

New York State
Department of Environmental Conservation

Division of Public Affairs & Education

**Dr. Victor Reinstein Woods Nature Preserve
Unit Management Plan**

Town of Cheektowaga, New York

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GEORGE E. PATAKI, Governor

Denise M. Sheehan, Commissioner

Executive Summary

It is the policy of the Department to manage State lands for multiple benefits to serve the People of New York State. The mission of DEC in operating the Dr. Victor Reinstein Woods Nature Preserve (Woods) is:

1. *To carry out a comprehensive program of interpretive, education and information services which leads the public to a better understanding, appreciation and sense of responsibility for the environment, and which raises public awareness and understanding of DEC's programs and responsibilities for natural resource and environmental quality management, and*

2. *To preserve, protect and enhance the natural and cultural resources of the Dr. Victor Reinstein Woods Nature Preserve.*

The 292-acre Woods includes eight miles of gravel roads, 19 ponds and wetlands created by a man-made system of dams, and approximately 76 acres of mature Beech-Maple forest. Other important habitats include immature forests, conifer plantations, vernal pools, shrub swamp, and wet meadow. Past research has not indicated the presence of rare or endangered plants or animals. However, two species on the New York Natural Heritage Program's Watch List, *Pinus banksiana* (Jack pine) and *Mimulus alatus* (winged monkeyflower) were previously documented at the Woods. Non-native plants and an overpopulation of deer pose potential long-term threats to the habitats of the Woods.

DEC acquired the Woods from the Estate of Dr. Victor Reinstein in 1986 and signed an agreement with the Reinstein Estate outlining several activities (environmental education programs, staffing, etc.) DEC would make its best efforts to pursue. DEC has constructed a residence for a DEC employee and an Operations Center for DEC maintenance crews. DEC has also added a comfort station (bathroom), pavilion, and expanded parking area to accommodate the growing environmental education programs at the Woods. In 2002, DEC began designing an environmental education center for the property. The environmental education center will be built in 2006. DEC drafted a "Master Plan" for the property in 1987, but the plan was never formally adopted.

Starting in 2001, DEC developed an extensive environmental education program and a volunteer program. Data suggests that the majority of Woods visitors are from Erie County, and more than half come from outside the Cheektowaga/Depew/Lancaster area. Demand for environmental education programming has grown significantly, often surpassing available resources. A non-profit organization, Friends of Reinstein Nature Preserve, Inc., formed in 2003 to provide support to the environmental education programs at Reinstein Woods.

Management Goals:

1. DEC will continue the environmental education program at the Woods. The goals of the education program are to:

- Provide interpretive programs and services for a range of public users including adults, families, conservation/environmental organizations, civic groups and special needs visitors;
- Provide education programs and services for school and youth groups;
- Provide training and support services to teachers, youth leaders, environmental educators and other providers in the content and methods of environmental education and interpretation; and
- Further develop the non-profit support group and external partnerships to improve programs and services.

Construction of the environmental education center will allow significant progress in achieving these goals.

2. DEC will strive to maintain the current biological diversity that exists at the Woods. DEC's goals are to:

- Maintain a variety of wetland habitats within the Woods to provide habitat for a diversity of wildlife;
- Maintain the existence of mature forest at the Woods;
- Maintain some coniferous forest at the Woods;
- Maintain an open field habitat at the Woods;
- Eradicate or control invasive exotic species that are negatively impacting existing habitats or could potentially do so; and
- Monitor habitats within the Woods and look for indications that additional management activities may be required to meet the habitat protection goals.

DEC will maintain a small open field as a field to provide another habitat type for teaching and learning at the Woods. This will involve rehabilitating a small stretch of abandoned road and periodically mowing the field.

One of the major threats to the continued existence of the mature forest at Reinstein Woods is the large deer population. The town of Cheektowaga has begun a town-wide bait and shoot program to reduce the size of the population. Although the program does not include Reinstein Woods property, neighboring Stiglmeier Park is included. The program is expected to take several years to achieve a significant reduction in the size of the population. Therefore, DEC plans to go ahead with establishing deer exclosures in strategic locations to encourage regeneration of desirable tree species in the forest.

3. DEC will strive to maintain viable populations of all native fish and wildlife species currently found at the Woods at levels compatible with existing habitat, ecological and social concerns, public interest, and types and levels of public use. In general, DEC's goals for fish and wildlife

management are to:

- Protect and enhance the site's fish and wildlife diversity;
- Increase fish and wildlife research occurring on site; and
- Respond to any nuisance wildlife problems that may occur on site.

In 2005, the town of Cheektowaga began a Canada goose control program to address significant problems with goose feces at Stiglmeier Park. DEC participated in this program by allowing goose eggs at Reinstein Woods to be oiled to prevent them from hatching. DEC did not participate in the goose round up and euthanasia portion of the program. DEC will continue to work with Cheektowaga to address concerns about the size of the resident goose population.

4. In terms of public use, DEC will divide the Woods into three management areas: intensive use, interpretive area, and sanctuary. The intensive use area includes the northernmost portion of the Woods and is the location for all major public amenities such as the parking lot, restrooms, and the environmental education center.

The interpretive area will be the primary area for outdoor environmental education activities and general public enjoyment of the natural resources of the Woods. The area will include interpretive signs, wildlife management tools such as nesting boxes, resting benches and teaching platforms where appropriate. An interpretive trail system, using the gravel road system that exists within the woods, will be designated within this area to enhance public enjoyment of the Woods and increase educational opportunities for the general public. The trail system will have a "sign-in/ sign-out" policy for visitors. DEC has trained volunteers to monitor the trails when open, and patrols by DEC staff and police will continue. DEC will undertake a variety of additional monitoring activities to ensure appropriate use of the interpretive trails.

The sanctuary will encompass about one-third of the Woods and will provide a limited access area reserved for wildlife. Public access to the sanctuary will be limited to maintenance, monitoring and research activities.

DEC's long-term goal is to allow use of the Woods for environmental education and public enjoyment purposes without placing undue stress on the Woods' natural resources. As DEC expands its education program and increases access to the Woods, DEC will periodically assess the impact the visitors are having on the Woods.

5. DEC will take steps to improve the facilities available to support environmental education programs at Reinstein Woods. DEC will construct an environmental education center to allow expanded programming and provide adequate office space for employees and volunteers. Additionally, DEC will improve the Reinstein stone house that DEC acquired in 2004. The stone house will be used for one or more of several potential uses, including as an indoor/outdoor classroom, exhibit space, storage, and temporary housing for naturalist interns.

6. DEC will undertake a variety of health and safety measures to ensure the safety of employees,

volunteers and the general public while visiting the Woods.

7. To address the concerns of some individuals, DEC will add additional fencing to a portion of the Woods' western boundary, using fencing already owned by DEC. Fencing that is already in place will be maintained.

DEC incorporated many of the comments received during the public comment period on the draft Unit Management Plan, issued in July 2004, into this final plan. Appendix 5 of this plan includes comments received from the public and DEC's responses to those comments.

Acknowledgments

This plan was prepared with input from the following DEC Staff:

Meaghan Boice-Green, Citizen Participation Specialist 2
Maureen Brady, Assistant Regional Attorney
Kristen Buechi, Citizen Participation Specialist 1
John Curtiss, Fish & Wildlife Technician 2
Ann Harrison, Environmental Educator 3
Patricia Nelson, Citizen Participation Specialist 1
David Paradowski, Forester
Ken Roblee, Biologist (Wildlife)
James Snider, Region 9 Deer Biologist
Tim Spierto, Biologist (Ecology)
Michael Wilkinson, Biologist (Fisheries)
Ginger Wszalek, Environmental Education Assistant

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1.0 INTRODUCTION

In September 1986, approximately 270 acres of land were donated to the New York State Department of Environmental Conservation (DEC) by the Estate of the late Dr. Victor Reinstein and his wife, Julia B. Reinstein. DEC was interested in acquiring this parcel of land because of its unique wetland and forest complex and its potential as an environmental education center to serve the large surrounding urban and suburban community. The land was formally dedicated in 1989 as the Dr. Victor Reinstein Woods Nature Preserve (Woods).

It is the policy of DEC to manage State lands for multiple benefits to serve the people of New York State. DEC prepares a Unit Management Plan for all land areas that it manages as a step in carrying out that policy. Unit Management Plans are intended to assess the natural and physical resources present within a unit, identify opportunities for recreational use and consider the ability of the resources and ecosystems to accommodate public use. Further, they identify management objectives for public use which are consistent with the land classification guidelines and the character of these lands.

DEC's Division of Public Affairs and Education worked closely with the Division of Lands and Forests, Division of Fish, Wildlife and Marine Resources, and the Division of Operations to develop this plan. In November 2001, DEC held a scoping session to gather initial public input for use in drafting the plan. Following the scoping session, DEC conducted surveys of Woods visitors and convened a focus group to discuss deer management in June 2002. DEC prepared a draft plan and provided the Reinstein family with the opportunity to review and comment on it, in accordance with an agreement signed when the Reinstein Estate donated the Woods to New York State. The plan was revised, and DEC issued a draft UMP to the public in July 2004. DEC accepted public comments on the draft plan until September 30, 2004. DEC held a public meeting to discuss the draft plan on July 27, 2004. Following the end of the comment period, DEC evaluated public input it received and revised the management plan accordingly. Appendix 5 of this plan includes comments received from the public and DEC's responses to those comments.

This plan has been developed to address management activities at the Reinstein Woods Nature Preserve for the next 20 year period, with a review due in 5 years. Some management recommendations may extend beyond 20 years. Factors such as budget constraints, unforeseen changes in the Woods caused by weather, and other factors may necessitate deviations from scheduled management activities.

1.1 Land Use and Ownership History

In pre-colonial times, the Iroquois Tribe of Senecas established permanent and temporary settlements near the Woods along Cayuga and Buffalo Creeks. Early white settlers avoided the Woods area due to the wet soil and the absence of access routes near the site. It was not until after the American Revolutionary War that the area became occupied.

From 1798 to 1799, the Holland Land Company surveyed Western New York, including the current Woods site. At that time, approximately one-third of the southern portion of the site became part of the former Buffalo Creek Indian Reservation. Two stones located at Reinstein Woods were believed to be original survey markers. However, researchers from the University at Buffalo visited the site in 2005 to evaluate the stones. Based on their research, although the stones seem to be along the northmost boundary line of the Buffalo Creek Reservation, it is unlikely that the stones were placed by the Holland Land Company. It is possible that the stone markers were set up at a later time during the subdivision of the townships into smaller land parcels, but further research is needed to confirm this.

The Iroquois Tribe of Senecas sold off the Buffalo Creek Indian Reservation between 1842 and 1846. The Holland Land Company sold the northern two-thirds of the site to settlers during the 1800s. These settlers bought long, relatively narrow farms that faced the old Batavia Road to the north and extended south to the Buffalo Creek Indian Reservation. Cayuga Creek separated the site from the homesteads of these farms. With no bridges available to cross Cayuga Creek, the settlers conducted very little activity on the swampy southern portions of their farms located across the Creek. Therefore, the Woods site remained largely unused except for some selective timber cutting and pasturing of livestock.

In the 1880s, an electric trolley line was built from Buffalo to Lancaster via Cheektowaga. This line followed the route presently occupied by Como Park Boulevard on the Woods' northern property boundary. Speculating that rapid residential and commercial development would occur along this major trolley line, the Bellevue Land and Improvement Company bought thousands of acres of undeveloped land south of Cayuga Creek between Union and Transit Roads, including the existing Woods site. The trolley was abandoned in the 1920s in favor of new bus lines.

West of the property, the New York Central Railroad operated a train marshaling yard in the area stretching from Broadway to Gardenville in southern Cheektowaga. After World War I, most of the train tracks were removed.

The failure of the trolley line and the removal of the railroad yards from the vicinity of the Woods prompted the landholding company to liquidate its vast land holdings. The company hired an attorney, Dr. Victor Reinstein, to sell off its land in the town of Cheektowaga, and Dr. Reinstein purchased the Woods' lands and surrounding area from the company in the early 1930s. During this time, Erie County acquired the trolley line right-of-way and built Como Park Boulevard. The town of Cheektowaga acquired the abandoned railroad yards and eventually developed this area into a town park. Dr. Reinstein offered much of the land along Como Park Boulevard and Borden Road for sale in one to five acre parcels, but kept the central tract (the

Woods site) for himself after an unsuccessful attempt to sell the land to the town of Cheektowaga and Erie County as a “wild park.”

