: non commercial fishing, shellfishing, hunting, boating, swimming, walking, funning, painting, bird watching and aesthetic enjoyment.

REQUEST FOR DETERMINATION OF APPLICABILITY: the form filed by an applicant requesting a decision by the Conservation Commission as to whether an area or work proposed falls within its jurisdiction and/or whether a Notice of Intent must be filed.

RESOURCE AREAS: Includes all freshwater and coastal wetlands.

SIGNIFICANT EFFECT: A greater than negligible change in the resource area or one of its characteristics, functions or factors that aversely impacts, or alternatively enhances, the resource area to one or more of the specified interests of the Town of Dennis Wetlands Protection Bylaw and Regulations as determined by the Conservation Commission. "Negligible" means small enough to be disregarded and shall be defined in relation to the wetland resource areas affected.

STORM DAMAGE PREVENTION: The ability of soils, vegetation and physiography to prevent damage caused by water from storms, including but not limited to: erosion and sedimentation; damage to vegetation; property or buildings; or damage caused by flooding, waterborne debris or waterborne ice.

SURFACE WATER BODY: Any area where water or ice stands or flows over the surface of the ground for at least five months of any calendar year except in times of severe, extended drought as defined in appropriate sections of 310 CMR. Drainage ditches (exclusive of fish runs and intermittent streams), and impoundment areas which hold or pass water only during or for short periods following storms; and which owing to their relationship to groundwater, do not support wetland vegetation, are excluded from this definition.

TRUSTLANDS: Lands impressed with public trust rights protected by the Commonwealth, including Great Ponds and tidelands, being present and former submerged lands and tidal flats lying between the natural mean high water mark

and the state limit of seaward jurisdiction. Tidelands include both flowed and filled tidelands; privately owned and publicly owned tidelands.

UNVEGETATED WETLAND RESOURCE AREAS: Coastal areas, such as flats and unvegetated intertidal areas; coastal and fresh water beaches; dunes and banks; and land subject to flooding. Also, unvegetated inland areas subject to flooding which are not defined as isolated vegetated wetlands, but, which store at least ¼ acre-foot of water to an average depth of six inches at least once a year, and land areas two feet or less vertically above the high water mark of any lake or pond defined by 310 CMR 10:00. This definition does not include swimming pools; artificially lined ponds or pools; wastewater lagoons or storm water runoff basins, the construction of which may be regulated, but do not themselves constitute regulated areas.

VERNAL POOL/VERNAL POOL HABITAT: An area within a wetland resource area or buffer zone that exists as a confined basin depression which, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and is free of adult fish populations, as well as the area within 100 feet of the mean annual boundaries of such depressions. A vernal pool/vernal pool habitat may be located in or within 100 feet of a wetland resource areas as defined in section 2 of the Town of Dennis Wetlands Protection Bylaw. A vernal pool/vernal pool habitat provides essential breeding habitat, and provides other extremely important wildlife habitat functions during non-breeding seasons for a variety of amphibian species as well as for other wildlife species. Vernal pools/vernal pool habitats are defined by obligate and facultative species found within its boundaries. Obligate species include the wood frog, the spadefoot toad, the spotted salamander, the blue-spotted salamander, the Jefferson salamander, the marbled salamander and two species of fairy shrimp. Facultative species include remaining frogs, fingernail clams, amphibious snails, leeches, insect larvae, and some reptiles. A vernal pool/vernal pool habitat must be documented by a qualified professional to the satisfaction of the Commission or by the Massachusetts Natural Heritage & Endangered Species Program.

WATER DEPENDENT PROJECTS OR USES: Water dependent projects or uses require direct wetlands access for their intended use and therefore can not be located out of the Area Subject to Protection Under 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, but are not limited to: restaurants, dwellings and commercial enterprises servicing marine-related uses such as fish markets, repair facilities, storage yards and general use recreational trails.

WETLANDS REPLICATION: The creation or extension of wetland, surface water body or other resource area to compensate for the filling, loss or

displacement of all or part of an existing wetland, surface water body or other resource area.

