

RESOURCE ANALYSIS

Project Area: The 14,521-acre (22.7 square miles) Medford/Evesham project area is located in the northwesterly quadrant of the Pinelands National Reserve at the westerly border between Burlington and Camden Counties. The project area is bounded by the Mullica River to the south, the Evesham/Voorhees Township line to the west, Braddock Mill/Tomlinson Mill/Taunton Lake/Fairview Roads to the north, and the westerly border of the Wharton State Forest to the east (see “Project Area” Map). The project area straddles the southern portion of Medford and Evesham Townships with approximately 60% (8,543 acres) in Evesham and the remaining 40% (5,978 acres) in Medford.

Approximately 74% of the project area is vacant, wooded or covered by water bodies. Approximately 19% of the project area is occupied by residential development. Almost 35% of the project area (5,060 acres) has already been purchased for open space. In the Evesham portion of the project area 2,806 acres, or 32%, is open space. Almost 38% of the Medford portion, 2,253 acres, is designated as open space.

An examination of the Pinelands Commission permit data for the past 5 years revealed that 72 active applications have been filed, primarily associated with residential development within the project area. These applications propose the construction of over 400 new residential dwellings, on over 1,100 acres, or almost 8% of the entire project area. Accounting for lands already set aside for open space and those portions of the project area that are already developed, virtually all remaining large, vacant parcels of land are under active consideration for development.

As development pressure within the Pinelands continues to intensify, and as vacant developable land becomes increasingly scarce, remaining open areas that previously had marginal growth potential but high natural resource value are being considered for development. As a result of this trend, conflicts between development and natural areas become virtually inevitable. The desire to minimize or avoid these conflicts, to strike a balance between development and preservation objectives, is one of the chief objectives of the Medford/Evesham planning process.

Natural Resources Assessment: Water quality is a critical consideration of any preservation or land use planning study and the desire to protect water quality in the project area is one of the principal objectives of the Medford/Evesham Resource Protection planning effort. Preserving the high water quality of the region’s aquifers as well as its wetland, stream and lake systems is essential in meeting not only the domestic needs of the human population that inhabits the area but the unique plant and animal communities that characterize the Pinelands. Several studies undertaken by the Commission have clearly demonstrated the direct link between water quality and development. In general, these studies indicate that characteristic Pinelands water-quality conditions are found in stream basins where altered land represents less than 10% of the total land area. Characteristic Pinelands water-quality may begin to change when altered land in a watershed exceeds 10%. When the amount of altered land in a basin exceeds 30%, streams typically no longer exhibit Pinelands water quality characteristics.

The northerly portion of the project area (77% of the project area, or 11,232 acres) lies within the Rancocas Creek watershed. The southern portion of the study area, (23% of the project area, or 3,289 acres) is in the Mullica River watershed. The most recent surface water quality data, collected by the Pinelands Science Office staff in 1999 and 2001, reveals that the Black Run, located in the northwesterly portion of the project area, exhibits minimally-disturbed Pinelands water quality. The data also reveals that portions of many of the other streams to the Rancocas and the Mullica are exhibiting signs of water degradation

During the planning process a set of core natural resource characteristics were evaluated in order to identify those strategies deemed most appropriate to preserve the area’s resources: Landscape Integrity, Wetlands Integ-

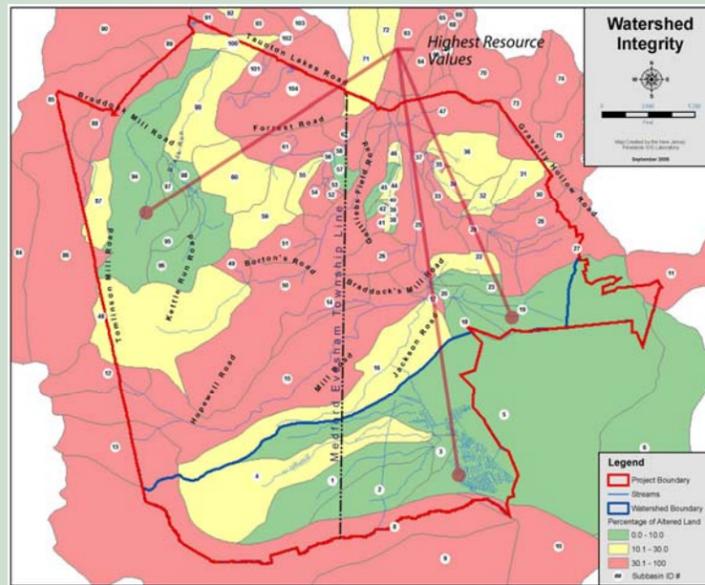
riety and Watershed Integrity. The results of these evaluations served as the primary basis for the recommended Protection Strategies.