After purchasing the property, Dr. Reinstein designed and began to build the road network which eventually honeycombed the site with eight miles of crushed stone, single-lane roads. The roads, completed in 1960, were built to make portions of the property usable for restricted residential development, in case he became financially unable to hold the total acreage as his private sanctuary.

During this time period, Dr. Reinstein also began to design and build the 19 ponds and marshes presently found on the site. Additionally, Dr. Reinstein planted 30,000 evergreens on the site, mostly in abandoned fields on the eastern edge of the area. He also installed 1,500 feet of natural stump fence along the western edge of the Woods. In 1965, the Reinstein family constructed a stone house in the center of the property.

In the mid-1970s, Dr. Reinstein offered to donate the land to the town of Cheektowaga and to Erie County. However, the many restrictions which accompanied this offer made it unfeasible for the town or County to accept. Ultimately, the land was offered to New York State.

New York State continued to negotiate with Dr. Reinstein until his death in 1983. Mrs. Julia B. Reinstein, Dr. Reinstein’s widow, wanted to fulfill her late husband’s final wishes, and agreeable donation terms were negotiated. The New York State Department of Environmental Conservation assumed ownership of 244 acres of the Woods in September 1986. At that time, DEC and Mrs. Reinstein signed an agreement, now known as the family/state agreement, that called for the establishment of a visitor center at Reinstein Woods. This agreement is discussed in section 3.1 and is included as an appendix to this plan.

In addition, Mrs. Reinstein personally donated \$25,000 toward the establishment of a residence on the site, and purchased 25 acres from the original center exception land (land to remain in family ownership under original donation conditions) and added this acreage to the donation. Mrs. Reinstein passed away in 1998. Her will provided for the donation of the remaining 4.74 acres of the original exception land to DEC, including the stone house, subject to a life estate for her stepson, Robert Reinstein. Mr. Reinstein relinquished his life estate in June 2003, and the State took possession of the property in March 2004.

Mrs. Reinstein also established a \$500,000 charitable trust, “for the purpose of assisting, to protect, preserve and perpetuate the wildlife habitat, vegetative and water resources, and landscape features of the Woods.” According to her daughter, Mrs. Reinstein had intended this trust to be used for capital improvements at the Woods, including such things as a visitor center. In May 2003, DEC received an initial payment representing interest received by the trust in 2002. In December 2003, DEC established a natural heritage trust account to allow access to the funds. In summer 2004, agreements were signed with Mrs. Reinstein’s Executors to allow access to the funds.

The Woods was dedicated to the State Nature and Historical Preserve Trust in 1989. Lands included in the Preserve Trust cannot be alienated by the State except upon approval of two successive legislatures. The Trust requires DEC to develop a stewardship plan for the Preserve that includes “a description of stewardship activities required to monitor, protect, enhance and where appropriate actively manage the ecological, scenic, wilderness, geological or historic resources that merited dedication of the site to the preserve. Such plan shall also provide for passive recreational uses, including, where appropriate, fishing, hunting and trapping, or commercial fishing opportunities that are compatible with protecting the ecological significance, historic features and natural character of the site.” (Environmental Conservation Law 45-0117).

2.0 INFORMATION ON RESOURCES AT THE WOODS

2.1 Geographic and Geological Information

Reinstein Woods is located in the town of Cheektowaga, Erie County (Figure 1). It is a 20-minute drive from downtown Buffalo. Since acquiring the original 269 acres in 1986, DEC has also purchased parcels of land contiguous to the Woods, bringing the total acreage of the Woods to approximately 292.4 acres, including the family exception. The site is bordered by residential properties and Como Park Boulevard to the north and residential properties to the east. The Woods also abuts Cheektowaga's Firemen's Park and residential properties along its southern border.

Stiglmeier Park, formerly known as Losson Park, is immediately adjacent to the Woods' western and southwestern border. The 315-acre Park is owned by the town of Cheektowaga and includes ball fields, picnic pavilions, a pond, restrooms and a community building. The portion of the park that borders the Woods consists of forest with footpaths and boardwalks that are open to the public dawn to dusk seven days a week. In several areas the paths are immediately adjacent to the Park-Woods border.

The site lies within the Erie-Ontario Lake Plain Province, a former glacial plain that has very little relief. The Woods is relatively flat; as you move from the northeast to the western edge of the Woods, the elevation drops from 650 feet to 631 feet above mean sea level. The Woods is underlain by shale and limestone bedrock, covered by silt and sandy soils. The northern portion of the site is dominated by sandy soils and a water table one to two feet below the ground surface. This is the portion of the site where the parking lot and buildings are located.

The central 150 acres of the Woods have sandy soils in upland, forested areas and silty soils in the wetland areas and in areas where vernal pools exist. Soils in the southern portion of the site are similar to the central portion, but some areas also contain clay soils.

2.2 Wetlands and Water Resources

Reinstein Woods Nature Preserve is located in the Buffalo River watershed. At the time the Woods were purchased, water entered the Woods through two tributaries of Slate Bottom Creek, which is a tributary of Cayuga Creek that eventually feeds into the Buffalo River.

Starting in the 1930s, Dr. Reinstein built a series of dams on each of the two tributaries, creating a number of ponds of various sizes and shapes. Prior to this construction, there were no ponds and no significant wetlands in the area. While DEC has no records of how the dams were

built and has not done a comprehensive survey of each dam, evidence from dams that have required repair suggests that they were built using a variety of materials, including various construction wastes (brick, pipes, concrete pieces, etc.) and even logs and stumps. Dr. Reinstein provided the major ponds with emergency spillways in case of high water flow. The dams were covered with gravel roads.

Dr. Reinstein's dam system remains largely intact today and has resulted in the variety of pond and wetland habitats. There are currently nine ponds and 10 wetlands in the Woods (Figure 2). The largest and deepest pond is Flattail Lake, reported to be 18 feet deep at the deepest point. The wetlands include cattail marsh, wet meadows, and large vernal pools. The major vegetation types in these wetlands are described in section 2.3. There are also a number of smaller vernal pools, some located in the spillways built by Dr. Reinstein.

Since the time Dr. Reinstein built system of dams in the Woods, the northern tributary of Slate Bottom Creek was cut off east of the Woods, and it no longer supplies water to the Woods. Water exits at Lower Pond and Tussock March and enters Stiglmeier Park. West Pond receives drainage from the northern border of the Woods and does not have any obvious outlet. The southern tributary of Slate Bottom Creek exits at the southwestern corner of the Woods.

2.3 Vegetation Types and Stages within the Woods

In the 1980s, the resident DEC naturalist made a list of selected plant and animal species found in the Woods. However, he did not record the locations or extent of any species. Since that time, several individuals have researched the vegetation at the Woods.

From 1989 to 1991, volunteers from the Niagara Frontier Botanical Society collected plants along roads and trails throughout the Woods. They collected 325 species representing 64 families (Zika 1992). However, no attempt was made to look for plants at a significant distance from any road or trail.

In 1993, a report entitled "Buffalo's Backyard Wilderness," was published, based on research done in the late 1980s to "define the plant communities of the Woods and describe their composition" (Kershner 1993). The study focused on identifying the major classes of vegetation and their locations within the Woods (Figure 7). The study provides maps and information about the major terrestrial vegetation types throughout the Woods. Additionally, while the study does not include a systematic inventory of the flora of the Woods, it does include valuable information about wildflowers noted within the Woods at the time of the study.

The study noted that approximately three-fourths of the Woods is covered by forest, 12% by wetlands, 10.7% by ponds, and only 1.7% by grassland or upland old field communities. It

identified the following major forest communities within the Woods:

- 76 acres of Mature Beech-Maple Forest
- 30.1 acres of Cherry-Ash-Maple Mature Forest
- 45.1 acres of Cherry-Ash-Maple Immature Forest
- 40 acres of Floodplain Forest dominated by black willow and Eastern cottonwood trees.

It also identified 16.2 acres of conifer plantations scattered around the Woods that were planted by the Reinstein family in the 1950s. In many areas, these conifers are beginning to be replaced with deciduous trees.

The report also identified the major plant communities in the wetlands at Reinstein Woods. The major communities are:

- vernal pools (swales dominated by ferns and false nettle)
- shrub swamp
- wet meadows
- shallow emergent marsh (cattail-reed marsh) .

Since that study, the amount of wet meadow has increased, because the former Mallard Pond has been converted to a wet meadow. Additionally, the shallow emergent marsh areas have expanded. These marshes are primarily dominated by cattails, but *Phragmites australis* (common reed) colonies are occurring in some areas. In winter 2001, DEC attempted to document the locations of common reed within the Woods so that control measures could be implemented in the future. This issue is discussed later in this UMP.

The aquatic vegetation within the Woods has not been extensively studied. Common plants seen in open-water areas include coontail, duckweed, and, on the Lily Pond, pink fragrant pond lilies. The water lilies have begun to spread into Flattail Lake and Heron Pond.

In 1994, the New York Natural Heritage Program conducted field surveys at Reinstein Woods to update existing information about rare species and communities and to document new occurrences. The Heritage Program prepared a Biodiversity Inventory Report in 1997 that concluded that no “significant ecological communities” are present at the Woods. However, the report states that the 50-70 acres of mature beech-maple mesic forest’s proximity to an urban area “presents an ideal environmental educational opportunity for a large number of people who might not otherwise have a chance to see this forest type at such a mature stage.”

The Heritage Program surveys found no rare plant or animal species at the Woods. However, two species on the Heritage Program’s Watch List, *Pinus banksiana* (Jack pine) and *Mimulus alatus* (Winged monkeyflower) were previously documented by Zika (1992).

The report noted that threats to the Woods include 150 species of non-native plants, including three aggressive species: garlic mustard weed (*Alliaria petiolata*), purple loosestrife (*Lythrum salicaria*), and common reed (*Phragmites australis*). The report recommends beginning a removal/control program for invasive plants.

The report also noted that “the artificially high populations of deer are having a noticeable impact on the vegetation” and “may hinder the regeneration of canopy trees, thus altering the structure and composition of the beech-maple mesic forest.”

In spring 2002, a DEC forester and other DEC staff toured the mature beech-maple forest portion of the Woods with Reinstein Woods staff. They examined the tree seedlings on the forest floor and were unable to find any seedlings more than three years old for any of the major tree species (American beech, sugar maple, black cherry, yellow birch). There were a significant number of saplings with branches starting at six feet above the ground or higher, but no trees between the 3-year old seedlings and these well-established saplings. The lack of stems between two to three year old seedlings and saplings indicates a severe regeneration problem: seedlings are not becoming saplings. A lack of seedlings was also noted around wind-downed trees, where one would expect to encounter stimulation of some shade-intolerant species as a response to a large canopy opening formed by the downed trees. The mature seed-producing trees are present, but the seedlings are not produced in enough quantity to overwhelm the extremely large deer herd. The forester expressed concern that unless steps are taken to control browsing by deer, the forest’s long-term ability to regenerate itself will be significantly impaired.

Regenerating a forest naturally is an important goal if one wants to maintain an area in native trees over the long term. Obtaining adequate survival of seedlings is required. In addition to regenerating the forest, the seedlings can provide cover and food to a wide variety of wildlife. The more diverse the species of trees and height of tree cover, the more diverse the species of wildlife that can use the forest.

Appendix 1 includes a list of plant species known to exist currently at the Woods and others recorded in the Woods in past studies (they may still be present but their location unknown). Herbaceous plants recorded at the Woods that are in danger of becoming threatened (“exploitably vulnerable native plants”) in New York State include: interrupted fern (*Osmunda claytoniana*), New York fern (*Thelypteris noveboracensis*), cardinal flower (*Lobelia cardinalis*), and white trillium (*Trillium grandiflorum*) (6 New York Code of Rules and Regulations [NYCRR] 193.3(e)).

2.4 Wildlife

Because of the large number of habitat types available at the Preserve, Reinstein Woods is home to a great variety of wildlife species. Since 2001, DEC has been recording wildlife and plant sightings from both staff and trained volunteers visiting the Woods. Appendix 1 includes species observed by past and present DEC staff and volunteers, and species recorded during various studies conducted at the Woods by outside researchers. Selected information about various types of wildlife at the Woods is included below.