WILDLIFE (including plant and animal species) **HABITAT**: Resource areas and their buffer zones that provide breeding and nesting habitats, shelter, food and water to all plant and animal species dependent on wetlands for any portion of their cycles. Includes resource area and their buffers and vernal pools/vernal pool habitat, as identified in Section 2 of the Town of Dennis Wetlands Protection Bylaw and the Town of Dennis Conservation Commission's Rules and Regulations.

WORK: All activities set forth in the Bylaw, Section 2, including altering, removing, filling, dredging or building upon.

ZONE OF CONTRIBUTION: The segment of an aquifer that contributes significant quantities of ground water to a drinking water supply well. Drinking water supply wells may be municipal drinking water supply wells, may be other public drinking water supply wells as defined by the Massachusetts Department of Environmental Protection and/or the Dennis Board of Health and may be private drinking water supply drinking wells. Zones of Contributions for existing and potential municipal supply drinking wells are mapped at the Dennis Water District office, the MDEP Division of Water Supply and the Cape Cod Commission. Mapped locations for other public drinking water supply wells as permitted by MDEP are on file at MDEP offices in Boston and Lakeville and some may be on file at the Dennis Board of Health office. Location of private drinking water supply wells are on file at the Dennis Board of Health office, however, for most private wells, their specific zone of contribution has not been defined.

SECTION 2: PERFORMANCE STANDARDS

1. When structures are permitted within one hundred (100) feet of a wetland, every effort shall be made to keep this structure as far as possible from the wetland. No activities or alterations, except water dependent projects or uses and activities as noted in Section 5, #3 and #4, may be closer than fifty (50) feet to any wetland resource area. "Wetlands/Wetland Resource Area is defined by M.G.L. Chapter 131, Section 40, Dennis Wetlands Bylaws and Dennis Wetlands Regulations. Documentation shall be submitted with each Notice of Intent, in sufficient detail to show compliance with the performance standards. Documentation shall include plans stamped by a Professional Land Surveyor, a Professional Engineer, Registered Sanitarian, Architect or Landscape Architect or as deemed appropriate by the Commission.

2. No septic system leaching facilities shall be any closer than one hundred (100) feet to any wetland as defined by M.G.L. Chapter 131, Section 40 and Dennis Wetlands Bylaw.
 - a. In environmentally sensitive areas, septic systems that incorporate a retaining wall design that is exposed above ground shall be planted around the outside of the wall to prevent erosion, provide aesthetic protection and to mitigate alterations to surface runoff.
 - b. As a condition for commencing work (relating to any increase in building footprint including decks, porches and garage square footage) allowed under an Order of Conditions; any existing septic system(s) that fall within either a resource area or the one hundred (100) foot buffer zone around said area, must be located and upgraded in accordance with the state's Title V and Town of Dennis Board of Health design performance standards and regulations, unless documented not to serve as a source of pollution to ground waters and/or down-gradient wetland resource areas. All existing onsite septic system leaching facilities within the jurisdiction of the Conservation Commission shall be separated by the highest groundwater elevation by a minimum of four or five vertical feet depending upon soil conditions in accordance with Title 5 (310 CMR 15.00) soils description requirements.
3. Any alteration of drainage patterns must be appropriately engineered so as not to adversely impact a wetland resource area or groundwater resources.
4. Permission will not be granted to build a solid or static structure such as a bulkhead, a sea wall or retaining wall for shoreline erosion control purposes if any bank is already stabilized by vegetation.
5. There will be no expansion of habitable space, commercial space area, or the foundation footprint of any structure or dwelling, located within the limits of a coastal beach, coastal dune, or barrier beach unless the project proponent provides a preponderance of evidence from a credible source to document that the proposed expansion will not adversely effect the volume, form or function of these wetland resource areas. Additionally, the project proponent shall demonstrate that there will be no adverse impact to any of the interests of the Town of Dennis Wetlands Protection Bylaw including but not limited to, prevention of water pollution, ground water quantity and quality and wildlife habitat.
6. Activities in any resource area, exclusive of land subject to coastal storm flowage, shall not have any adverse effect/significant effect on aesthetic values and shall not significantly change the appearance of any resource area.

