

A photograph of a forest stream with a large tree in the foreground. The stream flows through a wooded area with many bare trees, suggesting a late autumn or winter setting. The ground is covered in fallen leaves and twigs. The text is overlaid on the left side of the image.

NEW YORK STATE

**STRATEGIC PLAN
FOR
STATE FOREST MANAGEMENT**

EXECUTIVE SUMMARY

New York State Department of Environmental Conservation
Division of Lands and Forests, Bureau of State Land Management
625 Broadway, Albany, NY 12233-4255
Phone: (518) 402-9428 • Fax: (518) 402-9028
Website: www.dec.ny.gov

State Forest Overview

State Forests are located throughout New York State and include over 786,000 acres of Reforestation Areas, Multiple-Use Areas, Unique Areas and State Nature and Historic Preserves. Wildlife Management Areas, Forest Preserve, Conservation Easements and State Parks are not included in the category of State Forests.

At their inception, the State Forests were set aside to offset widespread trends of agricultural abandonment and deforestation and restore the land's ability to support vegetation. In addition, they also provide a positive impact on water quality and ecosystem health, a proving ground for innovative forestry, an example to private landowners, and a balance to management driven by short term goals that sometimes occurs on private lands. State Forest lands are also highly valued for the recreational opportunities they provide. Over 2,446 miles of trails and forest roads are available for public recreation.

Timber is sold from many State Forests, pursuant to the Environmental Conservation Law (ECL). The high-quality timber harvested from State Forests is used by New York businesses and is often sent around the world in international markets. Some examples include: furniture-quality hardwoods, softwoods for log cabins, fiber for paper making, firewood, animal bedding, and biofuels, like wood pellets, and chips burned as fuel for electricity production, or ethanol derived from wood waste.

Management Planning

The Strategic Plan for State Forest Management (SPSFM) has been developed to lead future management of DEC-administered State Forests. It establishes statewide management guidelines for DEC staff through a process of public involvement and review. The plan provides a foundation for the development of Unit Management Plans (UMPs), which set forth the specific actions to be undertaken by the Department on individual State Forests. As individual UMPs are developed, the plan will serve as a guide and will be included by reference.

The SPSFM provides a foundation for the development of Unit Management Plans (UMPs). A unit consists of a discrete land area including State-owned land managed by DEC. A UMP contains an assessment of the natural and physical resources on the planning unit, focusing on state lands while also considering surrounding lands. The UMP guides the Department's activities on the State lands within the planning unit for a ten-year period, although a number of goals and objectives in the plan focus on a much longer time period. Each plan addresses specific objectives and actions for public use and ecosystem management.

Management Goals

Five overarching goals were developed for the management of State Forests. These goals were based on the criteria developed in the Montreal Process and are as follows:

Goal 1 – Provide Healthy and Biologically Diverse Ecosystems

Goal 2 – Maintain Human-made State Forest Assets

- Goal 3 – Provide Recreational Opportunities for People of all Ages and Abilities
- Goal 4 – Provide Economic Benefits to the People of the State
- Goal 5 – Provide a Legal Framework for Forest Conservation and Sustainable Management of State Forests

All management objectives and actions are intended to serve one or more of these goals.

Managing at a Landscape Level

Today's public land managers must consider how the lands they manage fit into and ultimately impact the "bigger picture" or landscape. Ongoing research by universities and conservation organizations and agencies shows that ecosystem health is strongly related to biological diversity. Biodiversity is the term used by conservation biologists to describe the entire diversity of life, encompassing all the species, genes and ecosystems on the Earth (Perlman and Midler 2005). Having a wide range of naturally occurring plant and animal species, land types, and ecosystems in a landscape increases biodiversity and ecosystem resiliency. Despite the great importance of species diversity, it is almost impossible to manage on a species-by-species basis. An ecosystem management approach requires managers to consider the thousands of forest-dependent species from soil micro-organisms to larger mammals, fungi to trees and insects to humans. The most effective and attainable approach is to manage for a wide diversity of habitat types and "communities" of varying ages and structural diversity, with the goal of having ideal conditions available on the landscape for each and every species. Sustainable landscapes, in turn, must also be connected to different land types by natural habitat features at many different scales and have core blocks of minimally fragmented habitat. Managing at the landscape level requires a thorough assessment of the natural and present diversity of the landscape, an understanding of the patterns and processes affecting these dynamic, ever-changing systems, and applying this information to decision-making processes on State Forests.

To practice landscape ecology and enhance biodiversity, management decisions within State Forest boundaries must be made while considering their impact on the landscape surrounding the State Forest. If the surrounding landscape conditions are not taken into consideration, any efforts to promote biodiversity on a State Forest may not contribute to the diversity and ecological viability of the greater landscape surrounding it.