2.41 Birds

Reinstein Woods is home to a variety of wetland birds as well as forest birds and raptors. Birds commonly seen on ponds and wetlands include Canada geese, mallard ducks, wood ducks, great blue herons, green herons, and kingfishers. In the Spring, large numbers of Canada geese raise their broods within the Woods. More than 45 nests were recorded in 2005 (see section 4.33) Forest and open field birds seen on a regular basis include red-bellied and pileated woodpeckers, wild turkeys, screech owls, and red-tailed hawks. Important species that use the Woods include least bittern, a threatened species in New York State, and Cooper's hawk and American bittern, species of "special concern" in New York State. Migrant birds known to stop at the Woods include osprey (a species of special concern in New York) and pied-billed grebes (a threatened species).

The Buffalo Ornithological Society completed a survey of breeding birds in Reinstein Woods during 1992 that documented 59 species of possible, probable, and confirmed bird species. The study also concluded that Reinstein Woods Nature Preserve is an important stop-over site for migrating passerines (song birds). The Woods provides a refuge of productive forest and wetland habitats within an expansive residential area in which migrating passerines appear to concentrate to rest and feed.

DEC has taken steps to monitor bird populations to improve our knowledge of what birds are using the Woods. In 2001, DEC established bird feeders near the parking lot to enable staff to participate in Project Feeder Watch. Project Feeder Watch is a research program sponsored by the Cornell Laboratory of Ornithology to monitor the population of birds that visit winter bird feeders. A variety of common "feeder birds" are seen regularly at the feeders, including white-breasted nuthatches, chickadees, downy woodpeckers, and tufted titmice. Staff also participated in the Breeding Bird Atlas Project in 2001-2004. This project is a joint effort by DEC and the Federation of New York State Bird Clubs, in cooperation with Cornell University and others, to monitor birds breeding in New York State. These bird surveys confirmed several species of birds breeding in the Woods, including wood thrush, barred owl and hooded merganser. In 2002, staff observed two pileated woodpecker nests that successfully fledged young. Staff and volunteers have participated in Buffalo Ornithological Society bird counts, which occur every spring and fall. Staff has also established a "Bird Observation Record" in the visitor building so that unusual or interesting bird sightings can be recorded by visitors and tour guides.

DEC installed swallow boxes and a goose nesting platform in the Lily Pond at some point in the past. By March 1990, 15 wood duck boxes had been placed around the Woods to provide

nesting cavities for this species. The boxes were cleaned annually each winter and records of nest success were kept from 1992 to 1999. The number of boxes available dropped to 14 in 1994 and to 13 in 1999 for unknown reasons. In 1999, three of the boxes were transferred to Great Baehre Swamp in Amherst, leaving 11 boxes that are still present at the Woods (Figure 3). The records indicate 918 chicks fledged from the boxes between 1992 to 1997 and 1999 (data are unavailable for 1998). A DEC intern mapped the location of the remaining boxes in early 2002, and DEC will begin recording box usage again in 2006.

2.42 Reptiles and Amphibians

A variety of reptiles and amphibians live in the Woods, including snapping and painted turtles, water snakes, and various frogs and toads. A 1992 survey recorded egg masses and adults of Jefferson salamanders, a species of special concern in New York, at the Woods (Buffalo Ornithological Society, unpublished report). Current research being conducted by the Wildlife Conservation Society and DEC indicates that these sightings may have been of hybrids of the blue-spotted salamander complex. Collection of genetic material and examination of chromosomes (through processes called karyotyping and electrophoresis) would be needed to accurately determine if Jefferson salamanders and/or hybrids are present at the Woods.

In March 2002, DEC, with the assistance of knowledgeable volunteers, performed an amphibian breeding survey at the Woods. They found spotted salamanders and their egg masses, a species rarely found in the northern portions of Western New York. The salamanders were again found in surveys in March 2004. Spotted salamanders had previously been recorded at the Woods in 1992 and 1998. The spotted salamander has been the most abundant species found breeding in the Woods' vernal pools.

In 2002, Reinstein Woods staff consulted with DEC biologists and selected sites for participation in the Great Lakes Marsh Monitoring Program. The Marsh Monitoring Program is a joint effort by the USA and Canada to monitor populations of wetland birds and amphibians. DEC will begin monitoring the selected sites at Reinstein Woods in Spring 2006.

Additionally, in April 2003 DEC began participating in Frogwatch USA, a frog monitoring program coordinated by the U.S. Geological Survey. Frogwatch volunteers confirmed the presence of all species of frogs and toads previously recorded in the Woods.

2.43 Mammals

Reinstein Woods is home to a variety of aquatic and terrestrial mammals. Some species of interest include:

- Beaver: a beaver family is currently established in the Lily Pond. In 2002, at least two kits were born at that location, and signs of recent beaver activity have been noted at other ponds and wetlands in the Woods.

- Coyote scat was found in the Woods in 2001 and 2002 and a potential den site was located in the Sanctuary. A coyote was spotted within the Woods in 2002.
- Flying squirrels were live-trapped and released at the Woods in 1998 and 1999 and observed in 2001.

2.44 Deer

One species of mammal, the white-tailed deer, is of special interest at Reinstein Woods. In January 2001, DEC biologists performed an aerial survey of Cheektowaga, using Stiglmeier Park as its center point. The survey was performed in January to allow for maximum visibility (no leaves on trees and snow-covered ground to allow deer to be seen). The survey counted 305 deer within a 1-mile radius of useable habitat. The biologists counted 80 deer within the Woods' boundaries. Studies indicate that aerial surveys generally record 65-70% of the deer within a given area, so the actual number of deer present within the Woods was probably higher.

During the 2001-2002 fall and winter, three deer were discovered at Reinstein Woods that had been hit by vehicles and presumably ran into the Woods and died. In fall/winter 2002-2003, two deer were discovered that had been hit by vehicles. DEC has received several complaints about deer damage to neighboring property owners. Deer in the Stiglmeier Park /Reinstein Woods area can be said to have exceeded the social carrying capacity (human tolerance for deer-car collisions, landscaping damage, etc.) and are stressing the biological carrying capacity of the area.

Contributing to the problem is the tradition of feeding the deer at neighboring Stiglmeier Park. Several people visit the park daily to feed the deer, and numerous families who occasionally visit the park bring corn or other food and hand-feed the deer. This activity contributes to the overabundance of deer in the area. To address the potential spread of chronic wasting disease among deer, DEC enacted temporary statewide regulations banning the feeding of wild deer in August 2002. The regulation became permanent in 2003. However, some Stiglmeier Park visitors continue to ignore this ban. DEC has issued tickets to several people for violating the ban at Stiglmeier Park.

In 2005, the town of Cheektowaga began a town-wide bait and shoot program. One of the areas where they conducted the bait and shoot was Stiglmeier Park. Trained police officers removed 78 deer town-wide, including 51 deer from Stiglmeier Park, as part of this program. The venison was donated to food banks. Cheektowaga intends to continue this program through at least 2006. The bait and shoot program is not occurring on Reinstein Woods property. Stiglmeier Park is closed and secured by the police during the evenings when the bait and shoot program takes place.

Two deer exclosures within the Woods give visible evidence that the deer population is impacting the forest within the Woods. An exclosure is a fence that is put up to keep deer out of an area. The exclosures were erected in April and May of 1992, and the locations were chosen

randomly (Figure 3). Each enclosure consists of an eight-foot tall woven wire fence enclosing an area of approximately 24' x 24' (576 sq. feet). In late fall 2001, a DEC intern informally surveyed the plants inside the enclosures. Ash, sugar maple, beech seedlings and black cherry saplings less than two feet tall were found inside the enclosures, with a large number of saplings between 1-3 feet. This layer of vegetation is missing from the surrounding forest. Outside of the enclosures, the only plants that are prevalent on the forest floor are plants that deer do not eat (various ferns, white snakeroot, and spicebush). There are scattered, large patches of hayscented and/or New York ferns, both unpreferred deer browse that severely compete with tree seedlings. Two red trillium flowers bloom each spring within one enclosure. Anecdotal records indicate both red and white trillium used to abound in the Woods, but currently the only known location of this wildflower is inside the enclosure.

Two additional enclosures were erected as part of an Eagle Scout project in May 2004. The growth of vegetation within these enclosures will be monitored in the future. In 2005 DEC also established comparison plots (areas similar in vegetation, location and size, but without a fence) that will be monitored as well.

2.45 Invertebrates and Aquatic Life

Few formal records exist about what invertebrates inhabit Reinstein Woods, but informal observations by DEC staff suggest a typical array of invertebrate creatures inhabit the Woods. Two volunteers conducted dragonfly surveys from July to October 2003 and recorded more than 20 species of dragonflies within the Woods. In June 2004 and July 2005, Friends of Reinstein Nature Preserve sponsored a visit by a local entomologist who used special lights at night to identify flying invertebrates. No endangered, threatened or special concern species were recorded in any of these invertebrate surveys.

A wide variety of aquatic insects and crustaceans as well as mollusks (snails, clams and mussels) are known to inhabit the Woods' ponds and wetlands. A few species of fish have been recorded over the years, and in 2005 DEC fish biologists sampled fish in selected locations representing different aquatic habitats within the Woods. The fish they recorded are included in Appendix 1. Invertebrate sampling in 2003, 2004 and 2005 indicated the presence of mayflies and caddisflies, indicators of good water quality. Two scientists studied four vernal pools in the Woods and recorded a variety of insects, crustaceans and two species of clams (Batzer and Sion 1999).

2.5 Roads and Trails

Between 1939 and 1960, Dr. Reinstein built eight miles of 10-foot wide gravel roads in

the Woods capable of supporting heavy trucks while sustaining no structural damage. At the time the property was transferred to New York State, approximately two miles of the roads had reverted to secondary growth or had been washed away. DEC has maintained approximately six miles of existing roads for vehicle use or foot trails (Figure 4). The road base is slag, a by-product of the steel making process that is considered to be a good material for road-building. Most interior roads have a substantial base and were used regularly by the Reinstein family. Other roads, mainly the perimeter roads, were built with a less substantial base, as they were intended only for patrolling and maintenance purposes.

The road system acts as a trail system through the Woods. Tours through the Woods follow interior roads and a couple of small connecting trails believed to have been constructed by Eagle Scouts in 1987. In 2001, an Eagle Scout partially rehabilitated a short trail to one of the alleged Holland Land Company markers located in the Woods.

Two other features complement the road system. The Cheektowaga Conservation Corps completed a 400-foot handicapped accessible boardwalk leading to the Lily Pond in 1990. In 1991, Friends of the Woods, Ltd., partially completed a brick pathway from the trailhead building toward the future location of the environmental education center. This brick pathway was extended to the pavilion in 2004.

DEC has maintained the dam and road system to accommodate visitors. In 1998, DEC rehabilitated the dam at Flattail Marsh to make it comply with State dam safety standards. DEC also replaced the water control structure on Lower Pond. In 2002, the New York State Department of Transportation installed a water control structure in the Mallard Pond Dam to allow better control of water levels. In 2003, DEC completed a rehabilitation project on Hidden Pond Dam. DEC also decided to allow a former dam at the base of Redtail swamp to remain breached. A large beaver dam upstream has proven adequate to maintain the wetland.

2.6 Facilities

Since acquiring the Woods, DEC has constructed a residence, garage/office space, parking lot, pavilion, gates, and associated facilities on-site to provide a permanent DEC presence and public access to the Woods. DEC built a four-bay maintenance building and offices to house a portion of DEC Region 9 Operations staff and equipment. DEC also erected a small shed (10.3' x 12.3') to serve as a "visitor building" at the parking lot. In 2005 the visitor building was moved to accommodate a parking lot improvement project. In 2003, DEC constructed a comfort station (restroom facility) and is preparing to construct an environmental education center (see section 4.44). All of these facilities are in the 15-acre northern tip of the Woods to concentrate heavy human disturbance in the area of the Woods with the fewest significant ecological features.