7. Activities in or within one hundred (100) feet of resource areas shall not have any adverse effect/significant adverse effect on existing permitted aquaculture within any wetland resource area and/or shall not have any adverse impact/significant adverse effect on the wetlands values set forth in Section 1 of this Bylaw.
8. Activities in or within one hundred (100) feet of any wetland resource area shall not have any adverse effect/significant adverse effect on: natural erosion; natural sedimentation; naturally occurring ground water, private water and public water supply, and storm damage prevention within any wetland resource area.
9. Structures and activities in or within one hundred (100) feet of a resource area shall not have any adverse effect/significant adverse effect to any wetland resource area for public recreational values, including fishing, fowling, shellfishing and boating and shall not have any adverse impact/significant effect on other wetland values identified in Section 1 of this Bylaw.
10. Structures and activities in or within one hundred (100) feet of any resource area shall not have any adverse effect/significant adverse effect on wetland dependent wildlife habitat.
11. The existing and naturally occurring topography at the time of application shall be the basis for all decisions.
12. Wetland resource area replication/compensation shall not be allowed unless the project proponent has demonstrated to the Commission's satisfaction, that there are no reasonable alternatives; that the project as proposed minimizes the amount of replication/compensation necessary; that the mitigation proposed is a minimum of a 2:1 ratio; that the mitigation proposed enhances existing wetland resources and public wetland interests, and that adequate construction and monitoring protocols are provided.

SECTION 3: RULES AND REGULATIONS GOVERNING BOARDWALKS, RAMPS, DOCKS, PIERS AND FLOATS (collectively and/or separately referred to as dock facilities)

1. GENERAL CONDITIONS

- a. All dock facilities plans shall be prepared and stamped by a Professional Engineer as deemed appropriate by the Commission. All plans shall show property lines and bathymetric information at one foot contour intervals.

- b. The applicant shall provide to the Shellfish Constable and Harbormaster copies of all applications and plans of the project submitted to the Conservation Commission. The application must include the actual data generated on site. Data shall include at least size and frequency distributions for shellfish found, soil analyses, map of any eelgrass beds or saltmarsh present, slope of bottom, depth and distance to nearest channel. The Shellfish Constable and Harbormaster shall have ten working days to comment to the Conservation Commission. If there are no written comments received by the Commission within ten working days, it is assumed that these officials have no concerns with the proposed project.
- c. Dock facilities, seaward of MHW, shall not be permitted in areas that would result in any adverse impact/significant effect to shellfish and/or their habitat. Dock facilities shall not be permitted in areas where the accompanying boat traffic would adversely impact/significantly effect the shellfish, finfish and/or their habitat. The Commission may allow mitigation of the project effects if deemed appropriate and found to enhance the protection of the wetland resources and the interests of the Town of Dennis Wetlands Protection Bylaw. All mitigation projects shall be reviewed and approved by the Conservation Commission in consultation with the Department of Natural Resources and the Shellfish Constable prior to the issuance of an Order of Conditions. All mitigation projects shall include monitoring protocols and measurable performance standards/success thresholds.
- d. All docking and loading facilities shall require a minimum of three (3) foot depth at mean low water without benefit of dredging.
- e. At all normal levels of the tide along the shoreline, passage shall be provided.
- f. No boats, dinghies, floats or appurtenances shall be kept or stored so that they adversely impact shellfish habitat, saltmarsh, bordering vegetated wetland, coastal bank or coastal dune.

2. CONSTRUCTION REQUIREMENTS

- a. All work and materials shall be consistent with water quality goals. Dock facilities, whenever practicable, shall be fabricated in an upland area to prevent residue and sawdust from entering any wetland resource area. Dock facilities shall not be constructed with materials containing creosote or CCA.
- b. Piers, ramps and boardwalks shall be limited to open pile supported construction. No solid fill shall be used.
- c. Piers, ramps and boardwalks shall cross no more than one hundred fifty (150) feet of saltmarsh, vegetated wetlands, mud flats or mapped shellfish/shellfish habitat areas, shall be no wider than four

feet and elevated a minimum of one foot in height for each one foot of width above existing grade.

- d. Floats shall be limited to a maximum width of ten feet.

