

DNREC comments on Bowers Beach Comprehensive Plan

All towns have their own distinct personality. The Town of Bowers clearly states its desire to preserve its “tranquil bay front” nature and resist overdevelopment. The town’s goals, even though clearly stated, should be backed up by protective ordinances (see Water Resources comments) and perhaps proactive annexations that prevent a large-scale residential development project from threatening to overtake and transform the town. This threat has occurred in other small Delaware Bay coastal towns that were unprepared for it.

The town’s fishing village character and natural setting are clearly assets and may be an attraction for eco-tourism services – birding, nature photography, bed and breakfast establishments, hunting and fishing guides, etc. These low-impact services would bring revenues to the town. As noted at the PLUS meeting, the town lacks some very basic services (e.g., hydrants) that represent a minimum threshold level of services for even the smallest towns.

We also recommend the Town mention, in its plan, its partnership with DNREC to develop a Coastal Resiliency Action Plan that will address existing and future coastal hazards related to sea-level rise.

Most of our comments focus on implementation of the plan. DNREC would welcome the opportunity to work with the Town on any implementing ordinances. We invite you to contact Lee Ann Walling or Kevin Coyle of DNREC’s Planning Section, 739-9000, for assistance.

Fish and Wildlife

Beach Altering Activities: replenishment, dredging, groins, etc. On page 15, section 10.2.2, Federal Wetlands Regulations, there is brief mention about beach altering activities such as replenishment, groin construction, breakwaters, and dredging. However, there is no indication if the Town plans to implement any of these activities in the future. Most of these activities have the potential to impact valuable horseshoe crab and shorebird habitat. We highly recommend that the Town work closely with the Division of Fish and Wildlife on this issue prior to planning any beach altering activities.

Bowers Beach provides highly valuable horseshoe crab habitat. It has often ranked among the top five beaches in terms of bayside (DE & NJ) horseshoe crab spawning activity based on Delaware Bay Horseshoe Crab Spawning Survey numbers (Michels and Smith 2008). In addition, the area immediately offshore of Bowers Beach is an extremely valuable nursery area for juvenile horseshoe crabs. Based on the Delaware Division of Fish and Wildlife’s 16-foot bottom trawl sampling, Bowers Beach has the highest relative abundance of young-of-the-year horseshoe crabs and the third highest relative abundance of all immature (<160mm) horseshoe crab size-classes (DE DFW unpubl.).

In addition, there are relatively large numbers of shorebirds using the area, presumably feeding on the abundance of horseshoe crab eggs. These eggs are an important food source in the spring when various species of shorebirds stop-over in Delaware during migration.

The near shore waters around Bowers Beach also provide important nursery habitat for a number of the Bay's commercially and recreationally important finfish and shellfish species: blue crab, weakfish, summer flounder, spot, Atlantic croaker, Atlantic menhaden, bluefish and striped bass (Michels and Greco 2008; DE DFW unpubl.).

Page 22, 11.5 Housing: In this section the Town states that they favor a 750-foot setback on undeveloped parcels. It is not clear if the 750-foot setback along the Delaware Bay Coast is from mean high tide or some other distance.

Appendix 1, Annexation Plan. Wetlands, on land proposed to be annexed, are mapped as key wildlife habitat in the Delaware Wildlife Action Plan (DEWAP). DEWAP is a comprehensive strategy for conserving the full array of native wildlife and habitats-common and uncommon- as vital components of the state's natural resources. This document can be viewed via our program website at <http://www.dnrec.state.de.us/nhp>. This document also contains a list of species of greatest conservation need as well as species-habitat associations.

Efforts should be made to avoid or minimize impacts to those wetlands. At least a 100-foot upland buffer should be left intact around the perimeter of the wetlands should these lands be developed in the future. Lot lines and infrastructure should not be located within the buffer zone to ensure the buffer remains intact. *Edna Stetzar - (302) 653-2880, Edna.Stetzar@state.de.us*

Parks and Recreation Facilities

We note that the plan does not address recreational facilities. The Town of Bowers Beach has two recreational facilities within its municipal boundaries.

1. Bowers Beach Fishing Access- 14 acres managed by the Department of Natural Resources and Environmental Control, Division of Fish and Wildlife. This location provides water access via three boat ramps.
2. North Bowers Beach Community Park- 2 acres of parkland. This site has playground equipment, a basketball court, a pavilion, and picnic tables.