The two-story log cabin on site was built to house a DEC employee to provide a presence

at all times. The cabin has two bedrooms and a loft space. There is a two-car garage with an attached workshop behind the log cabin. The workshop has been converted to an office space for the three environmental education staff people currently stationed full-time at the Woods. The two-car garage is used to store equipment for the environmental education programs. The educational programs have rapidly outgrown this space, and more adequate office space that includes sufficient phone lines, workspace, and storage space, as well as an indoor bathroom, is needed.

There is currently no indoor meeting facility on the property other than a small room in the maintenance building that also serves as an office and kitchenette.

In June 2003, Dr. Reinstein's son Robert Reinstein signed over the deed to the stone house and the family exception land (land to remain in family ownership under original donation conditions) to which he had retained a life estate. DEC took possession of the property in March 2004. The two story stone house is located on the shore of Flattail Lake. The first floor is a large room with a massive stone fire place that extends up the middle of the house. The back side of the fireplace is a stairway made from two beaver-cut logs supporting risers made of black cherry wood. There is an open kitchen and a separate bathroom on the first floor. The second floor consists of two large bedrooms connected by the stair landing and by a closet. The house has electricity and a phone line, but it is unlikely that the heating and plumbing systems are currently functioning properly. The house is discussed in more detail in section 4.48.

In addition to the buildings, the Herb Gardeners of the Niagara Frontier designed and constructed an herb garden near the parking lot with assistance from DEC staff. The group continues to maintain the gardens each summer.

In 2002, an Eagle Scout created a viewing platform for the Woods' "champion" American beech tree (believed to be one of the largest forest-grown beech tree in New York State).

The Erie County Water Authority also maintains a 16-inch water main that runs through the western portion of the Woods (Figure 4).

3.0 DEMANDS ON THE WOODS

3.1 The Family-State Agreement and Management Limitations

When the property was donated in 1986, DEC and the Reinstein Estate signed an agreement with several conditions (Appendix 2). The agreement stated, “The State shall manage the woods in such a way as to protect, preserve, and perpetuate the wildlife habitat, vegetative and water resources and landscape features of the Woods.”

DEC agreed not to build any buildings except for 1) living accommodations for employee(s) provided by the State, 2) an office and visitors’ center with related facilities, and 3) a storage area for materials and vehicles required by DEC.

The agreement also stated that the general public may use the Woods for environmental education, cultural or aesthetic purposes and “uses reasonably related thereto.” The State agreed to use its best efforts to provide at least one full-time person trained in the natural sciences to manage the “educational and cultural utilization” of the Woods, and to patrol and maintain the Woods. Environmental education classes are explicitly permitted. The agreement calls for DEC to establish “an appropriate admission control system to ensure that the types and intensity of use of the Woods is commensurate with the goal of maintaining its ecological viability and balance.”

The agreement also states that the State will consult the Reinstein Estate when preparing a UMP for the property.

Other issues that affect the management of the property include a ban on hunting in the town of Cheektowaga (which reduces options for alleviating an over-population of deer) and the possibility of varying opinions among different public groups on a variety of management issues.

3.2 Past Management: The Compartmentalization Plan

In 1987, DEC drafted a “Master Plan” for the Woods, but the plan was never put through the formal unit management plan process and was not formally adopted by DEC. The plan called for dividing the Woods into four management areas, or compartments, according to the level of human use that would be allowed in different parts of the Woods (Figure 5). Although the master plan was never formally adopted, the compartmentalization idea generally guided DEC’s management of the Woods in the 1980s and 1990s; therefore, it merits mention in this UMP. The management compartments are described below.

3.21 Compartment I: Sanctuary

The primary function of the 85-acre sanctuary compartment was to provide an area for wildlife that would be minimally disturbed by humans. Activities were to be limited to essential maintenance and patrol activities only.

However, the quality of the sanctuary as wildlife habitat was never evaluated by DEC. Little research has been done in this part of the Woods. In 2001, 2002 and 2003, DEC Operations staff removed several piles of debris (construction debris, bricks, etc) from this area of the Woods. Based on the age and state of these materials, they are believed to have been present in the Woods since before DEC took ownership of the property. Dr. Reinstein was known to use the Reinstein Woods property to store construction materials for use at off-site projects.

Additionally, one of the two main inlets for water to the Woods is located in the sanctuary. Storm water from a portion of the towns of Lancaster and Cheektowaga enters the Woods here, bringing with it trash and debris. Following spring thaws, the level of water in this area rises significantly, and trash carried in the water tends to accumulate at a culvert under a dam. To prevent trash from moving into other areas of the Woods, and to keep the sanctuary area as prime wildlife habitat, regular trash collection will be needed in this area. In April 2001, Girl Scouts collected 10 bags of garbage from the water inlet. In April 2002, Boy Scouts removed more than 40 bags of garbage, 4 sleds and 10 tires from the inlet area. Additional cleanups at the water inlet were completed by Cub Scouts and other volunteers in May and September 2003, fall 2004, and spring 2005. The remainder of the sanctuary is generally free of litter.

Research has not been conducted to determine the health of the forest and wetlands in that section of the Woods and whether management activities, such as exotic species control or habitat enhancements, are needed.

3.22 Compartment II: Passive Use

The 80- acre passive use compartment was to provide public access to a natural environment with a minimal number of man-made structures. The idea was to facilitate public access in the form of nature walks and educational field trips while giving the visitor the impression of being in a completely natural environment with a minimal amount of man-made distractions, thus adding to the type of experience available to Woods visitors. Many individuals would rather see only what is natural while visiting the Woods and sacrifice the convenience afforded by observation blinds, benches, etc. The passive use compartment was intended to fill this niche of public access.

3.23 Compartment III: Active Use

The 90- acre active use compartment occupies roughly the northern third of the Woods, with the exception of the 15 acres projecting northeast of Honorine Drive to Como Park Boulevard. The objective of the active use compartment was to provide public access for both environmental education purposes and general enjoyment of the public. To accomplish this objective, boardwalks, viewing blinds, teaching stations, and other structures were to be judiciously and strategically placed. To demonstrate appropriate wildlife management techniques, structures such as bird boxes and waterfowl nesting structures were to be allowed. Trail-side education aids such as signs and trail markers were also allowed.

3.24 Compartment IV: Intensive Use

The 15-acre intensive use compartment is located in the northernmost projection of the Woods, forming a rough square north of the Lily Pond, east of Honorine Drive, south of Como Park Boulevard, and immediately west of housing on the Woods' northeast border. Eighty years ago, this compartment was an open field. The Reinstein family planted conifers in this area during the mid-1900s, some of which remain. It also contains small amounts of swamp and roads built by the Reinstein family. The southern portion of this compartment extends to the northern shore of Lily Pond, which is dominated by shrub thicket.

The intensive use compartment was chosen for all current and future major building projects. This area was chosen as the preferred site for the entrance, parking lot, and other buildings because it is the first portion of the Woods encountered by visitors approaching from Como Park Boulevard and Honorine Drive, the only access corridor to the site. This confines all vehicle traffic to the perimeter area, eliminating undue stress on the Woods' core. From a topographical, hydrological, and geological standpoint, this area is desirable for intensive use because of its level ground surface, high elevation, and deep, well-drained soils. This portion of the Woods contains no outstanding ecological features.

One portion of the intensive use compartment was cleared at some point in the 1980s with the intention that this would be the future location of the visitor center. This location has been maintained as an open spot with a gravel/dirt surface since that time. It is close to the parking lot, bathroom and log home and is adjacent to one of the interior gravel roads. The area surrounding the opening was previously disturbed and contains pine trees planted by Dr. Reinstein. Constructing the visitor center in this location will help minimize the environmental impact from the building.

Although DEC never formally adopted the compartmentalization plan, it has continued to maintain the sanctuary compartment as the most restricted area and to focus any new facility development activity within the intensive use compartment. Guided tours and school lesson activities involve portions of both the active and passive use compartments.

3.3 Public Use

Reinstein Woods Nature Preserve is surrounded by the town of Cheektowaga and is a 20 minute drive from downtown Buffalo. According to 2000 census data, Erie County has 950,265 residents. Therefore, Reinstein Woods has the potential to draw visitors from a large urban and suburban area.

Between 1987 and 2000, DEC offered public tours of the Woods two to four times a week in summer and once or twice a week the rest of the year. Additionally, guided tours were offered to groups such as scouts and school groups by appointment. Other than these guided tours, the Woods was closed to the public. In 1999, attendance was just over 3,500 people.

When DEC expanded its environmental education program in 2001, DEC staff prepared an Education Work Plan for the short term. Short-term goals, planned for one to three years, were to:

- Increase visibility/ community awareness,
- Increase partnerships to develop a volunteer base,
- Improve facilities and physical resources available for the educational program at the Woods,
- Increase the number of visitors to the Woods, and
- Increase the type and number of educational programs offered.

DEC has made great strides in accomplishing these goals. To increase the Woods' visibility, DEC started a newsletter and began regularly advertising in the Buffalo News Gusto, ArtVoice, and local newspaper events calendars. DEC also began distributing the newsletter and brochures to area libraries, solicited news articles about the Woods in the Buffalo News and on Adelphia cable TV programs, and expanded the Reinstein Wood web pages to include more information about DEC's educational programs and services.

DEC also took steps to acquire the physical resources needed for educational programs (snowshoes, bug boxes, aquatic dip nets, binoculars, etc.), and to proceed with plans for a pavilion, bathroom and education center. Staff installed a sign case to display program information at the front gate, cleaned out the visitor building and have been installing new educational displays in the visitor building on a quarterly basis. DEC also expanded visitation and educational programming as discussed below.

3.31 Visitation: School Groups

In Fall 2001, DEC began offering guided instructional lessons to school groups and actively advertised these programs to elementary school science programs. More than 2,800 children from pre-K to 12th grade participated in guided lessons in 2002. An approximately equal number of students participated in guided lessons in 2003 and 2004. Students comprised the largest single type of visitor for 2002 and 2003. More than 75% of the school groups that attended were K-6 grade classes, primarily from suburban public school districts. Groups from Buffalo Public Schools, private schools and charter schools have also attended. The Woods also

continues to attract a number of pre-K groups.

3.32 Visitation: General Public

In 2001, DEC increased the number of regular public tours offered in the spring and fall and added “themed” walks and talks at various times throughout the month. These programs are advertised regularly in a variety of newspapers and through a newsletter. Due to the large amount of interest generated by these programs, DEC limits registration for many programs. Waiting lists for such programs are common. “Themed” walks have proven to be far more popular than the “regular” public tour, with an average of more than 12 people per special event (excluding the fall festival) and only 5 people per regular tour in 2002.

In September 2001, DEC held a one-day nature festival to celebrate the 15th anniversary of DEC management of the Woods. The festival was so popular that volunteers requested DEC make it an annual event. The 2004 Fall Festival attracted approximately 2,500 people.

3.32a. Visitor Origination

Visitors for special events and the general tours have come from a wide variety of places, but the majority appear to be from Erie County. Table 1 indicates the origin of people on the mailing list for the Summer 2002 newsletter (distributed to over 700 people) and those who signed up to win door prizes at the September 2002 Fall Festival (299 people) and September 2005 Fall Festival (562 people) .

Table 1. Percentage of people on the Summer 2002 newsletter mailing list and people registering at the September 2002 and 2005 Fall Festivals according to their place of residence. Visitors to the Woods sign up to receive the newsletter.

Visitor Origin	2002 Newsletter	2002 Festival	2005 Festival
Cheektowaga/Depew/Lancaster	34%	47%	40%
City of Buffalo	16%	11%	9%
Southern Suburbs (W. Seneca, Elma, Orchard Park, Hamburg, East Aurora)	14%	8%	9%
Northern Suburbs (Amherst, Kenmore, Tonawandas)	12%	9%	7%
Williamsville/Snyder	8%	10%	5%
Other Suburbs	6%	4%	6%
Others/Unknown	10%	10%	22%

The numbers suggest that the vast majority of visitors come from the Buffalo metro area. Less than half of the visitors to the Woods appeared to come from the immediate area around the Woods. People who received the Summer 2002 newsletter were required to “renew” with DEC or they were removed from the mailing list. Following the renewal period, 35% of the names on the mailing list were from Cheektowaga, Depew, and Lancaster. This suggests that the percentage of “repeat” visitors from the immediate area is similar to the Summer 2002 newsletter distribution.

