

Siting Considerations for New and Expanding Marinas

Environmental Concerns



For copies of DNREC's Marina Guidebook, call DNREC's Wetlands and Subaqueous Lands Section at (302) 739- 9943.

The natural plant and animal communities of coastal areas serve multiple functions. Wetlands, for example, provide habitat for fish and fowl. They form a natural buffer against incoming storms and act as a filter to purify stormwater runoff from the land. Wetlands also minimize erosion and support tourism, hunting, and fishing. Because of the ecological, economic, recreational, and aesthetic values inherent in coastal resources, it is important that shoreside development not diminish these features.

The Delaware Department of Natural Resources and Environmental Control (DNREC) is responsible for protecting, preserving, and enhancing the environmental quality of the water, air, and land of Delaware. DNREC adopted Marina Regulations in 1990, the full text of which is included as Appendix X of this Delaware Clean Marina Guidebook. DNREC also maintains a *Marina Guidebook* that contains useful information about the planning, design, and operation of marinas. This guidebook can be used as a public service, as an educational tool, and for technology transfer, and is available on request directly from DNREC.

The following are Delaware's environmental siting considerations:

Vessel Storage. Marina Permit applications that involve new water-based vessel storage (wet slips) must demonstrate to DNREC's satisfaction that (a) no practicable and appropriate comparable land-based vessel storage alternatives exist, or (b) that available land-based alternatives have an equal or greater adverse impact on the aquatic environment than comparable water-based vessel storage alternatives. When evaluating comparability, the Department will consider number of slips, location, intended use, and proposed ancillary facilities.

Water Quality Assessment. DNREC's mandate is to prevent degradation of the surface and ground waters of the State which might result from any pollutant source, so that all existing water designated uses are maintained and protected. Marinas shall be permitted only if they do not cause a violation of established Delaware water quality regulations.

Applicants for new marinas or expansions of existing marinas must provide, as part of a Siting and Design Study, a documented and valid assessment of the potential water quality impacts of the design, construction, and operation of the proposed marina, specifically, the assessment must explicitly address fecal coliform and dissolved oxygen surface water quality standards. Other parameters may be required by DNREC if there is a documented concern.

At a minimum, a valid assessment will include appropriate modeling, monitoring, and data analysis to determine the following:

- (1) The flushing characteristics of the proposed marina (maintaining water quality within a marina basin depends on how readily a marina renews its waters, a process known as “flushing”);
- (2) The spatial extent of the shellfish harvest closure zone. The closure zone shall be clearly indicated on an appropriate USCG chart of the area; (See also, Chapter 7)
- (3) The 24 hour average dissolved oxygen concentration and the one hour (or instantaneous) minimum dissolved oxygen concentration both inside the marina and in adjacent ambient waters.

Cumulative Impacts. DNREC reserves the right to consider the cumulative impacts of clusters of proposed new and existing developments in a finite receiving waterbody. Therefore, even in cases where such projects, if considered alone, would comply with applicable State regulations, DNREC may still deny an individual application or applications, or may require each applicant to make modifications so that the cumulative impacts of the projects will not cause violations of State regulations.

Wetlands. Wetlands perform many vital functions, such as serving as highly productive nursery areas for water and land organisms, providing nutrients, reducing flood damages, and maintaining water quality by trapping sediment and filtering pollutants.

No activity may occur in State-regulated wetlands without first obtaining a permit from DNREC pursuant to The Wetlands Act (Title 7, Del. C., Chapter 66) and the Wetlands Regulations. DNREC’s policy is to preserve and protect public and private wetlands and to prevent their despoliation and destruction consistent with the historic right of private ownership of lands.

DNREC strictly regulates the location of marinas in wetlands. Marinas shall be limited to those sites where applicants can demonstrate that short and long-term adverse impacts to the biological, chemical, and physical integrity of wetlands and their functions have been avoided, and that unavoidable impacts have been minimized and can be compensated for.

