

stem of the Passaic River would be comprised of an even larger overall percentage of treated wastewater during drought.

As for ground water, the natural water quality of the Highlands region's aquifers is generally good. Some wells exceed drinking water standards for naturally occurring substances such as manganese and iron. The one drinking water standard that is consistently a problem in Highlands' ground water is radon, which is a naturally occurring element in much of the rock formations. Ninety percent of the 565 samples taken during one study in the Highlands exceeded the proposed standard for radon-222.

Over time new development in the Highlands could affect the amount of water being withdrawn from reservoirs and aquifers, while at the same time reducing the flow of water in streams and rivers that is vital to aquatic ecosystems. New pavement and impervious surface cover will also decrease recharge of aquifers and increase runoff into surface water, leading to poor ground water quality and increased incidents of flooding.

Degradation of the drinking water supply due to new development may eventually lead to a dramatic increase in water costs for residents throughout northern New Jersey, not just those living in the Highlands region. The North Jersey District Water Supply Commission estimates that the Highlands water purveyors currently spend an estimated \$14.3 million to treat 550 million gallons of water per day. Degradation of water quality will require the water purveyors to upgrade existing plants and purchase additional chemicals. The Commission estimates that if development continues without a change in policy, treatment costs will reach \$30.3 billion by 2054. Moreover, costly investments for additional water sources and treatment plants will be necessary to supply increased demand. Implementation of a regional plan may offer the resident ratepayers a substantial savings in treatment costs, may eliminate the need for new water sources and treatment plants.

## **Forests**

More than half of the Highlands region contains rich and diverse forests occupying 370,000 acres of land. Much of these forests remain in large, unfragmented pieces, some exceeding 5,000 acres in size. Most of the forestland is dominated by oak-hickory forest with northern hardwoods, hemlock, and swamp hardwoods. These forests contribute to the region's clean water and air, wildlife habitat, recreational resources, and serve as an excellent timber resource.

The most current data from the USDA Forest Service in New York and New Jersey estimates that there are between 50,000 and 75,000 private forestland ownerships in the Highlands region. A majority of the forest is owned by private citizens and organizations with the remainder owned by public agencies. Most forestland ownerships are small with more than 50% of them smaller than 10 acres, and more than 90% smaller than 50 acres in size. Much of the private ownership is simply because it is part of an individual's property for enjoyment of green space and wildlife. However, a significant amount is owned as a real estate investment. The publicly owned forestlands are predominately owned to provide the general public with

clean drinking water, recreational opportunities, and to provide habitat for wildlife and rare species. The publicly owned lands are unlikely to be converted to other land uses.

Whereas a majority of forestland is in private ownership, only 5,600 acres are enrolled in the USDA Forest Service's Forest Stewardship Program, a preferential assessment program that gives landowners a reduced tax rate in exchange for their promise not to develop the land. The primary focus of the Program is the development of comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for a variety of products and services while maintaining forest health and vigor. Actively managed forests provide timber, wildlife habitat, watershed protection, recreational opportunities and many other benefits for landowners and society.

Continued suburban development, and increased fragmentation of large contiguous forest tracts and land ownerships will result in fewer parcels of a size that is efficient for forestry management. Clearing of land will also affect water quality and critical habitat of the Highlands unique wildlife. As the Highlands core areas are now protected, nearly all the land not now developed will remain forested to replenish and purify groundwater and protect critical habitat.

It is essential that the County achieves a balance between the State Plan Center based development and the inevitable elimination of plant and wildlife habitat in those areas deemed appropriate for Center development. As nearly all of Sussex County, not only the Highlands, is considered to be suitable for Federal or State threatened or endangered species of plants and animals, there is no way for the important benefits of reduced sprawl, stormwater runoff, loss of recharge, and fragmentation of habitat to be realized without environmental impact.

That said, an appropriate mechanism is to provide that, where a center is proposed or expanded, there be no net loss of habitat "value". As habitat value is a function of the area quality of existing or resulting habitat, best management practices for agriculture, general open space and recreation facilities may be improved as a off-set to the gross loss of area of habitat caused by development. For instance, there are many areas of conservation easement, preserved open space and preserved farmland where management of the habitat quality is prohibited. As a consequence, multiflora rose, autumn olive, purple loostrife, barberry, thistle and other invasive species encroach and eventually overwhelm the land area. The open space values sought to be preserved are thus destroyed.

The character of the County is dependent on the retention and maintenance of open space and agriculture. Simply leaving land to revert to forest and failing to implement best agricultural management practices leads to degradation of the value of the land. This is a waste of the taxpayer dollars used to purchase the land or easement in the first place. It impairs the educational and open air experience of open space lands.

In order to adequately address these important issues, all center/node based development proposals should be conditioned upon the petitioner taking reasonable steps to secure the benefits of the transferred densities and consequent open space/preserved farmland as part of the overall plan for development. In the same vein, no proposal for open space acquisition should be without a feasible management plan.