3.32b. Self-Guided Trails

A self-guided interpretive trail around the Lily Pond was tested at the September 2002 Fall Festival and was warmly received by visitors. The trail includes an interpretive booklet explaining 11 interpretive “stations” that are marked with a small numbered wooden post along the trail. The trail opened to the public in May 2003 two days a week during specified hours. DEC installed a sign-in/sign-out kiosk in the parking lot, and all visitors are required to sign in indicating their name, number of people in their party, and the date and time of their arrival. They are required to sign out when they leave. This method of access control has been successfully used at other DEC properties and fulfills the State’s obligation to establish an appropriate admission control system.

The assistant environmental educator or other DEC education staff person was at the property when the interpretive trail was open and walked the trail regularly to make sure that people are using it properly. Volunteers also walked the trail and surrounding (guided-tour only)

areas, particularly during the first couple months the interpretive trail was open, to check for proper use. Volunteers could fill out a trail survey form to indicate if any inappropriate behavior, or persons walking off the trail were found. DEC also implemented other trail monitoring activities, including monitoring litter and conducting parking lot counts.

No significant change in the trail was noted as a result of the self-guided access. The number of users on the trail has been low on any given day, with 310 people using the trail between May and December 2003. Visitation was highest in July, with 93 users. Visitors included photographers, artists, bird watchers, and college classes that chose to use the self-guided trail because of the flexibility it allowed in visiting the Woods versus scheduling a tour. In 2003, no litter was recorded by staff or volunteers, and only one case of persons wandering off the trail was reported. One person rode a bike onto the trail, and was stopped by a volunteer and a “regular” trail user who informed him that bicycles were not allowed. People used the trailhead sign-in not only for the Lily Pond loop trail, but in some cases when attending a public tour or volunteering. A total of 16 people signed in and out of the trail on days when it was closed. Staff and volunteers more commonly found people who had wandered into Reinstein Woods from Stiglmeier Park (intentionally or unintentionally) than to find someone who had wandered off the Lily Pond Loop. A total of 32 such persons were reported in 2003. These people were enjoying the Woods’ road system and were asked to return to Stiglmeier Park without incident.

The trailhead sign-in included a place for users to comment on the trail. About 40 people commented on the beauty of the trail or wrote “thank you” on the comment form. Several wrote comments requesting greater access to the trail system, asking for extended hours to accommodate working people and increasing the number of trails available to the public for self-guided access.

A second self-guided trail was opened in July 2005. The “State Symbols Trail” features wayside panels that provide information about various official state symbols of New York State, such as the official tree, mammal, bird, and fossil. Additionally, hours for the two self-guided trails were expanded for the summer to Tuesday and Thursday 9:00 a.m. to 8:00 p.m., and Wednesday and Saturday 10 a.m. to 4 p.m. Prior to opening the trail, DEC trained a dozen volunteers who monitored the trails during any hours when DEC staff were not available. Approximately 470 people visited the trails between July and September 2005, and only three reports of litter were recorded. There were only three instances of people being found on the trails who had not signed in. None of them were engaged in any inappropriate activity.

3.32c. User Surveys

Following the 2001 UMP scoping session, DEC determined (based on sign-in sheets) that less than half of the scoping session attendees were users (visitors or volunteers) of Reinstein Woods. To obtain additional input from people who participate in Reinstein Woods programs, DEC conducted user surveys. Surveys were made available at the visitor building to tour and program attendees, self-guided trail users, and teachers accompanying school groups. The brief

surveys asked questions about what types of services visitors felt were important at Reinstein Woods and allowed people to write comments. A summary of comments is included in Appendix 3. Support was especially strong (more than 85% of respondents) for self-guided interpretive trails at the Woods and for evening tours.

Comments recorded in the guest book in the visitor shed and on the self-guided trails log continue to indicate strong support among Woods visitors for additional trail hours and more self-guided trails. From January to September 2005, 236 comments were recorded in the self-guided trail log and the guest book (used by people attending programs and the regular public tours) requesting more self-guided trails. An additional 121 comments were recorded requesting that the self-guided trails be open more hours during the week, and 124 comments requesting more hours during the weekend. Only 15 comments were recorded in the guest book requesting that access be kept as it is now. In response to the draft Unit Management Plan, DEC also received numerous letters and two petitions that indicated support for the proposed increases in access outlined in the draft plan.

3.33 Volunteer Program

To accommodate the expanding educational programs, in 2001 DEC developed a volunteer program to provide a pool of trained guides to assist with tours and lessons. Volunteers also perform trail maintenance, monitor the trails, perform research, and act as photographers at special events. The first trained tour guides began assisting with tour groups in June 2001. As of 2005, there were more than 100 registered volunteers, including more than 15 active tour guides/ instructors, two dozen Frogwatch volunteers, and others who perform a variety of tasks in support of Woods' programs, facilities and trails. Volunteers also do outreach by manning a Reinstein booth at special events such as fairs and festivals. More than a dozen organized groups and 75 individuals volunteered at the 2005 Fall Festival. Volunteers donated more than 1,500 hours of service to Reinstein Woods in 2004. DEC advertises the volunteer program through the Reinstein Woods web pages, in the quarterly newsletter and at special events such as the Erie County Fair.

Tour guides are allowed access to the Woods outside of normal tour times so that they can familiarize themselves with current conditions at the Woods to prepare for tours and guided lessons. Their regular presence at the Woods has also assisted DEC staff in discovering maintenance needs in a timely fashion.

3.34 Summary of Visitor Needs

The desire for increased public access to the resources at Reinstein Woods is evident, as discussed in section 3.32c. In addition to the need for more access to the trail system, the increasing demand for educational programs at Reinstein Woods has resulted in a need for additional physical resources at the Woods. The lack of adequate indoor facilities makes it difficult for DEC to meet the demands for educational programs. Indoor facilities are needed to:

- 1) Allow year-round educational programs that are not weather-dependent;
- 2) Allow for the use of technology in educational programming (for example, presentations requiring audiovisual aids); and
- 3) Allow for more permanent exhibits and displays to share the educational messages of Reinstein Woods.

A visitor center will expand the season in which educational lessons can be offered to visiting school groups from 4 months to 10 months of the year. It will allow teacher training sessions to happen during the winter months and will allow expanded programming during school breaks (Christmas, Winter and Easter recesses). Additionally, a visitor center will provide a place for school instruction when weather conditions (e.g. thunderstorm) would otherwise require a tour to be cancelled. A permanent structure will also allow for educational programming that requires an indoor facility, such as guest lectures or large-scale evening meetings of volunteers and Friends of Reinstein Nature Preserve, Inc. Community groups, such as hiking clubs or the Herb Gardeners of the Niagara Frontier, could also hold their meetings at the visitor center.

4.0 MANAGEMENT GOALS AND ACTIONS

It is the policy of the Department to manage State lands for multiple benefits to serve the People of New York State. The mission of DEC in operating Reinstein Woods is:

- 1. To carry out a comprehensive program of interpretive, education and information services that leads the public to a better understanding, appreciation and sense of responsibility for the environment, and which raises public awareness and understanding of DEC's programs and responsibilities for natural resource and environmental quality management, and*
- 2. To preserve, protect and enhance the natural and cultural resources of the Dr. Victor Reinstein Woods Nature Preserve.*

Therefore, management goals for the natural resources in Reinstein Woods Nature Preserve will be directed toward 1) developing and maintaining educational programs, 2) protecting and enhancing the site's habitat and fish and wildlife resources, and 3) improving the Woods for public use and enjoyment.

Cost estimates and schedules for various large-scale projects are included in section 4.6.

4.1 Management for Environmental Education

As discussed in section 3.3, DEC has established a vibrant environmental education program at the Woods. DEC education staff develop an annual workplan that is reviewed periodically during the year to ensure staff are working towards program goals. DEC education staff also prepare an annual report listing accomplishments for the year.

DEC will continue the education program. The goals of the education program are to:

- Provide interpretive programs and services for a range of public users including adults, families, conservation/environmental organizations, civic groups and special needs visitors;
- Provide education programs and services for school and youth groups;
- Provide training and support services to teachers, youth leaders, environmental educators and other providers in the content and methods of environmental education and interpretation; and
- Further develop the non-profit support group and external partnerships to improve programs and services.

4.11 Provide interpretive programs and services for a range of public users including adults, families, conservation/environmental organizations, civic groups and special needs visitors.

DEC will continue to provide themed walks and talks (special programs) on a monthly basis for the general public, and to provide guided tours of the Woods to groups by appointment. Snowshoeing and cross-country skiing will continue to be offered to provide access during the winter months when roads(i.e. trails) are otherwise impassable.

The “regular” weekly public tours will continue. Final schedules will be determined by staff and volunteer availability. Because attendance at special programs is more than three times that of the general public tours, DEC will make continuation of special programs a priority.

DEC has frequently had “guest” naturalists conduct programs at the Woods, such as “owl prowls” and wildflower walks. DEC will continue to work cooperatively with other nature-related organizations such as the Buffalo Audubon Society and Earth Spirit to offer quality programs to the public. Additionally, wildlife rehabilitation groups and the Buffalo Zoo will be invited to conduct educational programs at the Woods (see also section 4.45).

4.12 Provide education programs and services for school and youth groups.

DEC will continue to offer guided instructional lessons to school and youth groups at Reinstein Woods. Ideally, DEC will attract students at a young age (grades K-2) to begin to foster their appreciation for nature. Currently DEC offers three guided lessons aimed at K-8 students: Exploring the Outdoors, Animal Signs, and World of the Pond. DEC will expand the guided lesson available to include a Forest Ecology lesson. Additional topics will be added as staff time allows. Each new lesson requires staff time to research the topic and develop a lesson that is appropriate for Reinstein Woods’ habitat, train volunteer instructors in the new area, and advertise the program.

DEC will attempt to correlate information covered in each lesson with New York State standards and advertise this information to teachers. This provides schools with further justification for allowing visits to the Woods. Existing educational programs will be reviewed periodically to ensure their timeliness, scientific accuracy and appropriateness for the audiences visiting the Woods.

4.12a. Transportation and Off-site Programming

Some schools lack the funding to transport large numbers of students to the Woods. DEC will continue to pursue being part of local programs that provide financial assistance for city school field trips. DEC will work with Friends of Reinstein Nature Preserve, Inc. to pursue

grant funding to fund transportation as well.

Reinstein Woods staff have also started offering and advertising in-school educational programs for elementary students. Teachers can request DEC education staff present an educational lesson in their classroom during the off-peak months of November to April. This provides an opportunity to expose students to environmental education in schools that cannot afford bussing. Additional programs will be added as staff time and resources allow.

4.12b. Teaching Areas

The most popular instructional lesson is the “World of the Pond.” It is the most hands-on experience of the instructional lessons. There are currently seven teaching locations used for the pond lesson at various times (Figure 6). Additional locations may be developed along Flattail Lake now that DEC has acquired the stone house. Having several sites prevents overuse of any one site and allows access under different water level conditions. DEC is pursuing the installation of a teaching platform for Flattail Lake, Hidden Pond and/or Heron Pond that can be installed for the heavy teaching months and removed when not in use. This will provide access to the water’s edge for mobility-impaired students and will prevent erosion along the dam’s edge at this site. DEC will monitor the teaching sites for possible safety problems (e.g., low/high water conditions, dam deterioration problems, etc.) and will only use sites when conditions are acceptable.

When conditions are unfavorable for outdoor programming, the construction of a new education center as outlined in the UMP will provide a suitable place for indoor versions of the outdoor lessons. The new education center will include classroom space and other spaces (a large meeting room and exhibit space) that can be used to accommodate student groups when weather precludes previously scheduled outdoor lessons.

4.13 Provide training and support services to teachers, youth leaders, environmental educators and other providers in the content and methods of environmental education and interpretation.

The pavilion and the new bathroom enabled DEC to host its first teacher training sessions (Project WILD) in 2003. Other programs such as Project WET and Project Learning Tree will be offered in the future during the warmer months of the year and year-round once the education center is built. Additionally, the design for the new education center includes space for a reference library/teacher resource room that will house environmental education resources available both to staff and visiting educators.

The proposed education center will also provide a central location for supporting educational training involving research at the Woods, such as the bio-blitz discussed in section 4.32a. Training sessions for the Frogwatch monitoring program, for example, happen in early

March, and the number of people who can participate is currently constrained by the lack of an adequate indoor facility for holding such a training.