Landscape Integrity: Habitat suitability was evaluated in relation to proximity to altered land. To undertake this assessment, the entire project area was subdivided into grid cells (5 feet on a side). The set of cells was then subdivided into ten equal groups according to their distance values as compared to the distance value of all other cells. The top 10 percent of the cell values, the cells with the greatest distance from altered land, were deemed to have the greatest landscape integrity.

Wetlands Integrity: Since many Pinelands plant and animal species are wetlands-dependent, an analysis based on proximity to wetlands was also performed. As with the landscape-integrity analysis, the wetlands in the project area were subdivided into grid cells and the distance to altered land was determined for each cell. The cells were then divided into ten equal groups according to their distance values. Wetlands farthest from such altered areas were deemed to have the highest wetlands-integrity values.

Watershed Integrity: To evaluate watershed integrity, the entire project area was subdivided into 104 sub-basins (see “Watershed Integrity” Map, below). The percentage of altered land was determined for each subbasin by summing the area of developed and upland agricultural land for the entire upstream drainage area. The basins were then reclassified into 3 categories (less than 10% disturbed; 10% to 30% disturbed; over 30% disturbed) based on the relative extent of disturbed land and their contribution to the water quality of the next basin downstream.

In each of the analyses described above, the same three segments of the project area were identified as having particularly high resource value: the eastern most quadrant of the study area; the south-central portion of the study area; and the north-westerly area encompassing the Black Run drainage basin. The clear interest in developing within the project area and the fact that these three portions of the study area with high resource value are largely undeveloped underscores the need to take effective measures that will protect them.



FOR MORE INFORMATION ABOUT THIS PLAN
 Contact the Evesham Township Planning Department at 856-983-2900; or the Medford Township Planning Department at 609-654-2608.
 The full text of the Southern Medford/Evesham Sub-Regional Resource Protection Plan has been posted on the Pinelands Commission Website:
<http://www.nj.gov/pinelands>

EXECUTIVE SUMMARY

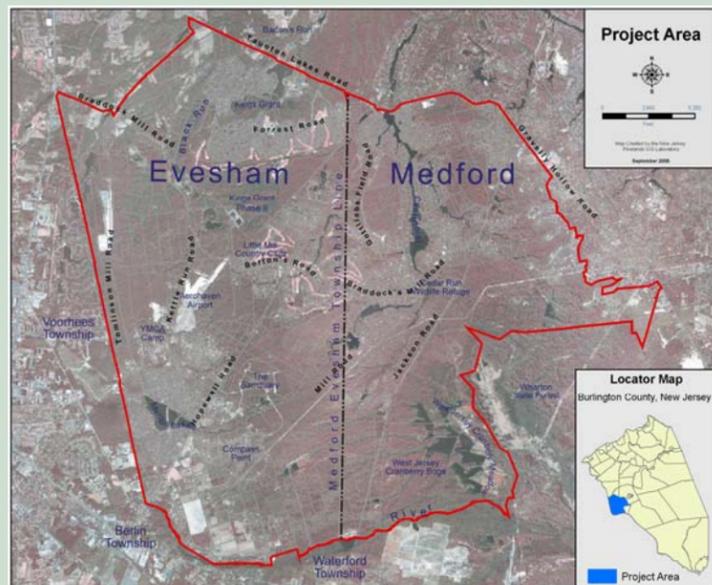
BACKGROUND

The Pinelands Comprehensive Management Plan establishes a region-wide framework for the protection of important natural and cultural resources through the establishment of land use policies and regulatory standards that govern the future use and development of land within the Pinelands. As the Pinelands Commission’s natural-resource database grows, however, more focused, sub-regional conservation planning offers an opportunity to take a much closer look at particularly challenging geographic regions where potential conflicts between natural resources and development objectives may arise.

Evesham and Medford Townships are suburbanizing municipalities within Burlington County. Portions of both municipalities are located within the Pinelands. The southern parts of the Townships, encompassing over 14,500 acres, are rural in character and proximate to Wharton State Forest and other permanently protected open space. The Pinelands-approved master plans and zoning ordinances for these areas, formulated in the 1980’s, were based upon the best available information at that time.

