DNREC comments on Comprehensive Plan

Fish and Wildlife

The following comments regarding rare species and key wildlife habitat pertain to Map #8, Area for Annexation Consideration:

Rare Species. Areas being considered for annexation (primarily forest and wetland areas northwest of current City boundaries) support numerous state-rare species. The following species were observed in this area in the past; however, recent development approved in this area has or will result in tree clearing and inadequate wetland buffers that may eliminate habitat that supports these species:

A review of our database indicates that the following state rare, federally listed or Species of Greatest Conservation Need (SGCN[1]) occur within the area being considered for future annexation:

Scientific Name	Common Name	Taxon	State Rank	State Status	SGCN Tier	Global Status
Ammodramus caudacutus	saltmarsh sharp-tailed sparrow	Bird	S1N/S3B		Tier 1	G4
Pandion haliaetus	osprey	Bird	S3B*		Tier 1	G5
Nycticorax nycticorax	black-crowned night heron	Bird	S1B	E	Tier 1	G5
Callophyrs irus	frosted elfin	Butterfly	S1	E	Tier 1	G3
Haploa colona	a moth	Moth	SH		Tier 2	G4
Lapara coniferarum	Southern pine sphinx	Moth	S2S4		-	G5
Libytheana carinenta	American snout	Butterfly	SH		Tier 2	G5
Desmodium obtusum	stiff tick-trefoil	Plant	S1		n/a	G4G5
Liatris graminifolia	grassleaf gayfeather	Plant	S1		n/a	G5

Osprey included in this list because they are considered a species of concern and an important indicator species. Individuals are protected via federal Migratory Bird Treaty Act. Nests are federally protected when containing eggs and young.

[1] Species of greatest conservation need (SGCN) are indicative of the overall diversity and health of the State's wildlife resources. Some may be rare or declining, others may be vital components of certain habitats, and still others may have a significant portion of their population in Delaware. SGCN are identified in the Delaware Wildlife Action Plan (DEWAP) which 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, Key Wildlife Habitat, and species-habitat associations.

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State Rank: S1- extremely rare within the state (typically 5 or fewer occurrences); S2- very rare within the state (6 to 20 occurrences); S3-rare to uncommon in Delaware, B – Breeding; N – Nonbreeding; SX-Extirpated or presumed extirpated from the state. All historical locations and/or potential habitat have been surveyed; SH- Historically known, but not verified for an extended period (usually 15+ years); there are expectations that the species may be rediscovered; SE-Non-native in the state (introduced through human influence); not a part of the native flora or fauna., SNR-not yet ranked in Delaware, SNA-occurrences in DE of limited conservation value

State Status: E – endangered, i.e. designated by the Delaware Division of Fish and Wildlife as seriously threatened with extinction in the state;

Global Rank: G1 – imperiled globally because of extreme rarity (5 or fewer occurrences worldwide); G2 – imperiled globally because of great rarity (6 to 20 occurrences); G3 – either very rare and local throughout its range (21 to 100 occurrences) or found only locally in a restricted range; G4 – apparently secure globally but uncommon in parts of its range; G5 – secure on a global basis but may be uncommon locally; T_ - variety or subspecies rank; Q – questionable taxonomy;

SGCN Tiers: Tier 1 Species of Greatest Conservation Need (SGCN) are those that are most in need of conservation action on order to sustain or restore their populations. They are the focus of the Delaware Wildlife Action Plan (DEWAP), which is based on analyzing threats to their populations and their habitats, and on developing conservation actions to eliminate, minimize or compensate for these threats. **Tier 2** SGCN are also in need of conservation action, although not with the urgency of Tier 1 species. Their distribution across the landscape will help determine where DEWAP conservation actions will be implemented on the ground. n/a-not applicable. Plant species of concern are not addressed in the DEWAP.

Key Wildlife Habitat. The forest and wetland areas described above are mapped as Key Wildlife Habitat (KWH) in the Delaware Wildlife Action Plan (DEWAP[1]) because they are known to support Species of Greatest Conservation Need (SGCN[1]). KWH can support the full array of species across the landscape and the maps in DEWAP show areas of the state where conservation efforts can be focused. Although designation as KWH is non-regulatory these maps are intended to help guide site-specific conservation planning efforts.

Recommendation: Because many species of concern (and wildlife in general) are associated with forest and wetland areas, these types of habitat should be a priority for preservation in areas being considered for annexation.

Recommendation: The City should considering requiring applicants of development projects to contact the Natural Heritage and Endangered Species Program to determine if their project activities will impact a state-rare or federally listed species. In some cases a site visit may be requested in order to provide the necessary information. The City should then carefully consider implementation of those recommendations prior to final approval of site plans:

Contact information:

Environmental Review Coordinator
Natural Heritage and Endangered Species Program
DNREC-Division of Fish and Wildlife
4876 Hay Point Landing Rd
Smyrna, DE 1997
(302) 735-8654
Edna.Stetzar@state.de.us

Community Forest Plan. Efforts to restore natural habitat which incorporate plant species native to Delaware could also establish basic elements to support wildlife in general (food, cover, water, and places to raise young). The attached Excel spreadsheet includes a list of Delaware native plant species and a description of the wildlife value the plant provides. Questions regarding this list or about habitat restoration utilizing Delaware native plants can be directed to Bill McAvoy, our program botanist, at (302) 735-8668 or William.McAvoy@state.de.us.