New York State covers an area of about 48,440 square miles, or about 31 million acres, with almost 19 million acres of forest cover. To help assess the landscape within and surrounding the State Forest System, land cover data largely generated by satellite imagery from both the 2001 New York Gap Analysis Program and National Land Cover Data set was used. According to the 2001 Gap Analysis of New York Final Report, New York State's landscape is a combination of forest (63%) and cropland or old field/pasture (24%). Newer information collected in a similar fashion from a second generation of satellite imagery produced by the Multi-Resolution Land Characteristics (MRLC) Consortium in 2001 shows a slight change, with forests comprising 61 % of the State's landscape. The difference in forest cover percentage can likely be attributed to statistical variation and differing sampling techniques.

The assessment in the plan identifies major forest-related habitat gaps that exist at the statewide landscape level. In essence, biodiversity would be enhanced in New York State by:

- Developing late successional, early successional, and evergreen forest cover habitats in order to promote habitat diversity. (The state currently has plenty of middle aged forests).
- Maintaining and enhancing habitat connectivity. Keeping existing patches of these habitats physically connected over the coming centuries will be a significant challenge. It will require extensive and consistent cooperation, collaboration, communication, leadership, vision and financial support at state and local levels.
- Preserving open space. The New York State 2009 Open Space Conservation Plan outlines strategies to keep important habitats connected across the New York landscape. In fact, the plan frequently references the need to enhance greenways and connectivity for recreation, protection of water quality and for ecological reasons.
- Employing management strategies to mitigate human impacts and to protect and enhance rare and endangered species and unique natural communities.

Sustainable Forest Management

Sustainable forest management is the practice of meeting the forest resource needs and values of the present without compromising the similar capability of future generations (Helms 1998). On State Forests, this means maintaining their health, productivity, diversity, and overall integrity in the long run in the context of human activity and use. It is a process of informed decision-making that takes into account resource needs, public use objectives, site capabilities, existing regulations, economics, and the best information available at any given time (Wisconsin Dept. of Natural Resources 2003). It is the Department's goal to sustainably manage New York's State Forests and to maintain certification of that management under the most current and applicable standards set forth by the Forest Stewardship Council and Sustainable Forestry Initiative.

Visual Resources & Aesthetics

Spectacular view sheds and other scenic resources exist on many State Forests throughout New York. These visually pleasing areas and other scenic resources should be managed to preserve those conditions that enhance the aesthetic quality of the landscape. In addition, natural gas wells and timber management must be managed carefully, with respect for aesthetic values. The Aesthetic Resources section of this plan illustrates some of the challenges faced when attempting to provide both aesthetic quality and ecologically rich forests. The attributes of the latter, including dead and down coarse woody debris, a layered forest with a densely covered forest floor, and dead snags often are viewed negatively from a purely aesthetic view.

Recommended actions include:

- Develop standards for visual buffers around timber harvests, mineral extraction sites and infrastructure.
- Incorporate visual resource protection into final DEC program policies for retention, plantation management and clearcutting.
- Use natural materials in areas that experience greater amounts of recreational use.
- Lay out roads and trails to highlight unique natural features of the land and developing access to scenic vistas.
- Develop kiosks to provide educational material and reduce sign pollution.

Soil and Water Protection

Soils provide the foundation, both figuratively and literally, of forested ecosystems. They support an immense number of microorganisms, fungi, mosses, insects, herpetofauna and small mammals which form the base of the food chain. They filter and store water and also provide and recycle nutrients essential for all plant life. Unfortunately soils are vulnerable to human impacts. High quality forest soils are the product of thousands of years of development, a process for which there are no shortcuts.

Sustainable forest management dictates the protection of forest soils. Human activity can potentially have negative impacts on soils and the many life forms resident in the soil ecosystem. Management activities must be modified to limit impacts. DEC staff will strive to minimize and mitigate soil impacts, erosion and compaction, to the fullest extent practical in the process of planning, working and contracting on State Forests. The mitigation efforts to prevent soil erosion and compaction are also known as best management practices or BMPs.

The important role forests play in producing high quality fresh water and the value of water itself, cannot be overstated. Forests serve as nature's water filters and regulate water flow by storing rainfall and releasing it into streams at a more even rate. Water is essential for almost all terrestrial and aquatic-based life forms. As with soils, the state's waters support an immense variety of organisms which serve as the foundation for the food chain and the core of biodiversity.