Through ongoing natural resource work by the Pinelands Commission and the New Jersey Department of Environmental Protection (NJDEP), much more of the ecological resources within the southern portions of these two municipalities have been identified than was the case when their zoning plans were initially adopted and implemented. These ongoing natural-resource inventory and watershed management efforts show that a re-evaluation of the zoning and development policies for this sub-region in Evesham and Medford Townships is needed to better protect natural resources and avoid development conflicts.

In June, 2004, the Pinelands Commission received a grant from the William Penn Foundation to engage a variety of representatives from organizations and government agencies that have an interest in this area to discuss and recommend actions through a regional resource-protection effort. Shortly after grant award, a Steering Committee was formed (comprised of the Managers from Medford and Evesham, a representative from NJDEP, and a Commission member) that would serve as the chief decision making body for the project. The Steering Committee appointed an 18-person Project Advisory Committee, comprised of representatives from local, regional and statewide organizations, including environmental and development interests, and a 17-person Technical Support Group, comprised of natural resource experts and planning and design professionals, that would help to guide the decisions of the Steering Committee.



PROJECT OBJECTIVES

The Plan’s recommended resource protection strategies are the culmination of an extensive planning process that has, at its core, the following objectives:

1. Protect important natural resource values, including water quality, within the project area;
2. Accommodate future development within appropriate areas;
3. Promote less land-consumptive land use patterns as a means to reduce the fragmentation of important landscapes and to lessen municipal service costs;
4. Reduce the extent of non-conformity between existing developed areas and municipal zoning policies;
5. Encourage land stewardship practices that further conservation objectives;
6. Use a variety of regulatory and non-regulatory techniques to achieve conservation and development objectives; and
7. Establish greater predictability in the development permit process to avoid site-specific development and natural resource conflicts.

KEY FINDINGS

The following conclusions were drawn from the assessment of the natural resource and land use characteristics collected during the data analysis stage of the project:

1. Infrastructure (sewer, water supply and transportation) systems currently serve only limited portions of the project area and no significant investments are planned to expand the existing systems. Therefore, current and planned capital investments are not conducive to extensive future development.
2. Existing zoning would permit a relatively modest level of future growth. However, that development is likely to be scattered throughout the region and consequently will fragment relatively undisturbed forest communities and increase disturbance levels within characteristic Pinelands watersheds. Zoning policies should, therefore, be modified to significantly reduce these types of impacts
3. Both municipalities have purchased extensive portions of the project area for open space. However, remaining vacant parcels throughout the project area are under active consideration for development, and therefore are at immediate risk.
4. Several drainage areas within the project area, most notably the Black Run, exhibit characteristic Pinelands water-quality. Water quality and levels of disturbance in several other drainage units suggest that natural watershed characteristics are only slightly altered.
5. The area has not been widely surveyed for rare plants and animals. However, surveys that have been undertaken reveal that the majority of locations that are considered to have higher ecological integrity are in wetlands or undeveloped portions of the project area. These surveys also suggest that many more rare plants may be found within the project area than were previously thought to exist.
6. Maintenance of uninterrupted, undisturbed forests is necessary to support many rare plant and animal populations, particularly snakes. Connection of these forests also helps to maintain regional biodiversity.
7. There was considerable agreement between the results of the landscape, wetland and watershed-integrity analysis relating to those portions of the study area that were considered important for resource protection. Conservation efforts need to be targeted to these areas.

The objectives of this Plan, coupled with the findings developed through the analysis of the natural resource and land use data, provide direct support for the recommended regulatory and non-regulatory preservation strategies described on the following pages.

SOUTHERN MEDFORD/EVESHAM SUB-REGIONAL RESOURCE PROTECTION PLAN • PROTECTION STRATEGIES SUMMARY

PROTECTION STRATEGIES:

Working groups of the Project Advisory Committee and the Technical Support Group were formed to identify specific protection strategies that fulfill the project objectives and respond to the key findings identified through the project data analysis. The Steering Committee then worked to refine these strategies. Regulatory and non-regulatory strategies are recommended, and are summarized below.