DEC will plan and conduct at least one teacher training session per year. The number of training sessions will be increased according to staff and resource availability once the education center is completed. DEC may work cooperatively with other education groups (e.g., Center for Great Lakes Environmental Education) to have them host environmental education training sessions for teachers in the new visitor center.

4.14 Further develop the non-profit support group and external partnerships to improve programs and services.

A not-for-profit support group is vital to the future success of environmental education efforts at the Woods. All other DEC environmental education centers rely on a not-for-profit support group to provide substantial resources and volunteer labor that the State would otherwise not be able to provide. The groups host a variety of fund-raising events to pay for equipment, trail improvements, interns' salaries, and in some cases even pay salaries for their own staff and stipends for volunteers who conduct guided lessons for school groups. The groups provide volunteer labor for trail and facility maintenance projects, educational programs, festivals and other events held at the centers.

In the late 1980s, a not-for-profit group called "Friends of the Woods" was established to support the Woods. However, DEC never signed a formal agreement with this group, and the group has not undertaken any fund-raising activities in support of DEC's programs at the Woods. The group has also branched out and been involved in other town activities unrelated to the Woods. From 2001-2003, the group purchased supplies and materials for the Woods' education program with donations visitors placed in a donation box in the visitor building. While this assistance was greatly appreciated, the group did not express an interest in holding fund-raising events to support the Woods' programs.

Through the Woods' volunteer program and planning for the Fall Festivals, DEC developed a core group of volunteers who have actively taken an interest in providing the volunteer support and fund-raising needed at the Woods. In 2003 this core group formed Friends of Reinstein Nature Preserve, Inc. (FORNP). The mission of Friends of Reinstein Nature Preserve, Inc. is to preserve, protect, and enhance the natural resources and cultural heritage of the Dr. Victor Reinstein Woods Nature Preserve (RWNP) by:

- 1) promoting a knowledge of nature and awareness, appreciation, and stewardship of this unique and diverse environment;
- 2) enhancing and supporting programs at RWNP;
- 3) creating a support network for RWNP through memberships;
- 4) coordinating fund-raising and acting as a financial conduit for 501-c3 funds,

donations, and grants.

The group held its first membership drive at the 2003 Fall Festival and has steadily gained in membership. In 2005, FORNP signed a use and occupancy agreement with DEC. DEC will continue to work with FORNP to expand the group's ability to provide support to Reinstein Woods' environmental education programs. FORNP will provide a conduit for DEC to access grant funds for various initiatives, such as providing transportation for low-income schools and other groups to attend Reinstein Woods' programs.

FORNP's board of directors has expressed to DEC their strong support for the construction of an environmental education center at Reinstein Woods. The environmental education center will provide space for FORNP meetings as well as events that they sponsor for volunteers, such as volunteer training sessions.

Once the education center is built, DEC will work with the Friends group to develop a naturalist intern program similar to the program at other DEC environmental education centers. This will provide additional support for staff during critical times of the year, while providing area students with internship opportunities.

DEC, in cooperation with FORNP, will also reach out to area organizations to develop partnerships that can provide community, financial, and volunteer support for educational and habitat management programs at the Woods.

DEC's long-term goal is to create an environmental education center that is visible within the community and contributes to its overall quality of life. DEC will promote the Woods' programs through mailings and presentations to organized groups. Long-term goals include:

- expanding the Woods' web pages to include program needs (e.g. desired donations of equipment etc.), curriculum information, etc.
- developing a speakers' bureau to present information about the Woods and its not-for-profit support group to area businesses and organizations that could contribute financial or material support to programs at the Woods, and
- developing a guest lecture series featuring local experts in various environmental fields.

4.2 Management for Habitat Protection

To sustain a large amount of biological diversity, it is important to maintain a variety of habitats at the Woods. DEC's goals are to:

- Implement management activities to maintain a variety of wetland habitats within the Woods to provide habitat for a diversity of wildlife.
- Implement management activities that provide for the continued existence of a mature forest at the Woods.
- Implement management activities to provide for the continued existence of some coniferous forest at the Woods.
- Implement management activities to provide for the continued existence of an open field habitat at the Woods.
- Implement management activities to eradicate or control invasive exotic species that are negatively impacting existing habitats or could potentially do so.
- Monitor habitats within the Woods and look for indications that additional management activities may be required to meet the habitat protection goals.

4.21 Implement management activities to maintain a variety of wetland habitats within the Woods to provide habitat for a diversity of wildlife.

Currently the Woods is home to six ponds (including Flattail Lake), wet meadow, shrub swamp, shallow emergent marsh, and numerous vernal pools. Each habitat harbors different kinds of organisms and contributes to the biological diversity found at the Woods. Because all of these habitats were created by a man-made series of dams, they will require management activities to sustain their existence. This will involve, to some extent, suppressing natural succession processes that would normally eventually change the ponds into wetlands and the wetlands eventually into fields.

4.21a. Dam maintenance

Dams will be thoroughly inspected annually to look for signs of deterioration, leakage, or other problems. More immediate maintenance needs will be addressed quickly on an as-needed basis throughout the year. For example, fallen trees are quickly removed and small holes in the surface of the road over a dam are quickly repaired when discovered. Gravel roads over the dams will be regularly mowed in accordance with a mowing plan developed by Reinstein Woods education staff in conjunction with the Division of Operations. Maintenance needs are reported both by staff and volunteers on trail maintenance sheets that are available in the visitor's shed, and these sheets will continue to be provided after the new education center is

built. Minor maintenance needs are communicated to DEC Operations staff both verbally and through a written work order. Any major dam maintenance needs will be added to the formal Operation workplan to begin the process of estimating the cost of repairs and acquiring funds to make the repairs.

4.21b. Open water habitat restoration

Man-made ponds tend to fill in with debris over time due to sediment, detritus, and nutrient loading from stormwater flowing into the pond. A pond's life expectancy (i.e., the time it takes a pond to become a marsh) is determined by the rate of sedimentation and filling. Similarly, marshes will become a wet meadow, and eventually an old field. This natural process of succession also is likely to occur in man-made habitats such as those at Reinstein Woods, although the process may take longer.

Certain wetland bird species, such as least bittern (*Ixobrychus exilis*) and common moorhen (*Gallinula chloropus*), prefer to build their nests in cattails next to open water. Once a marsh is completely colonized by cattails and no longer contains an open water component, those birds are not likely to nest there. The least bittern is a species that is threatened in New York State and is known to use the Woods.

We anticipate that steps will be needed to maintain some open water within a few years in Birdsong Marsh, and possibly at other locations in the Woods. Other nature preserves, such as Tiff Nature Preserve and the State Office of Parks, Recreation, and Historic Preservation's Buckhorn Marsh, have successfully undertaken similar habitat restoration projects. DEC will monitor the breeding activity of birds at the Woods, and combined with aerial and ground surveys, will use the data to determine when to restore open water habitat. This would involve dredging channels and "ponds" through the cattails to provide a mix of habitats for nesting birds. The culvert under the sanctuary road that cuts through Birdsong Marsh also needs to be replaced to allow for adequate drainage and provide appropriate area for preventing trash that is washed into the marsh from traveling farther into Reinstein Woods (see section 3.21).

It is also desirable to create some channels that house deeper water in the Lily Pond to allow continued use of that pond by species such as beaver, wood ducks and muskrat. The fragrant pond lilies form a dense mat that falls to the bottom each autumn, and they are quickly filling in the pond. To restore some open water habitat, the pond will need to be drained, sediment removed and the pond bottom recontoured. Where desirable, pond shorelines would be contoured to allow for safer access to the water's edge for teaching purposes (e.g., a tapered shoreline versus a severe drop in elevation). Because the flow of water entering Lily Pond is limited for much of the year, beaver control pipe and possibly a water control structure would also be needed to control water leaving the pond and entering Green Heron Pond. This project would be timed to take into account the ecology of the pond and minimize negative impacts on plants and wildlife. For example, species such as beaver are used to adjusting to change and can rapidly adjust as long as the project does not take place during the winter. The long-term benefits to the pond outweigh potential short-term impacts.

Because the ponds are part of a federal and state regulated wetland, DEC will have to apply for permits from the State and Federal governments before any major habitat restoration activities can take place. Any major permit would require a public notice period.

4.21c. Regulating water level

DEC has some ability to control water levels within the Woods through water control structures on Flattail Lake, Mallard Pond, Lower Pond, and Hidden Pond. DEC prefers to allow natural mechanisms to regulate the level of water within the Woods' waterbodies. DEC will manipulate water levels only when absolutely necessary for dam maintenance or for habitat maintenance. This includes manipulating water levels to maintain the former Mallard Pond as a wet meadow. DEC may install water control devices on other ponds when undertaking dam rehabilitation activities to allow for maximum flexibility in managing the water resources at the Woods.

4.21d. Controlling invasive species

By controlling the extent of invasive species such as common reed and purple loosestrife, DEC can help maintain valuable wetland habitat. DEC's plans for addressing problem species are described in section 4.25.

4.22 Implement management activities that provide for the continued existence of a mature forest at the Woods.

No logging of the mature forest for commercial or profit purposes is planned. Other activities are described below.

4.22a. Research

Additional research is needed to update previous studies of the forest. More information is needed for the entire Woods property on the current forest composition, the extent of each habitat type, and the current regeneration. DEC will pursue this starting in 2006. A DEC forester could do a vegetation survey to estimate current forest composition. If a DEC forester is unavailable, funds from the Julia Reinstein trust could be used to hire a contractor or a local university or college to conduct the research. Alternatively, a local university or college could conduct the research using funds from other sources. This research will also be included in the development of a forest management plan (see section 4.23).

4.22b. Deer and regeneration

In June 2002, DEC held a focus group with concerned citizens and DEC biologists and foresters to gather more input on how to address the issue of deer at the Woods. The major

concern was that the deer are preventing regeneration of the forests at the Woods, as discussed in section 2.44. If the tree seedlings cannot be protected from the deer, the current, tall, shade-tolerant saplings will be the only regeneration capable of replacing any dying or windthrown trees. There is nothing in line behind them to fill in the sunny areas left by downed trees except plants not eaten by deer. In the long term, the forest could change from a dense canopy of large trees to a landscape of scattered old trees in large expanses of ferns and grasses. The main consensus at the meeting was that more information about the deer population is needed, and that something should be done to encourage forest regeneration as soon as possible.

The town of Cheektowaga's bait and shoot program will probably decrease the number of deer within Reinstein Woods over time. However, it will probably take several years for a significant decrease in the population becomes evident. At this time, the large deer population in Reinstein Woods is still very apparent, as it is nearly impossible to walk in the Woods without seeing deer. Therefore, DEC intends to pursue the programs described below.

4.22bi. Research:

More information is needed about the number of deer, their movements and social structure, health, birth rate, and deer-car collisions around the Woods/Park area. Research, such as a radio-collar study to track deer movements, could provide valuable information about the existing population. DEC has limited resources available to gather this type of information. However, DEC will pursue having a graduate student or college professor use Reinstein Woods as a research site to collect this type of information. Funds from the Julia Reinstein trust may be available to hire temporary staff, a contractor or a local university or college to conduct the research. DEC will begin to pursue this within three years. DEC will also explore having an intern create a map showing the location of deer/car collisions in the immediate vicinity of the Woods and Stiglmeier Park. This could be an important educational tool. DEC will continue to perform aerial deer counts when possible.

Once more information about the local population is obtained, DEC can then consider other management measures for the future.

4.22bii. Deer exclosures:

Because the size of the deer population is not likely to decrease significantly for several years, other methods of achieving adequate regeneration must be considered. Two such methods are to change ("overwhelm") the forest to provide deer with too much food for them to consume or to stimulate the seedlings to quickly grow beyond the reach of deer. Overwhelming the forest is usually done by heavy cutting or clearcutting, which is not possible here. Fertilizing existing, small seedlings with nitrogen could be used to stimulate seedlings to grow beyond the reach of deer. Such a plan would require DEC to buy fertilizer, select plants to fertilize and monitor the results. This may enable seedlings to grow above the deer browse line quicker, but it may produce seedlings that are more preferable to deer than before, therefore fencing would probably still be required. DEC does not consider this to be a cost-effective

option at this time, but it may be a research project that a university or college could pursue at Reinstein Woods.