The Division of Parks and Recreation provides matching grant assistance through the Delaware Land and Water Conservation Trust Fund (DTF) to local governments for land acquisition and for park development. Lands that have received DTF assistance are publicly accessible lands that must remain as

open space for conservation or recreation purposes in perpetuity. North Bowers Beach Community Park has received funding through the DTF program. For more information regarding North Bowers Beach Community Park, or on the Delaware Land and Water Conservation Trust Fund, please contact: Robert Ehemann @302.739.9235

Potential Brownfield sites

DNREC's Site Investigation and Restoration Branch (SIRB) encourages the development of Brownfields and can provide assistance when investigating and remediating Brownfield sites. Although SIRB has no specific comments regarding the proposed comprehensive plan at this time, if any future development occurs on sites with previous manufacturing, industrial, or agricultural use, SIRB recommends that a Phase I Environmental Site Assessment be conducted prior to development, due to the potential for a release of hazardous substances. If a release or imminent threat of a release of hazardous substances is discovered during the course of future development (e.g., contaminated water or soil); construction activities should be discontinued immediately, and DNREC should be notified at the 24-hour emergency number (800-662-8802). In addition, SIRB should be contacted as soon as possible at 302-395-2600 for further instructions.

Water Resources comments

Page 11, Soils

The plan should reference the recently completed soil survey update for soils information in the immediate vicinity of Magnolia. Please contact the NRCS for additional information.

Page 19, Total Maximum Daily Loads

The Comp Plan should replace the existing narrative with the following:

The Town of Bowers is located within the greater St. Jones and Murderkill River watersheds.

Under Section 303(d) of the 1972 Federal Clean Water Act (CWA), states are required to identify all impaired waters and establish total maximum daily loads to restore their beneficial uses (e.g., swimming, fishing, and drinking water). A TMDL defines the amount of a given pollutant that may be discharged to a water body from point, nonpoint, and natural background sources and still allows attainment or maintenance of the applicable narrative and numerical water quality standards. A TMDL is the sum of the individual Waste Load Applications (WLA's) for point sources and Load Allocations (LA's) for nonpoint sources and natural background sources of pollution. A TMDL may include a reasonable margin of safety (MOS) to account for uncertainties regarding the relationship between mass loading and resulting water quality. In simplistic terms, a TMDL matches the strength, location and timing of pollution sources within a watershed with the inherent ability of the receiving water to assimilate the pollutant without adverse impact.

A Pollution Control Strategy (PCS) specifies actions necessary to systematically achieve pollutant load reductions specified by a Total Maximum Daily Load for a given water body; and must reduce pollutants to level specified by the State Water Quality Standards. A variety of site-specific best management practices (BMPs) will be the primary actions required by the PCS to reduce pollutant loading(s).

The Town of Bowers is located within the greater Delaware River and Bay drainage; specifically within the St. Jones and Murderkill River watersheds. The pollutants specifically targeted for reduction in the St. Jones and Murderkill watersheds are nutrients (e.g., nitrogen and phosphorus) and bacteria (See table 1). As mentioned previously, these TMDL pollutant reductions must be met in order to satisfy the water quality goals and criteria in the State Water Quality Standards (See table 1). The PCS for both the St. Jones and Murderkill watersheds are projected for completion/approval by July 2009.

Delaware River and Bay drainage	N- reduction requirements	P-reduction requirements	Bacteria-reduction requirements
St. Jones	40%	40%	90%
Murderkill River watershed	30%	50%	32% fresh & 65% marine

Table 1: TMDL Nutrient (Nitrogen and Phosphorus) and Bacteria reduction requirements for the St. Jones and Murderkill watersheds.

Stormwater/Drainage comments

The Town should consider identifying **problem drainage areas** within the Town’s boundaries. Contact the Drainage Program (302-855-1955) concerning technical assistance for the maintenance and upgrade of private drainage ways within the town.

Ditches within the town will require periodic reconstruction at intervals dependent upon the sedimentation load. Periodic reconstruction involves the removal of sediment from the ditch bottom to establish or re-establish a design grade. The removed sediment, referred to as spoil, is typically disposed of by spreading or piling alongside the ditch or hauled from the site. A **Drainage Management Plan** should include a maintenance plan for drainage conveyances, designating points of access for maintenance equipment, and spoil disposal areas.