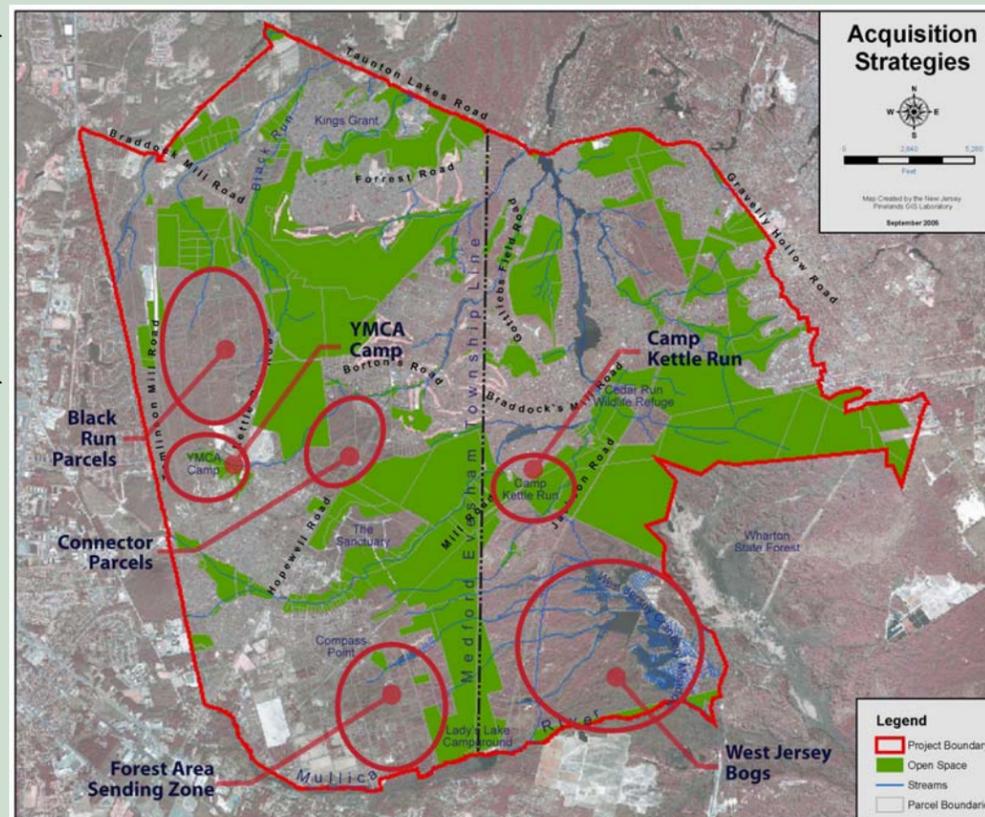
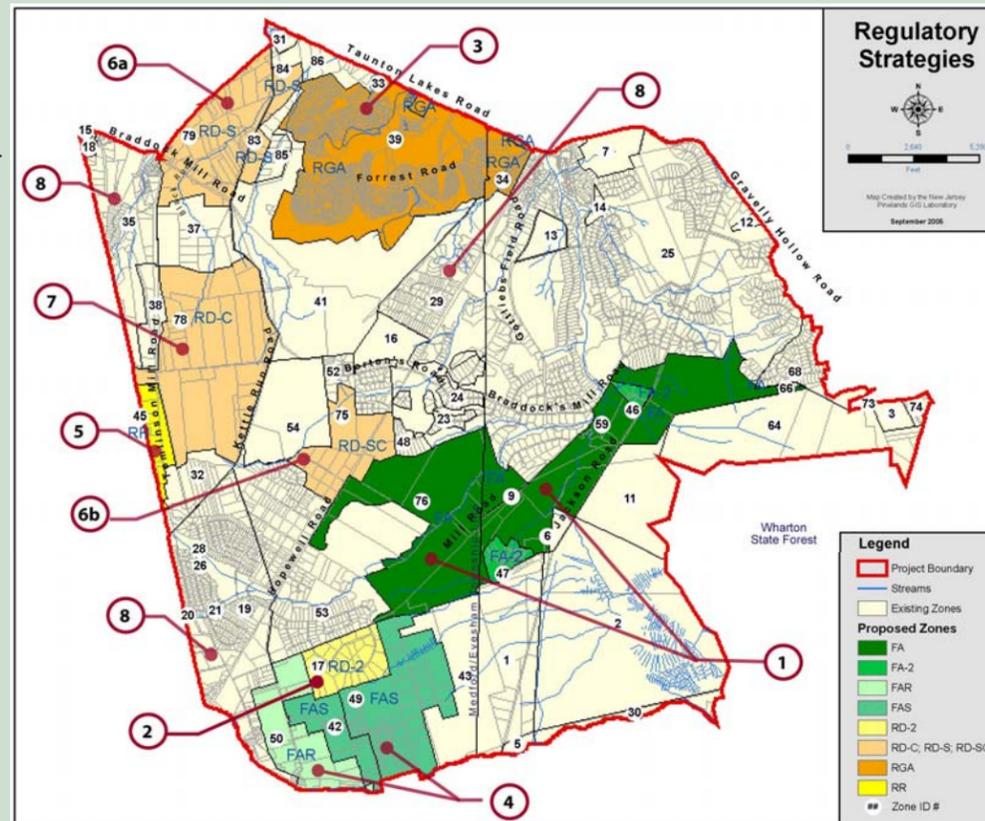
REGULATORY STRATEGIES