The most effective way to encourage regeneration within the mature forest in the short-term is to erect deer exclosures (fences). Woods staff, in consultation with DEC foresters and biologists, will pursue a program of exclosures that can be used for educational and resource management purposes.

In an unlogged forest, regeneration of shade-intolerant tree species would occur in canopy gaps created by natural disturbances. Therefore, areas where a tree has fallen down and opened a gap in the canopy will be targets for new fences. Priority will be given to canopy gap areas that are near black cherry, red maple, white ash and yellow birch trees, important tree species in the forest.

Seedlings of shade tolerant species such as sugar maple, American beech and eastern hemlock can become established and survive under the uninterrupted shade of other trees (except under hemlock). Additional exclosures should be constructed near mature seed sources of these species and not just around blow-downs.

The exact locations for exclosures will need to be selected in accordance with the above guidelines. Designing a deer exclosure plan will be pursued in the next two years. In recognition of the limited resources available for DEC to pursue this project, DEC will encourage volunteers to organize and assist in obtaining the necessary equipment and labor to create the exclosures. Funds from the Julie Reinstein trust may also be used for developing and carrying out a deer exclosure plan. The vegetation within the existing exclosures also will be formally surveyed on an annual basis.

DEC will prefer enclosing small areas instead of the entire 60 acres of mature forest. This will allow DEC to take action as resources become available instead of requiring a huge initial investment. While having numerous small enclosures will increase the amount of fencing required, several smaller fences will help protect against damage if a fence is breached. For example, if a break occurs in a one-acre enclosure, deer could consume the vegetation in the one-acre area only. In the case of a fence breach, it would be easier to round up and drive the deer out of a one-acre area than a 60-acre enclosure. Smaller fenced areas will also minimize the impact on deer movement (going around a one-acre fence versus a 60-acre fence).

For each new exclosure, DEC will designate an identically-sized comparison plot, a similar area in terms of forest composition and amount of light reaching the forest floor. Plant growth in this unfenced plot can be measured to determine if the fence is effective and provide a scientific argument for or against additional fencing.

DEC will monitor vegetation within the exclosures and comparison plots. The extent and depth of monitoring activities will be determined by the availability of staff and resources, but DEC will strive to collect data from the exclosures annually. Ideally, DEC will pursue an

agreement with a local college to have their biology classes collect data within the enclosures and comparison plots. Data collection will also help determine whether fern control may be needed within enclosures to allow adequate regrowth of tree species such as beech and maple. Data from the enclosure monitoring can also be compared to data from earlier inventories.

The focus group expressed some concern that fencing be as aesthetically pleasing as possible. If adequate resources to purchase new fencing become available, DEC will explore the feasibility of using “invisible” black fencing, which is often used in areas to exclude deer.

As fences are erected, they will be checked as part of the routine trail checks that DEC staff perform. A breach in a fence will be addressed as soon as possible to avoid deer entering the area. Records will be kept of the date and location of any breach.

DEC will maximize use of the deer enclosure project for educational purposes. Each enclosure will be accessible (i.e., will have some type of gate or opening) to allow staff to enter to monitor vegetation and to conduct appropriate educational activities. Deer enclosures near interpretive trails will have interpretive signs to explain their purpose. DEC may also be able to incorporate the enclosures into forest lesson plans, teacher training and special programs.

As the size of the area’s deer population changes, DEC will consider the necessity of continuing enclosures and may remove them when adequate regeneration or an adequate decrease in the deer population are achieved.

4.22biii. Education:

In addition to enclosures, educating the public about the detrimental effects of feeding deer could be beneficial. As described in section 2.44, people have frequently fed deer in neighboring Stiglmeier Park. Due to concerns about chronic wasting disease, the State of New York has issued regulations prohibiting most feeding of wild deer. However, many people are unaware of the regulation or choose to ignore it due to a lack of understanding about the harm feeding can cause to deer and other wild creatures. DEC will continue to enforce the feeding ban and will ticket people caught feeding deer at Reinstein Woods.

Most Reinstein Woods guides regularly incorporate information into their tours about the deer population and the negative impact of feeding deer. DEC will make training on this issue a regular part of volunteer training sessions. DEC also provides displays and information about deer and chronic wasting disease at the Reinstein Woods Fall Festival.

DEC will support town efforts to educate Stiglmeier Park visitors about this issue. DEC has educational displays about chronic wasting disease and deer feeding. These displays will be used at various events, and other educational material (brochures etc.) will be distributed as appropriate to area libraries, community centers, etc.

4.23 Implement management activities to provide for the continued existence of some coniferous forest at the Woods.

Dr. Reinstein planted 30,000 seedlings of coniferous trees in former agricultural areas as a way to quickly reforest those areas. These conifer plantations include, among others: Norway spruce, red pine, scotch pine, and jack pine (Figure 7). In many areas the conifers are being replaced by other trees through natural succession. While conifer stands of this nature would not naturally occur in this area, they do provide important habitat for certain wildlife species, most notably owls, migrating and breeding warblers, golden-crowned kinglets, flying squirrels, and red squirrels. Additionally, the stands provide shelter for deer in the winter.

To maintain the variety of wildlife currently at the Woods, it is desirable to maintain some conifers within the Woods. Because natural succession will eventually convert these forests to deciduous forests with few conifers, this will require some active management, such as planting and protecting additional conifers. Although some thinning of conifers may be needed, no logging for commercial or profit purposes is planned.

In consultation with DEC Region 9 forestry staff, DEC will initiate within the next 5 years a detailed *Forest Management Plan* that clearly identifies management initiatives to achieve stewardship goals and the areas of the Woods where interventions would be most appropriate. DEC will also work to establish partnerships with public and private forestry professionals, such as the New York Forest Owners Association, who could provide assistance, training and interpretive programming related to the Woods' forestry resources.

4.24 Implement management activities to provide for the continued existence of an open field habitat at the Woods.

After the draft UMP was issued, it was noted that there is a small open field on the northern side of the interpretive area (Figure 7). This type of habitat provides a variety of teaching opportunities, since the plants and animals that inhabit this area tend to differ from those of a mature forest or wetland. This area was purchased by DEC as a buffer parcel when the Countryside Lane development was established. The area is easily accessed by an old road that connects to one of the main roads within the Woods.

To provide additional opportunities for teaching and learning, DEC will maintain this habitat as an open meadow. This will provide DEC with another habitat type to use for educational programs on topics such as succession, butterflies, invasive species, etc. that would otherwise not be possible. To maintain this area as an open field, DEC will periodically mow or brush hog the area. Additionally, the road that connects the open field to the interior road system will be maintained.

4.25 Implement management activities to eradicate or control invasive exotic species that are negatively impacting existing habitats or could potentially do so.

As noted in the New York State Heritage Program's 1997 Biodiversity Inventory Report, several invasive and usually non-native plant species are threatening the Woods. As resources are available, DEC will begin a control program for known invasive species that can be reasonably addressed. Current targets, in order of urgency for control, include:

4.25a. Common reed (*Phragmites australis*)

This plant is considered to be an invasive species because it can sometimes out-compete native wetland plants like cattails but provides a lower quality habitat for wildlife. Common reed is currently found in several locations around the Woods (Figure 8). The infestation in Birdsong Marsh is especially of concern, because it is invading the cattail marsh there.

There are several control methods available, including burning, draining, dredging, flooding, mechanical removal (cutting or mowing), and herbicides. Mowing and herbicides are often followed by burning the following year. The most common and successful approach used by National Wildlife Refuges is applying the herbicide glyphosate late in the growing season, then burning or mechanically removing the dead stalks (Blossey 2002). For small areas, cutting by hand can sometimes be effective. Because the plant has rhizomes (deep roots) that readily sprout new shoots, hand cutting is far more effective when it is followed by an application of an herbicide directly into the cut stems. This type of direct application of herbicide avoids the potential for non-target species to be exposed to the herbicide. Because the plant grows in dense mats and has extensive root systems, several years of cutting plants and injecting herbicides may be required to control it. For larger areas (several acres), herbicide spraying may be a more effective method of control. Timing of any control method that is used can be important for improving the success rate of the treatment.

DEC will develop a plan to address the *Phragmites* infestations in the Woods. In the winter of 2001-2002, a DEC intern mapped the locations of *Phragmites* infestations. DEC will determine the approximate acreage of common reed beds in the marsh areas using global positioning systems (GPS). DEC will then evaluate which control methods are practical for each area. If treatment involving herbicides is recommended, any herbicide application would require DEC to obtain a freshwater wetland permit, and herbicide application would take place under the direction of a certified pesticide applicator.

While a plan is developed to address the larger areas of *Phragmites* infestations, localized clumps of reeds that can be reached easily by volunteers and staff will be cut by hand to attempt to limit the spread of the plant at the Woods. Common reed will be a target of future "trail maintenance" days.

4.25b. Purple loosestrife (*Lythrum salicaria*)

This plant has a limited distribution around the Woods but could become more prevalent if control steps are not taken. This invasive non-native species can produce up to 300,000 seeds per season, and the seeds can remain viable for approximately 2 years even submerged underwater (Invasive Plant Council NYS 2000). A biological control available for large stands is leaf-eating beetles (*Galerucella sp.*) that eat purple loosestrife in their native habitat. These beetles can be used to significantly reduce loosestrife populations. Another control method that may prove effective is to pull the plants out in the winter, then follow up in the spring by pulling out any plants that start to sprout from the remaining roots. Because the seeds can lay dormant for so long, it may take a few years for this to be completely effective.

DEC will take steps to inventory purple loosestrife infestations at the Woods and determine the appropriate control methods. It is believed that the infestations are small and scattered, and mechanical removal may be effective in controlling the plant. If a larger stand of loosestrife is discovered, DEC could take steps to obtain beetles to control the plant. The beetles may have to be introduced in multiple years to control the infestation.

Because transient bird populations easily transfer loosestrife seeds from one site to another, purple loosestrife monitoring and control will need to be continued throughout the foreseeable future at the Woods.

4.25c. Fragrant pink pond lily (*Nymphaea odorata* var.)

Mrs. Reinstein initially planted three types of water lilies in the Lily Pond: white, yellow and pink. The white and yellow water lilies grow in the wild in New York State, and they are a favorite food of muskrat. They were unable to compete with the pink cultivar, which is not preferred by the local fauna.

The Lily Pond's beautiful hot pink blooms are a favorite attraction of visitors to Reinstein Woods during the summer months. Colonies have sprung up in Heron Pond and in the shallow waters of Flattail Lake. Because the pink pond lilies grow prolifically, and their large leaves die back and sink to the bottom each fall, DEC is concerned that the lily colonies could expand in Heron Pond and Flattail Lake and cause these water bodies to prematurely become shallow. These two water bodies provide some of the larger open water habitat areas on the Woods; therefore, it is important that eutrophication of these ponds be controlled.

Methods that have been used to control water lilies include herbicides (usually glyphosate, sometimes with pre-treatment with fluridone), covering the sediment with a dark fabric to block light from reaching the rhizomes, cutting or harvesting (with a machine), and underwater rototilling (rotovation) (Washington State Department of Ecology 2002). Each control method has advantages and drawbacks.

In cooperation with Operations and Fish and Wildlife staff, Reinstein Woods staff will develop a plan to address the water lilies in Flattail Lake and Heron Pond. Pilot experiments may be necessary to see what type of control will work best and be most achievable. An

education program will be conducted to inform the public why these steps are necessary.

DEC will not attempt to eliminate the water lilies from the Lily Pond.

4.25d. Other plants

Other plants that DEC would like to control at some point in the future include:

i. *Garlic mustard weed (Alliaria petiolata)* is native to Europe and grows in forests and along side roads. It tends to grow in dense stands and out-competes native plants that live on the forest floor. Garlic mustard weed has a two year life-cycle, with seeds being produced on a stalk in the second year. It can easily be pulled out of the ground by hand just before the seeds set. Mowing larger populations can also be effective. However, removal activities must occur for a few years in a row to exhaust the seed bank. Burning and pesticides are also effective on the plant.