SECTION 4: VARIANCE

The Commission may grant a variance, in an Order of Conditions from these regulations when the Commission finds that, given existing conditions, the proposed project will serve to lessen impacts to and/or substantially enhance the interests identified in the Bylaw and there are no other reasonable conditions or alternatives that would allow that project to proceed in compliance with the rules and regulations. The burden of proof to demonstrate compliance in protecting the interests identified in the bylaw shall be the responsibility of the owner/applicant. The variance shall be requested in writing and shall be submitted as part of the notice of Intent under the Town of Dennis Wetlands Protection Bylaw.

SECTION 5: GENERAL POLICIES

1. All Orders of Conditions shall be valid for three years from the date of issue, unless revoked or extended by separate action of the Conservation Commission. Certificates of Compliance shall be requested upon completion of work or upon expiration of the Orders of Conditions.
2. Onsite sewage disposal upgrades shall be allowed to file as a Request for Determination if the following conditions are met:
 - a. the leaching facilities for the upgrade is in excess of one hundred (100) feet from all wetland resource areas, with the exception of land subject to coastal storm flowage (A Zone only) and the outer riparian zone of the Riverfront area or,
 - b. if the leaching facilities for the upgrade is in excess of fifty (50) feet but less than one hundred (100) feet from a wetland resource area, with the exception of land subject to coastal storm flowage (A Zone only) and the outer riparian zone of the Riverfront area, and the upgrade design incorporates the best available design facilities as permitted by MaDEP under Title 5 piloting, provisional and/or general use provisions for treatment to less than 19ppm TN, 1 ppm TP, 30 ppm TSS, and 30 ppm BOD with pre approved monitoring protocols.
3. The following activities within the Buffer Zone shall be considered minor and therefore not subject to regulation under the Town of Dennis Wetlands Protection Bylaw.
 - A. Landscaping Activities

1. Existing Altered/Planted Areas:

- Mowing of existing lawn areas, not currently the subject of an enforcement action.
- Maintenance trimming of existing planted landscape areas, trimming or poison ivy, bittersweet and honeysuckle (Lonicera) excluding other natural and native vegetation, not currently the subject of an enforcement action.
- Conversion of impervious to vegetated surfaces, provided erosion and sedimentation controls are implemented and debris transported outside of buffer zones.

In all other instances, landscaping activities within the Buffer Zone shall be allowed as approved onsite and stated in writing by the Conservation Commission Agent.

B. Structural Activities

- Maintenance of existing structures predating 1972, 1975 and/or structures permitted by an Order of Conditions or Request for Determination of Applicability.
 - Fencing, providing it will not constitute a barrier to wildlife movement.
4. All presently developed lots on which the buffer zone has been disturbed, the undisturbed buffer zone for future activities shall be set at a distance equal to the existing lawfully disturbed setback from the most landward wetland resource area.
 5. Filing fees are established by the Commission for the filing of a Notice of Intent, Abbreviated Notice of Intent, and Request for Determination of Applicability, etc. The Conservation Commission, at its discretion, may from time to time change there fees.
 6. The applicant shall be responsible for providing a copy of the Dennis Conservation Commission's Order of Conditions to the Building and Health Departments. When work permitted by the Order of Conditions (OOC) includes any component of a septic system, copies of the Order of Conditions and Plan of Record shall be provided by the applicant to the Board of Health. When work permitted by the OOC includes construction, alteration, removal or moving of any structure, fence or drainage facilities or the cutting and clearing of vegetation, copies of the OOC and Plan of Record shall be provided by the applicant to the Building Department.
 7. Attention is hereby called to the "Instructions to Applicants" as attached to the appropriate forms. Work done under an Order of Conditions shall, as deemed appropriate, be supervised by the Natural Resource

Officer, an employee of the Conservation Commission and/or a consultant hired by the Conservation Commission.

8. Non criminal disposition of violations is authorized by the Town of Dennis Wetlands Protection Bylaw. The Commission or its agents, at their discretion, may issue up to the maximum fine allowable per day, per offense.

SECTION 6: REGULATIONS FOR HIRING OUTSIDE CONSULTANTS UNDER M.G.L. CH. 44 § 53G

Purpose. As provided by G.L. Ch. 44 §53G, the Dennis Conservation Commission may impose reasonable fees for the employment of outside consultants, engaged by the Conservation Commission, for specific expert services. Such services shall be deemed necessary by the Commission to come to a final decision on an application submitted to the Conservation Commission pursuant to the requirements of: the Wetlands Protection Act (G.L. Ch. 131 §40), the Town of Dennis Wetlands Bylaw (Chapter 187), Conservation Commission Act (G.L. Ch. 40 §8C), or any other state or municipal statute, bylaw or regulation, as they may be amended or enacted from time to time. The Conservation Commission may also impose fees for other consultant services, related to application review, or permit conditioning or monitoring, under any of the above-referenced laws or regulations.

