



# The Commonwealth of Massachusetts

## Division of Marine Fisheries

251 Causeway Street, Suite 400, Boston, MA 02114

p: (617) 626-1520 | f: (617) 626-1509

[www.mass.gov/marinefisheries](http://www.mass.gov/marinefisheries)



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June 17, 2020

Cohasset Conservation Commission  
Town Hall  
41 Highland Avenue  
Cohasset, MA 02025

Dear Commissioners:

The Division of Marine Fisheries (MA DMF) has reviewed the Notice of Intent by Paul and Jill Tedeschi, 75 Border Street, to construct a pier, ramp and float on The Gulf in the Town of Cohasset, with respect to potential impacts to marine fisheries resources and habitat.

Much of the proposed walkway would be constructed over salt marsh vegetation. Salt marsh provides a variety of ecosystem services, including habitat and energy sources for many fish and invertebrate species [1,2,3].

MA DMF offers the following comments for your consideration:

- Docks and piers can reduce the density of underlying salt marsh vegetation through increased shading [4]. A recent MA DMF field study of dock shading impacts found that 4-foot wide docks set at a 1:1 H:W ratio resulted in the loss of approximately half of the underlying marsh biomass within 3 years of installation. MA DMF recommends that the dock decking be set at a minimum 1.5:1 H:W ratio as this increased height resulted in both greater light penetration and marsh growth relative to docks set at the minimum 1:1 H:W [5,6]. To meet a 1.5:1 H:W ratio, a 4' pier should be elevated at least 6' off the salt marsh. The height for this ratio should be measured from the marsh surface to the **base** of the horizontal support stringer.
- The float will be positioned at the MLW line. The float and attached vessels should be prevented from grounding. The float will have skids and should maintain at least 18" above the substrate at all times.

Questions regarding this review may be directed to [eileen.feeney@mass.gov](mailto:eileen.feeney@mass.gov).

Sincerely,

*Eileen M. Feeney*

Eileen M. Feeney  
Fisheries Habitat Specialist

cc: Joshua Green, Merrill Engineers and Land Surveyors  
Paul Pattison, Shellfish Constable  
Barbara Newman, DMF  
Robert Boeri, CZM  
Holly Williams, MA DMF  
Tom Shields, MA DMF

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#### References

1. Boesch DF, Turner RE (1984) Dependence of fishery species on salt marshes: the role of food and refuge. *Estuaries* 7: 460-468.
2. Deegan LA, Garritt RH (1997) Evidence for spatial variability in estuarine food webs. *Marine Ecology Progress Series* 147: 31-47.
3. Deegan LA, Hughes JE, Rountree RA (2000) Salt marsh ecosystem support of marine transient species. In: Weinstein MP, Kreeger DA, editors. *Concepts and Controversies in Tidal Marsh Ecology*: Kluwer Academic Publisher, The Netherlands. pp. 333-365.
4. Sanger DM, Holland AF, Gainey C. Cumulative impacts of dock shading on *Spartina alterniflora* in South Carolina estuaries. *Environ Manage.* 2004;33: 741-748.
5. Logan JM, Davis A, Markos C, Ford KH. Effects of docks on salt marsh vegetation: an evaluation of ecological impacts and the efficacy of current design standards. *Estuaries Coasts.* 2018;41: 661-675.
6. Logan JM, Voss S, Davis A, Ford KH. An experimental evaluation of dock shading impacts on salt marsh vegetation in a New England estuary. *Estuaries Coasts.* 2018;41: 13-24.