Recommended actions include:

- Increase monitoring of BMP effectiveness by sampling management sites on a periodic basis after construction of erosion control structures to assess sedimentation and water quality.
- Provide training to DEC staff in modern application of BMPs at least every five years.
- Identify and map highly erodible soils in UMPs.

At-Risk Species and Natural Communities

When air, land, water, plants and animals support each other in a healthy environmental system, all species, including humans, flourish. Human actions have the potential to throw ecosystems out of balance and damage key elements in the web of life. But the same

knowledge and technology that result in this potential also give us the ability to prevent damage to the environment and to care for the environmental support system on which all species survival depends. State Forests will be managed with an ecosystem management approach which includes a focus on the overall health of the “system” and on the individual species and communities (elements) within the ecosystem.

Rare plants have been protected in New York State since 1933. After a long history of expanded protection efforts, the latest regulation was enacted in June 1989 and includes three rarity categories (endangered, threatened, and rare) and one non-rare protection category (exploitably vulnerable).

Recommended actions include:

- Maintain and contribute additional data to the existing Master Habitat Database on ArcGIS which identifies all known occurrences of rare, threatened and endangered species and important natural communities in conjunction with the New York Natural Heritage Program.
- Conduct up-to-date training for forestry staff on the identification and protection of at-risk species and communities, including use of the Predicted Richness Overlay data layer.

Forest Health

The protection of resources from injurious insects, diseases, nuisance native species and invasive exotic (non-native) species will be accomplished through a program of integrated pest management. This program includes elements of reconnaissance, analysis, and determination of thresholds and controls when necessary, emphasizing natural methods and relying on pesticides only when other options are not practical or have proven to be unsuccessful. All pesticide use will conform to label directions and restrictions, including but not limited to: proper mixing, storage and disposal, application methods and rates, and personal safety equipment, thereby minimizing effects on non-target vegetation. Methods will favor hand application to individual target species over broadcast methods where practical. Forest management activities will be employed where appropriate to help improve forest health and resiliency.

Recommended actions include:

- Apply an “early detection, rapid response” approach to new infestations and “slow the spread” strategies to reduce the impact of populations which are not feasible to eradicate.
- Use timber sales to enhance forest health and the diversity of species, habitats and structure in order to enhance the resiliency of ecological systems and forest sustainability. Harvests will be planned in such a way as to develop a wider range of forest successional stages.

Invasive Species

As global trade and travel have increased, so have the introduction of non-native species. While many of these non-native species do not have adverse effects on the areas in which they are introduced, some become invasive in their new ranges, disrupting ecosystem function, reducing biodiversity and degrading natural areas. Newly identified invasive species may be controlled or even eradicated. If an invasion is detected when the population is small and manageable, eradication may be possible. However, if an infestation goes undetected and the population becomes well established, the best option may be to enact control efforts with the goal of lessening its impact or preventing its spread.

Recommended actions include:

- Develop invasive species BMP language to be included in all forest product harvest and construction contracts, to protect State Forest lands from the introduction, establishment and spread of invasive species.
- Assist in the publishing of an educational brochure about invasive species BMPs for recreational users.
- Develop guidelines for invasive species control to be used by all DEC staff undertaking activities on State Forests.

Historic and Cultural Resources

Historic properties include buildings, structures, objects and districts listed or eligible for listing in the State and or National Registers of Historic Places. These can include standing structures, ruins, archaeological sites and other related resources. Such resources form the historical record and legacy of New York State. They tie us to and inform us of history and culture and are an important part of community identity and sense of place.

DEC is required by the New York State Historic Preservation Act (SHPA) (PRHPL Article 14) and SEQRA (ECL Article 8) to include such resources in the range of environmental values that are managed on public lands.

On lands managed by the Division of Lands and Forests, the number of standing structures is generally limited, due to the nature of past and current land use. Often those that remain are structures that relate to the Department's land management activities such as fire towers, "ranger" cabins and related resources.

Recommended actions include:

- Complete Inventory Forms and Submit to OPRHP and NYSM as resources are identified.
- Initiate a systematic and comprehensive archaeological inventory of State Forests in partnership with the New York State Museum.
- Develop standard operating procedures for managing historic and cultural resources.

Land Acquisition

In 1990, ECL Article 49, Title 2, was enacted to ensure citizen input into state land acquisition decisions made by DEC and the Office of Parks, Recreation and Historic Preservation (OPRHP). Nine Regional Advisory Committees were established to assist DEC & OPRHP in identifying areas in which land acquisition is a high priority for conservation purposes. Through a formal public review and natural resource evaluation process, projects are required to be listed in a state land acquisition plan, now formally known as the New York State Open Space Conservation Plan (Plan). As one of the principles of the State's Open Space Conservation Program, the Plan recognizes fee acquisition from willing sellers as one of a variety of tools to be utilized for conserving land.