Be advised the Sediment and Stormwater Program is currently undergoing revisions to the sediment and stormwater regulations. It is unclear at this time when the new regulations will be promulgated.

The Town should explore the feasibility of a **stormwater utility** to fund upgrades to existing stormwater infrastructure. Upgrades to the stormwater system may reduce pollutant loads and help reach the established total maximum daily load for nitrogen, phosphorus, and bacteria. Reach out to the Kent Conservation District, Kent County, and the Delaware Clean Water Advisory Council as partners in funding stormwater retrofits.

The Town should consider obtaining **drainage easements** along waterways, ditches, and storm drains where currently there is none. The Town should have the ability to perform maintenance on the drainage conveyances within the town without going through the time-consuming process of obtaining landowner permission to survey and construction agreement signatures.

If the Town does not have a **lines and grades requirement** for new construction, the Division recommends this be considered to help resolve drainage issues arising from new construction, and redevelopment, during and post construction. County/municipal building inspectors would be able to use approved lines and grades requirement to field verify prior to issuance of Certificate of Occupancy or building permit, as appropriate.

The Division of Soil and Water Conservation is requesting that the Town incorporate a requirement for a **stormwater and drainage review** into the Town's preapproval requirements for new development requests. Proposed development projects should hold a pre-application meeting with the delegated agency, the Kent Conservation District, to discuss stormwater and drainage prior to the town reviewing and/or approving plans or issuing building permits. Please contact Elaine Webb with the DNREC Sediment and Stormwater Program if you have any questions regarding this new process. Please note that this process does not replace the State's PLUS process. The SIS Findings report will also be provided through that process.

Plan Implementation

Page 28, Implementation Section: The Plan should offer more specific "actionable" environmental protection strategies than currently offered. We recommend an ordinance or ordinances that would:

- a) Require all applicants to submit to the City a copy of the development site plan showing the extent of State-regulated wetlands (as depicted by the State Wetland Regulatory Maps), and a United States Army Corps of Engineers (USACE) approved wetlands delineation as conditional approval for any new commercial and/or residential development. Additionally, the site plan should depict all streams and ditches which are jurisdictional pursuant to the Subaqueous Act (7 Del. C., Chapter 72) as determined by DNREC.
- b) Help protect freshwater wetlands where regulatory gaps exist between federal and state jurisdictions (i.e., isolated wetlands and headwater wetlands).
- c) Require a 100-foot upland buffer width from all wetlands or water bodies (including ditches). Based on a review of existing buffer research by Castelle et al. (1994), an adequately-sized buffer that effectively protects wetlands and streams - in most circumstances - is about 100-foot in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from the landward edge of all wetlands and water bodies (including all ditches).
- d) Require an impervious surface mitigation plan for all residential and commercial developments exceeding 20% imperviousness. In commercial developments, it is strongly recommended that pervious paving materials be required on at least 50% of the total paved surface area(s).

- e) Require the calculation for surface imperviousness (for both commercial and residential development) take in to account all constructed forms of surface imperviousness - including all paved surfaces (roads, parking lots, and sidewalks), rooftops, and open-water stormwater management structures.
- f) Require the assessment of a project's TMDL nutrient loading rate through use of the Department's nutrient budget protocol. The applicant should be further required to use any combination of approved Best Management Practices (BMPs) to meet the required TMDLs for the affected watershed(s) in question.
- g) Exclude structural Best Management Practices (BMPs) such as community wastewater treatment areas, open-water stormwater treatment structures and natural areas containing regulated wetlands from consideration as open space.
- h) Prohibit development on hydric soil mapping units. Proof or evidence of hydric soil mapping units should be provided through the submission of the most recent NRCS soil survey mapping of the parcel, or through the submission of a field soil survey of the parcel by a licensed soil scientist.
- i) Require the applicant to use "green-technology" stormwater management in lieu of "open-water" stormwater management ponds whenever practicable.
- j) Encourage the planting of native vegetation throughout the Town to promote the tranquil nature of a bay front community while helping remove excess nutrients from stormwater.

Literature Cited

Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878