

Recreational Docks Status and Trends

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Section 3004. & 300.18

- **300.4 Recreational Boating Facilities**

Recently rewritten to include many items that were policy but not written and has measurable standards

- **300.18 Submerged Aquatic Vegetation
and Aquatic Habitats of Particular Concern**

Recently revised

- Residential Boating Facility – a dock, pier, wharf or float or combination of such facilities, contiguous to a private residence, condominium, cooperative or other home owners association properties that may accommodate up to 4 boats.

Policies

- Must be registered and have a number plate
- Must be designed and constructed to withstand the environmental site conditions.
- *To limit cumulative impacts encourage use by multiple users and prevent congestion. We also need due regard for capability of the area to support boating and compatibility with other existing uses and ecological considerations.*

Prerequisites

- All structures shall be within the property line extensions and have a minimum of 25' from those extensions. Less than 25' requires a variance request and a letter from the impacted property owner agreeing to the reduced setback.



Standards

- Table 3 (next slide) is minimum but it needs to withstand 50 year storm with breaking waves in accordance with ASCE-7 and FEMA Manual 5 done by a Professional Engineer.
- All docks must have acceptable Bathymetry (we have a method when no BM is nearby) shown with MLW datum, all coastal and submerged vegetation.
- All new and replacement floats need to be encased foam.
- 300.17 – Coastal Wetlands – the issue of “docks versus walkover structure” has been corrected.
- No Steel or Concrete piles allowed for residential docks.
- Docks shall be located with GPS coordinates on the plans.
- High fetch docks (4miles with 20° sector) now require engineer to certify that it was constructed according to plans and provide an as-built plan, required to meet 100 year storm loads with uplift.
- High fetch docks are required to be inspected every 5 years and certified that they still meet the requirement of ASCE-7.
- Out hauls are now covered in our rules.
- 300.17 & 300.18 are now integrated into rule with standards

TABLE 3 MINIMUM DESIGN CRITERIA

Min. Pile Tip dia	10"	Min / Max Float freeboard	8" / 30"
Min. Pile But dia	12"	Maximum Fetch for residential docks	4 miles
Marina Minimum Pile embedment	15 feet	Minimum water depth for residential docks (at terminus)	1.5 feet at MLW
Residential Minimum Pile embedment	10 feet	Minimum Stringer/Joist	3"x10"
Minimum Marina Deck and Float load	60 psf LL 500 lb concentrated	Minimum through bolt Hardware Diameter – hot dipped galvanized	–"
Residential Deck load	40 PSF LL 400 LB concentrated	Minimum Cross bracing	3"x10"
Min Float Freeboard <small>*including LL and DL</small>	12"	Minimum lag bolt diameter	–"
Design Wind Loads	wind gust based on 50 year return and natural period of 60 seconds	Minimum Water depth at the terminus of recreational boating facilities	18"
Wave Conditions (min)	All fixed and floating structure shall be designed for a 3' minimum		
Min Pile Cut Off	V zone elevation + float freeboard + 1'		
Steel or cast steel	490 pcf		
Cast iron	450 pcf		
Aluminum alloys	175 pcf		
Timber (untreated)	40 - 50 pcf		
Timber (treated)	45 – 60 pcf		
Concrete, reinforced (normal weight)	145 – 155 pcf		
Concrete, reinforced (lightweight)	90-120 pcf		
Asphalt paving	150 pcf		
Granite Block	165 pcf		



Review of Environmental Criteria for the evaluation of docks

300.4 - Definitions

300.4.A.12 - Environmental Site Conditions: all elements, environmental, engineering and geologic that affect a particular location. These items shall primarily include, fetch, wave conditions, wind conditions, bathymetry, currents, soil bearing capacity, ice impacts, tide range, flood elevation, velocity zone, littoral conditions, erosion/accretion characteristics, **presence of wetlands, sub-aquatic vegetation, marine resources and associated habitats.** Other site specific conditions may be required for review.

300.4 - Policies

300.4.B.2(b): In order to limit the cumulative impacts of multiple individual residential boating facilities, the Council encourages the construction of facilities that service a number of users. It is the policy of the Council to manage the siting and construction of recreational boating facilities within the public tidal waters of the state to prevent congestion, and with due regard for the **capability of coastal areas to support boating and the degree of compatibility with other existing uses of the state's waters and ecological considerations.**

300.4.B.2(c): All recreational boating facilities shall be designed and constructed to adequately withstand appropriate environmental conditions present at the site and to **minimize impacts to existing resources.**

300.4 - Standards

300.4.E.3(g): Where possible, residential boating facilities **shall avoid crossing coastal wetlands**. In accordance with Section 300.17, those structures that propose to extend beyond the limit of emergent vegetative wetlands are considered residential boating facilities. Facilities shall be located along the shoreline so as to span the minimal amount of wetland possible. **Facilities spanning wetlands shall be elevated a minimum of four (4) feet above the marsh substrate** to the bottom of the stringers, or constructed at a 1:1 height to width ratio. Construction in a coastal wetland shall be accomplished by working out from completed sections. When pilings are placed within coastal wetlands, only the immediate area of piling penetration may be disturbed. **Pilings should be spaced so as to minimize the amount of wetland disturbance**. No construction equipment shall traverse the wetland while the facility is being built.