Priority will be placed on the elimination of "in-holdings" and the consolidation of State Forest parcels in order to lessen management demands and fiscal expenses by significantly reducing boundary line maintenance, improving operational access, and by providing additional protective buffers from non-compatible or potentially non-compatible adjoining land use.

Universal Access

Forest-based outdoor activities in both active and passive forms are widely enjoyed by people of all ages and abilities. Time in the woods is increasingly important as much of society has turned indoors for entertainment. Nature provides opportunities for exercise and physical well-being, meeting unique challenges, learning new skills and gaining healthy perspectives on modern life. A day on the water or an evening around the campfire brings family and friends together to make personal discoveries and connections with each other. Disability awareness and consideration of diverse needs will lead to greater inclusion in these valuable recreational opportunities.

Title II of the Americans with Disabilities Act applies to the Department and requires, in part, that reasonable modifications must be made to its services and programs, so that when those services and programs are viewed in their entirety, they are readily accessible to and usable by people with disabilities.

Universal access will only be provided where it will not fundamentally alter the character or recreational programs of an area. The goal is to maximize accessibility while protecting the natural setting to the greatest extent possible, thereby preserving the fundamental experience for all. A minimum tool approach will be used to implement this vision, resulting in projects that blend into the natural environment and protect the landscape.

The Department's Motorized Access Program for People with Disabilities (MAPPWD) permits qualifying people with disabilities to use motor vehicles along specific routes for access to programs, such as hunting and fishing, on state lands. This program provides access to significant recreational opportunities throughout the state and is one more way that New York is opening the outdoors to people with disabilities.

Recommended actions include:

- Consider opportunities to enhance universal access to State Forest recreational programs and facilities in all UMPs.
- Update the universal design guidebook for DEC staff to reflect the most current guidelines.
- Develop DEC universal access policy.

Recreation

The demand for recreational use of State Forests has greatly increased in recent years. Recreational planning is now a major component of State Forest UMPs and includes diverse pursuits such as snowmobiling, horseback riding, hunting, fishing, hang gliding, picnicking, cross-country skiing, snowshoeing, bird watching, geocaching, mountain biking and hiking. The archer, dog sledder, rock climber and orienteering enthusiast also enjoy their sport on State Forests. More than 2,000,000 person-days of hunting take place on State Forests annually, and approximately 570,000 person-days of freshwater fishing are estimated for the lakes, ponds and streams located on State Forests.

In order to minimize impacts related to recreational use, DEC relies on a combination of management planning, along with public education, enforcement of regulations and permit issuance. If public education and enforcement of general regulations are not sufficient to protect resources in a particular area, property-specific regulations may be developed.

DEC is committed to providing recreational opportunities on State Forest lands. However, it is frequently necessary to remember that ECL, Article 1 requires the Department first and foremost to protect New York's environmental resources, a legacy which will be passed forward on behalf of citizens of today's and tomorrow's generations.

Recommended actions include:

- Develop a Backcountry Steward program to provide public education and assistance on State Forests with higher levels of public use.
- In areas of higher levels of public use, improve public education through the use of signs, kiosks, outreach to user groups, Backcountry Stewards, and working with neighboring landowners (Neighborhood Watch groups).
- Develop a program for carrying out regular trail assessments on State Forests.

Off-highway and All-terrain Vehicle Use

Off-road motorized recreational activities have grown in popularity over the past two decades. These include four-wheel drive vehicles (also referred to as off highway vehicles or OHVs), ATVs, UTVs and off-road motorcycles. For the purposes of discussion, the plan refers to them collectively as OHVs and ATVs. Impacts and issues associated with OHVs are much the same as those associated with ATVs, therefore for the purpose of the SPSFM, they will be addressed collectively.

Some people own and operate these types of vehicles as a relatively benign means of conveyance to access recreational opportunities like hunting and fishing. Many off-road enthusiasts, however, enjoy a riding experience that includes characteristics such as challenging mud holes and steep hill climbs, as is often depicted in ATV manufacturer ads and on ATV club web pages. As discussed below, those types of uses, as well as other attributes of recreational ATV use are not compatible with State Forest management goals and cannot be successfully managed on State Forest lands.

Environmental impacts from ATV use include soil erosion, displacement and compaction, direct impacts to streams and wetlands from ATV crossings, including increased siltation and turbidity, noise, disturbance to wildlife and their habitats, damage to vegetation, and air pollution. ATV use impacts neighboring landowners and conflicts with other recreational pursuits.