Eight (8) specific regulatory strategies are recommended, none of which will require an amendment of the Pinelands Comprehensive Management Plan. The strategies are outlined below and keyed to the “Regulatory Strategies” map to the right.

- 1 Expand Forest Areas** straddling Medford and Evesham to encompass 1,371 acres creating an open space corridor that extends from the Wharton State forest tract, located to the west of the project area immediately outside its borders, through both municipalities.
- 2 Re-designate Compass Point** from the Forest Area to the Rural Development to reflect its existing development pattern. The re-designation of this 153-acre area will result in no change in development potential within the study area.
- 3 Re-designate Kings Grant** (982 acres) from Rural Development to Regional Growth Area to reflect the existing development, resulting in no change in development potential within the study area
- 4 Create a 546-acre “Sending” zone (“FAS”)** and a 250-acre “Receiving” zone (“FAR”) within the existing Forest Area to shift development to areas that would be more suited to growth while expanding open space areas contiguous to lands already preserved through state acquisition, reducing habitat fragmentation.
- 5 Designate an 81-acre Rural Development “Receiving” area (“RR”)** permitting development opportunities to be transferred from the Black Run-North and Connector areas (described below). Development applications in this area will be subject to streamlined threatened and endangered species survey and permitting requirements.
- 6 Create two Rural Development Sending zones:**
 - 6a** Designate a **Rural Development Sending (“RD-S”)** zone encompassing a 436-acre area in the northerly portion of the Black Run watershed basin. Development opportunity in this area would be shifted to the rural Development Receiving Areas. The Black Run is a characteristic Pinelands stream running through the northwesterly quadrant of the study area. Less than 10% of the area of the watershed-basins draining into the Black Run has been altered by development. Consequently, this area has among the highest resource value in the project area. The objective of this strategy is to set development densities at levels (proposed at 1 home per 10 acres) that do not exceed this 10% disturbance threshold (the point at which water quality will change) or shift development that might otherwise occur within this area to locations more suited to growth.
 - 6b** Designate a **Rural Development-Sending/Cluster (“RD-SC”)** zone encompassing the “Connector” area, a 221-acre group of 17 parcels, lying between the Aerohaven site and the proposed Evesham Forest Area. Proposed development would either be shifted to other Rural Development Receiving areas or be subject to mandatory clustering
- 7 Designate a Rural Development-Cluster (“RD-C”)** zone encompassing a 717-acre area in the southerly portion of the Black Run watershed basin. Mandatory clustering will be applicable to all development proposed within this area.
- 8 Permit scattered parcels in the “RD-1”, “RD-2” and “RD-3” zones** to serve as receiving areas, allowing density transfer from more environmentally fragile areas, such as the northern portion of the Black Run Basin. Parcels with development potential encompass a total of 240 acres.

EXPECTED RESULTS – MANAGEMENT AREA AND ZONING CHANGES

- Development and disturbance levels in high-value natural resource areas will be reduced in order to maintain those resource values. It is estimated that the future zone capacity of the project area is being reduced from 579 homes to 270, a 53% reduction;
- Incentives are created to transfer *all* development out of high-value natural resource areas to areas that are more capable of accommodating it;
- Development that does occur within these high-value resource areas will be clustered, resulting in the conservation of more than 80% of the properties being developed;
- A contiguous green belt will be created that will extend through the entire mid-section of the study area (running east to west) comprised of a combination of public lands, preservation areas, forest areas and, in limited locations, low-density developed areas. This green belt represents an important tool in maintaining biodiversity;
- Zoning designations will be adjusted in developed areas to reflect existing development patterns.