300.4 – Standards (cont.)

300.4.E.3(w): In order to minimize impacts to existing areas of **Submerged Aquatic Vegetation (SAV)** habitat, new residential boating facilities or modifications to existing residential boating facilities shall be **designed in accordance with the guidelines and standards contained within Section 300.18**, as most recently revised. Facilities shall be located along the shoreline so as to **impact the minimal amount of habitat possible**.

300.4.E.3(x): **The long-term docking of vessels at a recreational boating facility shall be prohibited over SAV. Such facilities shall be used for touch and go only.**

300.18 Submerged Aquatic Vegetation

Effective May 22, 2007

300.18.E.2: For activities under Sections 300.3, **300.4**, 300.6, 300.9, 300.10, 300.11, and 300.15, the **Council shall require SAV surveys** in tidal waters of the **south shore salt ponds** and **other shallow water embayments**, around **Jamestown, Newport** and in other areas when the Council's staff has **evidence of SAV habitats**. In areas where the Council's Staff **lacks enough evidence** to make a determination of SAV presence or absence, an **SAV survey may be required**.

Criteria for the Construction of Residential Boating Facilities in areas of SAV habitat

300.18.E.5(a): If it is determined that SAV cannot be **avoided**, the impact to the bed must be **minimized** by **reducing the amount of structure over the bed**, by making provisions for **avoiding the docking or mooring of boats over the bed** and through the **utilization of a design which minimizes boat travel through the bed** as necessary to minimize propeller impacts including leaf shearing and sediment scouring.

SAV- Deep and Shallow Water Habitats

300.18.B.3: Deep water habitats include subtidal waters bordering the immediate shoreline **where a depth of three (3) or more meters is typically achieved within 100 to 200 feet seaward of the MLW mark.** In these areas, eelgrass is typically limited to the shoreline fringe. This environmental setting is typical of the open waters of Narragansett Bay, Block Island and Rhode Island Sounds. Examples of these areas include the shorelines of Prudence Island, Jamestown and Block Island

300.18.B.4: Shallow water habitats include subtidal waters **where a depth of 3 meters is not attained within 100 – 200 feet of the shoreline and where the average waterbody depth is generally less than 3 meters.** This situation is typical of the salt ponds and other shallow coastal embayments. On the southern shore of the state are a series of coastal lagoons (“salt ponds”) connected to Block Island Sound and the

SAV Deep Water Habitat Standards

- **300.18.E.5(b):** Docks which cannot avoid the crossing of SAV shall minimize shading impacts through the utilization of a design which is consistent with the “**Burdick and Short**” method. Docks designed to the Burdick and Short method shall extend to a **minimum depth of – 5’ MLW** or shall extend to the seaward limit of the bed. CRMC regulations **prohibit** the installation of **floats** over eelgrass beds (see 300.18.D.2). Facilities which do not span the bed shall terminate as an elevated fixed pier or may utilize a **fixed “T” or “L” section** which is turned at a 90 degree angle to the main pier. All fixed “T” and “L” sections shall be designed to meet Burdick and Short. Access from the fixed pier, “T” or “L” section shall be by a **ladder**.

SAV Shallow Water Habitats Standards

- **300.18.E.5(e)**: In shallow water habitats, where it is possible to **avoid** the bed by **limiting the seaward extent of the facility**, the design plans must depict the inland edge of the existing bed as well as depth soundings along the proposed facility. If a depth of **18 inches at MLW is obtained prior to encroaching on SAV**, then the dock shall terminate at that length and depth.

SAV Boat Lifts (Deep Water)

- **300.18.E.5(d):** Where a facility is **not authorized to have a float, boat lifts to service tenders 12' in length or less and having a 1,200 pound weight capacity or less may be authorized.** These lifts shall be located near the terminus of the “T” or “L” section and achieve a minimum depth of **-4' MLW**. Boat lifts of greater capacities over SAV are prohibited (See 300.18 D3).

Trends & Future Policy Issues

- We have some cumulative impact policies but no standards. Its very difficult to conclude that a particular dock or certain number of docks will cause a problem. And, we are seeing more dock applications all the time.
- There are few “hard and fast” environmental standards for the evaluation of dock impacts on marine resources. Individual staff assessments will continue to be required to evaluate the potential impacts of dock proposals against the Council’s policies of protecting coastal ecology, marine resources and the associated uses of the State’s coastal resources.
- Application for high fetch areas and other difficult locations are becoming more frequent; the regulations may not have enough teeth.