Special Account. Funds received pursuant to these rules shall be deposited with the Town of Dennis treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Conservation Commission without further appropriation as provided in G.L. Ch. 44 §53G. Expenditures from this account shall be made only in connection with a specific project or projects for which a consultant fee has been collected from the applicant. Expenditures of accrued interest may also be made for these purposes. Unexpended funds, if any, will be returned to the applicant at the conclusion of the proceedings.

Consultant Services. Specific consultant services may include but are not limited to resource area survey and delineation, analysis of resource area values, hydrogeologic and drainage analysis, impacts on municipal conservation lands, and environmental or land use law. Services may also include on-site monitoring during construction, or other services related to the project deemed necessary by the Commission. The consultant shall be chosen by, and report only to, the Commission and/or its administrator.

Notice. The Conservation Commission shall give written notice to the applicant of the selection of an outside consultant. Such notice shall state the identity of

the consultant, the amount of the fee to be charged to the applicant, and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses shall be incurred by the applicant if the application or request is withdrawn within five days of the date notice is given.

Payment of Fee. The fee must be received in its entirety prior to the initiation of consulting services. The Commission may request additional consultant fees if necessary review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment, or refusal of payment, shall be cause for the Commission to deny the application based on lack of sufficient information to evaluate whether the project meets applicable performance standards in 310 CMR 10.00 and the Town of Dennis Wetlands Bylaw or its regulations. An appeal stops the clock on the above deadline; the countdown resumes on the first business day after the appeal is either denied or upheld. A denial for lack of information may be based solely on the lack of the third party consultant review identified as necessary by the Commission. The Commission shall specify in its denial the nature of the information lacking which its chosen consultant would provide, e.g. the questions it needs answered.

Appeals. The applicant may appeal the selection of the outside consultant to the Dennis Board of Selectmen, who may only disqualify the outside consultant selected on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The minimum qualifications shall consist of either an educational degree or three or more years of practice in the field at issue or a related field. Such an appeal must be in writing and received by the Dennis Board of Selectmen and a copy received by the Conservation Commission, so as to be received within ten (10) days of the date consultant fees were requested by the Conservation Commission. The required time limits for action upon the application shall be extended by the duration of the administrative appeal.

Return of Unspent Fees. When the Commission's review of a project is completed and an Order of Conditions issued, any balance in the special account attributable to that project shall be returned within 30 days. The excess amount, including interest, shall be repaid to the applicant or the applicant's successor in interest. For the purpose of this regulation, any person or entity claiming to be an applicant's successor in interest shall provide the Commission with appropriate documentation. A final report of said account shall be made available to the applicant or applicant's successor in interest.

Rules and Regulations
Established January 31, 1989
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APPENDIX

- A. FIFTY (50) FOOT NO DISTURB ZONE FROM A WETLAND RESOURCE**
- B. NEW OR EXPANDED DOCK FACILITIES**
- C. SEPTIC SYSTEM LEACHING FACILITIES PROHIBITION WITHIN ONE HUNDRED (100) FEET OF WETLAND RESOURCE AREAS**

APPENDIX A FIFTY (50) FOOT NO DISTURB ZONE FROM A WETLAND RESOURCE AREA (exclusive of land subject to coastal storm flowage)*

Wetland resource areas are recognized as providing many functions and values to society including flood control, groundwater recharge and discharge, water quality improvement, shoreline stabilization, fish, shellfish and wildlife habitat, recreational and educational opportunities and aesthetic values. Wetland buffer zones protect the functions and values of adjacent wetland resources by maximizing water quality, by sustaining hydrology, and by promoting fish, shellfish, wildlife and plant diversity and abundance.