Over the years, attempts have been made to accommodate off highway and all terrain vehicle use on several State Forests but in each case, the use was not sustainable. Serious issues with soil erosion, illegal off-trail use and trail rutting developed. In all cases the Department was not able to find acceptable ways to mitigate the impacts, even when organized user groups were included in the process. In the end, each of the former off-road vehicle trail systems was closed.

Recommended actions include:

- Accommodate Limited ATV use on State Forests via consideration of requests for ATV connector routes on a case-by-case basis, including a formal public input process, and via consideration of opportunities to enhance access to State Forest recreational programs under DEC's MAPPWD program

Managing Deer Impacts

The Department manages deer populations through input from the deer management task force for each Wildlife Management Unit (WMU). Deer populations in many parts of New York are at levels that severely impact forest vegetation by restricting the growth and development of hardwood seedlings and other native plants. Forest health is impacted through loss of species diversity, while long term timber values are reduced by loss of high-value hardwood species in the forest.

Recommended actions include:

- Develop an inventory protocol for the assessment of deer browse impacts.
- Develop a list of strategies appropriate for addressing unsustainable levels of deer impacts on State Forests.
- Conduct deer density and browse impact inventories on State Forests.
- Participate in Citizen Task Forces.
- Improve hunter access and success rates by providing web-based information and maps, and by enhancing road access and parking availability.

Fire Management

A program of protection from wildfire will be maintained to assure minimum risk or loss to humans, structures and forest resources. This program is the responsibility of Forest Rangers from the Department's Division of Forest Protection and Fire Management.

Periodically, foresters may use prescribed fire as a site preparation tool, as a release agent to control interfering vegetation and invasive plants, to perpetuate fire-dependent natural communities, and to control wildfire conditions by reducing fuel load.

Fire management on State Forest lands will entail the suppression of fires, both natural and human-induced as well as the application of prescribed fire under appropriate conditions. The goal of this is to maintain fire-replicated natural communities and prevent extreme fire danger that could threaten natural and human communities.

Recommended actions include:

- Maintain naturally occurring fire-dependent communities on State Forests.
- Conduct prescribed burns as necessary to perpetuate fire dependent communities.

Forest Products

According to a report prepared by SUNY-ESF, timber growth currently exceeds timber removals on State Forests. Comparing harvest rates to the net growth rate of the forest provides a valuable yardstick to measure sustainability. However, it must be recognized that sustainable management relies more on promotion of biodiversity, high-quality habitat and forest resiliency than a simplistic approach of cutting below the net growth rate.

Forest product sales provide important economic benefits by generating a steady revenue source for the State of New York, providing raw materials to the forest products industry, and creating local jobs. All other resource protection goals will be accommodated in the management of harvest activities, even to the extent of excluding harvests from sensitive sites or when they are not compatible.

Recommended actions include:

- Conduct timber harvests at a rate which does not exceed annual net growth rates.
- Re-establish a statewide system of permanent sample plots on State Forests to provide an accurate and detailed picture of forest growth, mortality and removals.
- Calculate the sustainable harvest threshold once every five years.

Mineral Resources

The leasing and development of natural gas and oil resources can provide jobs and income to the State while increasing domestic energy supplies. Oil and natural gas are valuable resources which can provide energy and revenue, as well as the opportunity for improvements to the existing infrastructure of the State Forests (such as improving access through upgrading existing roads, culverts and gates).

As with any other human activity on State lands, oil and natural gas exploration and development can impact the environment. The biggest risks from natural gas exploration and development are potential impacts on underground aquifers and residential water wells in the immediate area of drilling. While techniques used today are far more advanced and protective of ground water, there are still risks - as with almost any construction or development project. The Department will incorporate all available technologies and methods to reduce these risks.

Emerging issues include disposal by injection and carbon capture. Neither of these activities is currently taking place on State Forest lands.

Recommended actions include:

- Apply a hierarchical approach that classifies areas of each State Forest into specific categories.
- Adapt the draft guidance for pipelines on State Forests to the DEC policy system and expanding it to include guidance on strategies for dealing with existing pipeline corridors and establishment of new pipeline corridors. If the issue of existing unauthorized pipelines cannot be sufficiently addressed at the policy level, propose legislation to resolve the issue.
- Finalize and adopt the current draft policy on seismic exploration.
- Adopt policies addressing disposal by injection and carbon capture and sequestration.
- Adopt a policy on tract assessments for oil and gas leasing, based on mineral character and expected mineral activity, site condition, and public use.
- Adopt a policy on water use for oil and gas extraction, based on information in the Division of Mineral Resources GEIS.