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 36 & 37, Inland Bays, Canal, and Waterways: We recommend the creation of a separate "stand-alone" subsection, entitled "Total Maximum Daily Loads (TMDLs)," under the existing Inland Bays, Canal, and Waterways section (Section 5.2). We further suggest omission of the existing narrative about TMDLs and Federal Clean Water Act (paragraph 3 of the Sewer section), and replace it with the following narrative under the "stand-alone" TMDL subsection:

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, drinking water, and shellfish harvesting). A TMDL defines the amount a given

pollutant (i.e., or the pollutant loading rate reduction for a given pollutant) that may be discharged to a water body from all point, nonpoint, and natural background sources; thus enabling that water body to meet or attain all applicable narrative and numerical water quality criterion (e.g., nutrient/bacteria concentrations, dissolved oxygen, and temperature) in the State of Delaware's Water Quality Standards. A TMDL may also 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 that pollutant without adverse impact. The realization of these TMDL pollutant load reductions will be through a pollution control strategy (PCS). A Pollution Control Strategy (PCS) is the regulatory directive that identifies what specific actions (e.g., best management practices) are necessary for reducing pollutants in a given water body (or watershed); thus realizing the water quality criterion or standards set forth in the State of Delaware's Water Quality Standards, ultimately leading to the restoration of a given water body's (or watershed's) designated beneficial use(s). The PCS will also include some voluntary or non-regulatory components as well.

The City of Rehoboth Beach is located within the greater Inland Bays/Atlantic Ocean Drainage, specifically within the low reduction area of the Rehoboth Bay watershed. The Rehoboth Bay watershed has assigned (nitrogen and phosphorus) and bacterial TMDL load reduction requirements (See Table 1). The PCS, as stated previously, is an implementation strategy that identifies the actions necessary to systematically reduce the pollutant loading in a given water body, thus meeting the TMDL reduction requirements specified for that water body. The Inland Bays PCS was published in the Delaware Register of Regulation on November 11, 2008 and is not an enforceable regulatory directive. These regulations can be reviewed at http://regulations.delaware.gov/documents/November2008c.pdf and background information, guidance documents, and mapping tools can be retrieved from http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/ib_pcs.htm.

Inland Bays/Atlantic Ocean Drainage	**N**	**P**	**Bacteria**
Rehoboth Bay & Lewes-Rehoboth Canal watersheds	40%	40%	40% fresh, 17% marine

Table 1: TMDL reduction requirements for the watersheds within the Inland Bays/Atlantic Ocean Drainage

Source Water Protection Areas. In Section 5.22, page 40, paragraph 4, the City acknowledges the need to protect their well fields and excellent groundwater recharge potential areas. The City also acknowledges that ongoing consultation with the State and County will be required to protect the integrity of its wells and water supply.

The City has identified potential annexation areas that are within areas of excellent groundwater recharge potential and wellhead protection now under the jurisdiction of Sussex County. We recommend that the City develop and adopt regulations to protect areas of excellent groundwater recharge potential and wellhead protection (once the population of Rehoboth Beach reaches 2000 persons, the adoption of source water protection ordinances will be required under 7 Del. Code, Chapter 60, Subchapter VI, § 6082). As lands are annexed, excellent recharge potential and wellhead protection areas would be protected when the annexation process was finalized. The Department will provide updated maps and is available to assist the City in developing these regulations.

Water Allocation. The current capacity of the City's wells is limited by the allocation permit to 5.8 million gallons per day (MGD). The 2002 capacity of 6.4 MGD reported on page 39 of the plan is inaccurate. The additional 1.9 MGD reported on the same page has not been permitted. The 2008 maximum day pumpage was over 3.5 MGD (although the maximum day has not been reported and it could be much higher). The current water supply is adequate for some growth, but the adequacy for the current plan cannot be evaluated without population projections.

The City has not taken steps to protect the aquifer from saltwater intrusion. Increased withdrawals from the aquifer should not be permitted without a thorough investigation of the potential for saltwater intrusion.

Stormwater/Drainage comments

The Drainage and Stormwater Section commends the City for considering pro-active stormwater ordinances and the possible development of a comprehensive stormwater management plan in addition to the possible development of a city-wide nutrient management plan. Please contact Jamie Rutherford, Program Manager of the Sediment and Stormwater Program, at (302) 739-9921 for information concerning technical assistance in the development of the stormwater management plan and stormwater ordinances.

The Drainage and Stormwater Section offers the following recommendations for the City's consideration.

5.23 Stormwater Management

- The Delaware Sediment and Stormwater Regulations are undergoing revisions. It is unclear at this time when the new regulations will be promulgated.

- Explore the feasibility of 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 Sussex Conservation District, Sussex County and the Delaware Clean Water Advisory Council as partners in funding stormwater retrofits.

The City should pursue drainage easements along waterways and storm drains where currently there is none.

Plan Implementation

The Plan should offer more specific "actionable" environmental protection strategies than currently offered. We recommend that the following ordinance or ordinances (unless current Town ordinances address these concerns) which would:

a) Require all applicants to submit to the Town 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 feet 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) All open space land uses should be designed and managed in a manner that mitigates or reduces nutrient pollutant loading and its' damaging impacts to water quality. Since changes in land use often increase runoff of nutrient pollutants into nearby waterways (including wetlands) draining to a common watershed, these nutrient pollutant loading impacts should be assessed at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the "Nutrient Load Assessment Protocol" to assess such impacts. The protocol is a tool used to assess changes in nutrient loading that result from the conversion of individual or combined land parcels to a different land use(s), and serves as a "benchmark indicator" of that project's likely impacts to water quality. It is the intention of this protocol to inform those relevant governmental entities (i.e., State, county, and municipal) how a given project will affect water quality in their jurisdictions, while informing/encouraging developers of the need to incorporate better conservation practices (i.e., BMPs) in their project designs to help improve water quality. Therefore, we strongly recommend that City require completion of a Nutrient Budget protocol before granting preliminary approval for any proposed projects/developments.