1. Water Quality- Wetlands are generally located in low areas of the landscape, thereby being susceptible to sediment loading from upland sources and to erosion scouring that results from increased water velocities from mismanaged upland surface waters. Vegetated wetland buffers function to reduce adverse impacts to water quality by controlling the severity of soil erosion and removing pollutants from storm water runoff. Soil erosion is reduced within buffers as vegetation and organic debris shields the soil from rain and binds soil particles with root materials. Vegetation acts as an obstruction to water flow thereby decreasing velocities, allowing infiltration and reducing the erosion potential of storm water runoff. As a physical barrier to flowing water, vegetation also traps sediments and other insoluble pollutants. Soluble nutrients and pollutants are also removed or transformed by the soils, bacteria and plants in wetland buffers. Vegetated buffers also scatter sunlight and provide shade, reducing water temperature in the summer, limiting nuisance algae growth and reducing the release of nutrients from the sediment.

2. Hydrology- Wetlands buffers assist in moderating water level fluctuations. Vegetation impedes the flow of runoff and allows it to infiltrate into the ground. The soil then yields this water to the wetland over an extended period of time; thereby, supporting and stabilizing the natural ecosystem. Vegetation also produces litter, which increases the humus content of the soil, which increases absorption and infiltration.

3. Shellfish, fish, wildlife and plant habitat- The vegetated buffers to wetlands have been documented to be one of the richest zones for aquatic organisms, mammals, birds and plants. Seventy-seven (77%) percent of the 86 freshwater wetland dependent animal species in Massachusetts require upland areas. The buffer zone provides essential habitat features to wildlife such as vegetation structure and composition, upland substrate, snags and downed logs, woody debris, banks for nesting, etc. These buffer areas are used for dispersal, feeding, basking, hibernation/aestivation and nesting. The buffers serve to attenuate pollutants and moderate temperature changes for fish and shellfish habitat. These areas also serve as nurture zones for plant diversity. Wildlife and plant species have varying spatial requirements to maintain viable populations for survival. Buffer zones provide an area where animals and some plant varieties

have needed separation and interspersions to reduce competition and maintain populations. Habitat alterations and land use changes within buffer zones can affect wetland dependent animal and plant species by fragmenting habitat to nonfunctional sizes and shapes.

4. Direct Human Disturbance- Vegetated buffers provide visual and physical separation between wetlands and developed environments. Buffer discourage direct human disturbance within a wetland from dumping of debris, cutting of vegetation or trampling.

The width of buffer considered appropriate to protect a wetland from degradation is related to the wetland functions being protected and buffer functions being provided. Buffer zones provide the following functions:

- Sedimentation removal
- Nutrient cycling
- Fecal coliform removal
- Temperature moderation
- Human impact deterrence
- Wetland species distribution and diversity

Scientific studies have documented that buffer effectiveness increases with buffer width and that buffer zones less than fifty (50) feet in width are generally ineffective in protecting wetlands. Undisturbed buffer zones fifty (50) feet and wider are necessary to protect wetlands from an influx of sediment and nutrients, to protect wetlands from direct human disturbance, to protect sensitive wildlife species and plant habitat from adverse impact and to protect wetland from adverse effects of changes in the quantity and temperature of water entering the wetland. Uplands immediately adjacent to wetlands vary in their ability to reduce adverse effect of developmental/land use change dependent upon their slope and percentage vegetative cover. Currently the Massachusetts Wetlands Protection Act and Regulations regulate the buffer zone only to protect the wetland from overland flow discharges of excess soil particles or other undesirable byproducts into the wetland. Wetland resource health and sustainability can be measured in terms of water quality, hydrology, plant an animal species diversity and abundance, which as stated above are the protective functions provided by wetland buffer areas. These functions are not protected or regulated, except for soil erosion and transport, by existing, and even less by proposed state statutes.

* References:

- Boyd, Lynn 2001. Wildlife Use of Wetland Buffer Zones and their Protection under the Massachusetts Wetlands Protection Act. University of Massachusetts Department of Natural Resources Conservation 33pp.

- Castelle, A.J. et al 1992. wetland Buffers: Use and effectiveness. Adolfson Associates, Inc., Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Pub. No. 92-10
- Berkshire Regional Planning Commission 2003. Massachusetts Vegetated Buffer Manual prepared for Massachusetts Department of Environmental Protection.