Before DNREC allows disturbance of wetlands, the applicant must demonstrate that all practicable alternatives to avoiding wetland impacts have been thoroughly examined and the results of such examinations have been provided to DNREC. In all cases, the applicant must demonstrate that the purchase of additional property to avoid the wetland impacts is impracticable.

If wetland impacts cannot be avoided, and the applicant has demonstrated that wetland impacts have been minimized, DNREC may allow compensation. Compensation plans must provide for the creation or restoration of an area of wetlands that is of equal or greater value than the area that will be disturbed or destroyed so that there is no net loss of wetlands.



Debris and silt tend to collect in poorly flushed areas and will eventually settle to the bottom. As the debris is decomposed by bacteria, oxygen is removed from the water. Water quality may suffer if oxygen is not replaced as quickly as it is removed.



Shellfish Resources. The Siting and Design Study must include a description of all measures taken to first avoid and then minimize unavoidable impacts to shellfish resources. DNREC will consider the following impacts of proposed marina facilities on shellfish resources:

- a. Impacts on the organisms themselves, including their ability to survive, grow and propagate, without regard to potential use by humans; and
- b. Impacts that may cause a violation of the Delaware Surface Water Quality Standards; and
- c. Impacts on the public's ability to harvest and consume edible shellfish species based upon the shellfish growing area classification proposed by the DNREC Division of Water Resources for the marina or marina alteration under consideration.

Submerged Aquatic Vegetation (SAV). SAV is protected because it provides shelter and a source of food to small aquatic organisms, and because of its ability to filter and remove suspended solids and disperse wave energy.

- a. Applicants must demonstrate that short and long-term impacts to SAV have been avoided, and that unavoidable impacts have been minimized and can be compensated for. Marina projects that could cause the destruction of SAV without corresponding compensation as approved by DNREC shall not be permitted.
- b. Shading of SAV by piers should be avoided.

Benthic Resources. Benthic resources, the plants and animals that live in and on the seabed, are protected because of their importance in the food chain and their value as commercial and recreational food sources. The status of a benthic community shall be assessed by the applicant using frequency, diversity, and abundance measures approved by DNREC. DNREC may require monitoring of the benthic resources as a permit condition.

Critical Habitats. Construction of marinas shall not be permitted at sites that are recognized by DNREC as critical habitats.

Recreational Water Use Areas. Marinas are not permitted at sites which conflict with Recreational Water Use Areas as duly adopted by the State.

Mitigation Measures. All mitigation and compensation measures must be reviewed and approved by DNREC before a permit can be issued. DNREC approvals may establish a schedule for completion of approved compensation projects. The intent of this policy is to assure no net loss of aquatic habitat productivity, including flora and fauna.

Compensation may be allowed by DNREC to offset unavoidable impacts to existing wetlands and SAV beds, generally in the ratio of 2:1 for areas disturbed. Compensation will only be considered if the applicant has demonstrated suitable avoidance and minimization. This may require modification of marina plans, including limiting the number of slips and/or rearranging the marina configuration.

Wetland functions and values encompass:

- Environmental quality values (water quality maintenance, aquatic productivity, microclimate regulation, etc.)
- Fish and wildlife values (habitat for fish and shellfish, waterfowl and other birds, fur bearers, and other wildlife)
- Socioeconomic values (flood control, erosion control, water supply, fishing and hunting, aesthetics, research, education, etc.)

Compensation shall be with the same species (flora and fauna) and soil types that were disrupted unless alternate species or soil types are approved by DNREC. For wetlands, post creation/restoration monitoring shall be required for a minimum of three (3) years after completion of the compensation project.

Information Sources

Appendix I

Local Planning and Zoning Offices

Delaware Department of Natural Resources and Environmental Control (DNREC)

- For copies of DNREC's *Marina Guidebook* or *Marina Regulations*, call DNREC's Wetlands and Subaqueous Lands Section (302) 739-9943
- Division of Water Resources, Shellfish Program (302) 739-9939

U.S. Fish and Wildlife Service (413) 253-8200