NON REGULATORY STRATEGIES

The regulatory measures constitute only one series of strategies that need to be employed to achieve the overall goals of the resource protection plan. It will also be necessary to integrate a fairly wide array of complementary, non-regulatory strategies into their efforts if the Townships expect to achieve a successful preservation program. Non-regulatory strategies generally fall into three major categories: Land acquisition; Inventory needs; and Land stewardship.

Land Acquisition

Because acquisition, coupled with effective land management, continues to be one of the most powerful tools a municipality can use for protection of important natural resources, land acquisition will be a critical element of the Medford/Evesham protection strategy. Both municipalities have considerable experience with open space acquisition. Over 35 % of the project study area has already been set aside as open space and much of that area has been purchased through the Townships’ open space acquisition programs. However, an effective open space acquisition strategy will require the participation of several other funding partners.

Several parcels within the project area have been assigned high acquisition priority (see “Acquisition Strategies” Map, below, left). Zoning changes have been recommended to help protect many of these areas, however, purchasing them would be a far more effective preservation method.

- **Connector parcels:** This 221 acre area forms an important link in a preservation corridor that could extend, in an east-west direction, through the entire project area. NJDEP’s Green Acres Office has already acquired one of the parcels in this area through the Pinelands Commission’s Limited Practical Use (LPU) program. Green Acres has agreed to take the lead in the effort to acquire parcels within the Connector Area.
- **Black Run:** Purchasing parcels throughout this characteristic Pinelands watershed will avoid disturbance and protect water quality as well as its value as rare plant and animal habitat. Evesham Township is the most likely lead agency to acquire parcels in this watershed. The non-profit New Jersey Conservation Foundation could also be an acquisition partner, which would result in the added benefit of payments in lieu of taxes (PILOT) to the municipality
- **West Jersey Bogs (Brick Enterprises):** This 1,114-acre parcel, immediately adjacent to the Wharton State Forest, encompasses almost 20% of the entire Medford-portion of the project area. The parcel is largely comprised of undisturbed open space. Acquiring this parcel, or its development rights, would preserve virtually the entire southerly portion of the study area in Medford . The Township should work with Burlington County, serving as lead agency through its Open Space and/or Farmland Protection Program, to acquire the development rights of the West Jersey Bogs
- **Forest Area Sending zones:** Several non-profit agencies, including the Rancocas Conservancy and New Jersey Conservation Foundation, have expressed interest in purchasing properties within this 546-acre area. Evesham Township should assist these organizations in pursuing this objective
- **Camp Kettle Run/YMCA Camp:** A 290-acre Girl Scout camp, Camp Kettle Run, is located off Mill Road straddling the Medford/Evesham border and a 19-acre YMCA Camp is located off Kettle Run Road. NJDEP’s Green Acres office should be the lead agency to purchase the development rights associated with these camps in order to permanently preserve the parcels for open space and recreation purposes.

Inventory Needs

Because some rare plant species require disturbance for perpetuation, they are often found along roadsides or within power line easements. Although few plant surveys and no roadside surveys have been performed within the study area, rare plant sightings along roadside shoulders have been documented. NJDEP’s Office of Natural Land Management (ONLM), Natural Heritage Program should be enlisted to conduct roadside surveys, funded by the Pinelands Commission. The surveys should be designed to identify rare native plant populations; and rare plant stewardship recommendations aimed at helping the Townships, public landowners and homeowner’s associations protect, manage and recover rare native plant populations.

Stewardship

Backyard habitat protection: The NJ Audubon Society has offered take the lead in developing a “Conservation Planning for Natural Yards” demonstration project that will provide specific information on native plantings and practices that homeowners can use to benefit particular wildlife species.

Develop Golf Course Best Management Practices: The Evesham Municipal Utilities Authority, in cooperation with the Pinelands Commission and NJDEP, should begin exploratory discussions with the Links and Little Mill golf course managers for the beneficial reuse of water. In addition, the Environmental Commissions in Medford and Evesham should work with the golf courses to develop management practices that: reduce consumptive use of water; reduce application of fertilizers; reduce storm water runoff; and create characteristic plant and animal habitats