APPENDIX B: NEW OR EXPANDED DOCK FACILITIES*

Impacts relating to dock facilities occur during construction and use phases. The Commission recognizes that short term construction impacts can often be mitigated, however, ongoing use impacts constitute long term impacts that can and frequently do, adversely effect water quality and habitat. In order to maximize protection of shellfish and associated habitat areas recognized by the Town of Dennis to be significant to public resources, the construction of new and/or the enlargement of existing dock facilities shall not be permitted if their construction or use would result in any adverse effect/significant effect to shellfish, habitat and/or aquaculture areas. This prohibition may be overcome if the Commission deems that proposed mitigation will serve to enhance the protection of the wetland resource and the interests of the Town of Dennis Wetlands Protection Bylaw, will serve to insure that water quality within shellfish management/aquaculture areas important to public recreation interests and shellfish populations and biodiversity will not be adversely effected by conflicting boating use. Water quality effects resulting from construction and use of dock facilities include, but are not limited to:

- Alterations in water circulation.
- Alterations in distribution of sediment grain size
- Changes in dissolved oxygen nutrients, temperature, turbidity and or
- The addition of pollutants

* Reference Massachusetts Coastal Zone Management Pier and Dock Facilities Guidelines and Barnstable County Extension Service Dock and Pier Project Draft Report dated September 23, 2002; *The Effect of Boat Docks on Eelgrass Beds in Coastal Waters of Massachusetts* by Burdick and Short in *Environmental Management Vol 23 No. 2 pp 231-240*; and *Environmental and Aesthetic Impacts of Small Docks and Piers NOAA Coastal Ocean Program Decision Analysis Series No. 22*

APPENDIX C: SEPTIC SYSTEM LEACHING FACILITIES PROHIBITION WITHIN ONE HUNDRED (100) FEET OF WETLAND RESOURCE AREAS

Groundwater supply and quality is critical to the health of Town of Dennis wetland resource areas and protected interests. Alterations to the landscape resulting from human activities have been documented to adversely affect both groundwater supply and groundwater quality. Under the provisions of the Town of Dennis Wetlands Protection Bylaw, the Conservation Commission is charged with protecting the health of wetland resource areas and interests. Accordingly, to maximize protection of groundwater resources, freshwater wetland resources and coastal wetland resources, leaching facilities for onsite sewage disposal shall not be located within any wetland resource area or buffer zone to any wetland resource area, with the exception of land subject to coastal storm flowage (A Zone only). This prohibition proceeds based on the following rationale:

- Contaminates originating in wastewater have been shown to accelerate natural processes in wetland resource areas (eutrophication) to the point where the negative effects on the interests expressed in the Town of Dennis wetland Protection Bylaw may be substantial. Accordingly, the best available information should be incorporated into resource management policy and regulations to avoid or limit these effects. (George Heufelder, Director of Barnstable County Health Department).
- Greater horizontal separations between wetland resources and facilities that emanate wastewater provides a treatment zone in which contaminant levels can return more closely to their undisturbed background levels. (George Heufelder, Director of Barnstable County Health Department).
- Contaminates that impact the public health status of certain resource areas (such as shellfish areas and bathing beaches) have occurred at horizontal separations that are less restrictive than the boundary of the buffer zone. (George Heufelder, Director of Barnstable County Health Department).
- An undisturbed buffer zone (area where no contaminants are being released) serves as a mitigating area which facilitates the dilution of contaminants originating from outside the buffer area. (George Heufelder, Director of Barnstable County Health Department).
- The physical disturbance of surface vegetation and soil structure that is associated with leach field construction and placement can alter the ability of the buffer zone to attenuate the effects of activities that effect the resource areas, thus negating the purpose and function of the buffer zone. (George Heufelder, Director of Barnstable County Health Department).

- Public health thresholds for nitrogen loading is generally set at 5 or 10 ppmTN. The Conservation Commission interests include drinking water supplies and wetland resource interests. Nitrogen loading to brackish and salt water resources *may* result in eutrophication of those resources. Best available information from the Commonwealth of Massachusetts Estuaries Program and the Cape Cod Commission indicates a loading rate of less than 1.0 ppm total nitrogen (TN) to trigger eutrophication to nitrogen sensitive resource areas. (Cape Cod Commission Water Resources).