DEC has attempted some control of the weed at Reinstein Woods using volunteer labor, but the extent of the weed at the Woods would require a much more intensive effort. At this point, there is little native vegetation on the forest floor at the Woods for garlic mustard weed to compete with. However, control efforts to prevent the spread of the weed are probably desirable. DEC will continue to employ volunteer labor to remove the plant during trail maintenance activities. A more complete control plan will be created after more pressing invasive species problems are addressed.

ii. *Japanese knotweed (Polygonum cuspidatum)* was introduced to North America from Asia. Its tall stems resemble bamboo and grow in dense clumps that crowd out native vegetation. Repeated mowing or cutting within one growing season and herbicides are possible methods of control. Several years of active management will probably be required to effectively control the plant. Currently this plant is only found in the Woods along the stump fence. It may be difficult to mow this area, but repeated cutting may be possible to prevent the spread of the plant. DEC will add this to its list of plants to be cut during trail day activities and when operation staff have extra time. DEC will monitor the plant and develop more detailed management plans if needed.

DEC will address additional invasive species when research or monitoring indicates a need for action. Control of invasive species will be a never-ending part of management of the Woods. Populations of certain plants, such as common reed, can be expected to reestablish themselves every few years even after a successful eradication program. However, once the spread of invasive species populations currently at the Woods is brought under control, a vigilant program of continued species management can prevent the destruction of large areas of habitat by these species in the future.

4.26 *Monitor habitats within the Woods and look for indications that additional management activities may be required to meet the habitat protection goals.*

Some have expressed a concern that an increased number of visitors to Reinstein Woods will negatively impact the flora and fauna in the Woods. Because there was no baseline assessment of the health of the Woods when New York State took over the Woods, it is difficult to say what impact visitors have had on the Woods during the last fifteen years. Additionally, because many of the habitat features, including all of the ponds, roads, and wetlands, were man-made (most of them built decades before New York State took over the Woods), there was no “pristine” condition in the Woods against which current conditions could be compared. As mentioned previously, the Woods currently is home to numerous non-native plant species and an overpopulation of deer, and even the Sanctuary contains man-made debris and receives a constant influx of garbage through the water inlet.

A walk along the Stiglmeier Park boardwalks that border Reinstein Woods suggests that the Park, with its open trail system, has not had a large negative impact from its visitors aside from the deer feeding problem. The same wildlife are found on both sides of the border, and the condition of forest vegetation on both sides of the border is also similar.

Nevertheless, Reinstein Woods, like any other “natural” area, cannot withstand unlimited visitor use without some impact. This much is intuitive. What is not intuitive, though, is how much use and of what type the area can withstand before the impacts of such use cause serious degradation of the resource. Such is a manager’s most important and challenging responsibility: to work to ensure a natural area’s “carrying capacity” is not exceeded while concurrently providing for visitor use and benefit.

The term “carrying capacity” has its roots in range and wildlife sciences. As defined in the range sciences, carrying capacity means “the maximum number of animals that can be grazed on a land unit for a specific period of time without inducing damage to the vegetation of related resources” (Arthur Carhart National Wilderness Training Center, 1994). This concept, in decades past, was modified to address recreational uses as well; although in its application to recreational use it has been shown to be significantly flawed when the outcome sought has been the “maximum number” of people who should visit an area such as Reinstein Woods. Much research has shown that the derivation of such a number is not useful.

Essentially, this is because the relationship between the amount of use and the resultant amount of impact is not linear (Krumpe and Stokes, 1993). It has been discovered that visitor behavior, site resistance/resiliency, type of use, etc. may actually be more important in determining the amount of impact than the amount of use (Hammit and Cole, 1987). This makes the manager’s job much more involved than simply counting, redirecting, and (perhaps) restricting the number of visitors in an area. The shortcomings of a simple carrying capacity approach have become so apparent that the basic question has changed from the old one, “How

many is too many?” to the new, more realistic one: “How much change is acceptable?” This approach is referred to as the Limits of Acceptable Change (LAC) model. This requires a managers’ central focus to move away from trying to determine how many visitors an area can accommodate to trying to determine what changes are occurring in the area and whether or not they are acceptable. Professionally-informed judgements must be made such that management policies and actions are aimed toward maintaining or restoring the conditions desired.

The types of uses allowed at Reinstein, namely walking and taking pictures, generally have a low level of impact compared to consumptive or more active uses such as vehicular access (cars, snowmobiles, etc.), hunting, logging etc. DEC expects that even with increased visitation, if this management plan is implemented and the number of volunteers helping to maintain the Woods increases, the habitat quality for wildlife and plants will actually increase in the future. Nevertheless, to address the concerns about the impact increased visitation could have on the Woods, DEC will attempt to evaluate the impacts of visitors on the Woods. This is discussed in more detail in section 4.44. Additionally, DEC will undertake or continue the following wildlife monitoring activities:

- *Monitor bird populations through periodic breeding bird surveys, Buffalo Ornithological Society bird counts, and periodic “goose drives.”* (A “goose drive” involves catching geese for banding and health monitoring during their annual molting period, when they are unable to fly.) Goose drives would probably occur at Stiglmeier Park, where geese that breed in Reinstein Woods congregate during their molting period. Buffalo Ornithological Society bird counts occur every spring and fall. These activities will help monitor the status of waterfowl and songbird populations within the Woods. Volunteers or college students may be recruited to assist with these activities. Birds that could be good indicators of forest health will be especially targeted during monitoring activities.
- *Monitor birds and amphibians through the Marsh Monitoring Program.* The program is described in section 2.42. Volunteers or college students will be recruited to assist with these activities.
- *Participate in Frogwatch USA.* This monitoring program will continue using volunteers.
- *Maintain a wildlife sightings log.* In addition to maintaining the bird observation log, DEC will begin a log for noting other species and their activity. Staff will note the first sighting of wildlife species each year. Breeding activity by animals such as turtles, muskrats and beaver will also be noted. Signs of reclusive animals such as coyote will also be noted throughout the year.
- *Monitor the road/trail system.* Regular checks by staff and volunteers and the monitoring activities discussed in section 4.43 and 4.44 will help indicate any habitat changes such as blow downs, disease, etc.

- *Track the spread of invasive species.* Species like common reed and purple loosestrife have probably not stopped spreading throughout the Woods. In addition to beginning control programs for these and other species, DEC will monitor for new populations of invasive species.
- *Monitor selected wildflower populations.* During April and May, staff will make biweekly surveys of areas known to contain native spring ephemeral wildflowers to check on the condition of these populations.
- *Monitor beech trees.* Beech trees along trail routes will be checked during routine trail safety checks to look for any new tree carvings and signs of disease.

Monitoring activities will need to be continued for a number of years before any correlations could be made between visitor impact and changes to the resource. A change in any one species in any one year does not necessarily indicate negative impacts from visitors. This is because the relationship between visitor use and impact is not linear, and the status of wild populations depend on a variety of ecosystem conditions, including weather, food availability (i.e. natural population cycles), competition, air quality, etc. For example, you may have a 10% increase in visitation in the same year that you see an 15% increase in the fledgling success rate of ground-nesting birds, or a 10% reduction in visitors in the same year as a 5% decrease in the success of ground-nesting birds. In this example, both changes may be due to weather, as ground nesting birds often do better during years with less spring rain, and visitation is likely to be higher during a year with more sunny days.

In addition to these monitoring activities, DEC will be conducting a number of health and safety-related inspections and monitoring activities noted in section 4.5. Furthermore, DEC will request copies of any research done by outside parties within the Woods, such as mammal trapping done by visiting college classes, etc. If these monitoring activities reveal significant negative impacts to the Woods, the management plan will be adjusted accordingly.

Ideally, DEC would create and maintain a GIS-based record of all monitoring efforts to preserve institutional knowledge of features of the Woods. GIS stands for Geographic Information System, a computerized system of maps and related information that uses satellite data to provide extremely accurate records of locations for various geographic features. These GIS-based records would be backed up with paper copies of maps and records of monitoring efforts. DEC will pursue creating GIS records of monitoring activities as resources allow.

4.3 Management of Fish and Wildlife Resources

DEC will strive to maintain viable populations of all native fish and wildlife species currently found at the Woods at levels compatible with existing habitat, ecological and social concerns, public interest, and types and levels of public use. In general, DEC's goals for fish and wildlife management are to:

- a. Protect and enhance the site's fish and wildlife diversity;
- b. Increase fish and wildlife research occurring on site; and
- c. Respond to any nuisance wildlife problems that may occur on site.

4.31 Protect and Enhance the Site's Fish and Wildlife Diversity

4.31a. Identify and Assess the Condition of the Resource

The first step in protecting a natural resource is assessing what currently exists. Section 2 summarizes current information about the Woods' fish and wildlife resources. The major areas that require additional research are:

- *Fish resources:* DEC fisheries biologists sampled a few locations representing different habitats at the Woods in 2005. However, more sampling is needed to have a full picture of the fish communities that exist within the Woods. DEC fisheries biologists will perform additional sampling as time allows.
- *Terrestrial invertebrates:* DEC will continue efforts to have local invertebrate specialists visit the Woods to look for species of interest and assess the general condition of invertebrate communities at the Woods
- *Amphibians and reptiles:* Additional information is needed on the status of amphibian and reptile populations in the Woods. DEC will conduct additional breeding surveys and participate in the Marsh Monitoring Program (see section 2.42).
- *Deer population:* Additional research activities related to deer are discussed in section 4.22.

4.31b. Act to Protect and Enhance Fish and Wildlife Resources

Many of the activities described in this UMP will ensure a diversity of species can exist at Reinstein Woods, including:

- habitat protection activities, including control of exotic species and maintenance of habitat types;
- research and monitoring of populations; and

- security measures including site rules and regulations, and health and safety activities.

Specific actions that DEC will undertake to enhance habitat for wildlife are to:

- *Relocate Wood Duck Nest Boxes if Necessary:* Recent research indicates that hiding the nest boxes in nearby woods tends to reduce egg-dumping (when other wood ducks lay their eggs in a nest box and leave them for the resident female to raise. This can result in a large number of eggs in one nest). It is not clear if egg-dumping is occurring at Reinstein Woods. DEC will attempt to discern whether egg dumping is occurring. If necessary, we will remove wood duck nest boxes from all of the ponds and erect them on trees in adjacent woodlands. Wood duck nest boxes erected in the woods are also used by cavity nesting species such as the eastern screech owl and grey squirrel.
- *Plant Wildlife Gardens:* Wildlife gardens involve planting specific plants that are attractive to animals, including birds, butterflies and moths, and small mammals. In 2002, DEC attempted to place plants in the parking lot planters that will attract a variety of invertebrates and birds to the feeders. Wildlife gardens will be planted near the new education center.
- *Plant Native Vegetation:* Whenever possible, DEC will use native plants in landscaping, except where non-native species may offer unusual wildlife or interpretive values.
- *Maintain Bat and Birdhouses:* DEC will maintain existing bat and bird houses and will consider adding additional houses in the future.
- *Reintroduce Native Organisms:* When appropriate, DEC may recruit, introduce and/or enhance populations of certain species that are absent or less abundant than desired at the Woods. This could include wildflowers or other vegetation, wood frogs, salamanders, etc. Re-introductions will be done through the use of specimens collected from populations of the desired species as close to the Woods as possible, to ensure that the introduced species have genetic material that is appropriate for survival in Western New York.

4.32 Increase Research Occurring on Site

DEC will undertake and/or support fish and wildlife research at the Woods that is consistent with the Woods' mission and compatible with education program activities.

4.32a. Bio-blitz:

DEC plans to conduct one or more intensive day-long “bio-blitz” programs to get snapshot views of the biota using or living in the Woods. Bio-blitzes have successfully been done at other state and municipal properties such as Pack Forest in the Adirondacks. DEC will invite cooperating partners such as amphibian and terrestrial invertebrate experts, mycologists, foresters, and wildlife biologists to spend one day collecting data on the types and extent of species living at the Woods. Friends of Reinstein Nature Preserve, Inc. will also be involved with the project. This also allows us to incorporate education and public participation into data collection. Volunteers could sign up to assist with data collection and would have the opportunity to learn from working with knowledgeable guides. The “bio-blitz” days may be conducted during various seasons of the year to include species that are migrating, plants that flower/ appear early or late in the year, etc. and under different weather conditions (wet conditions for amphibians, etc.). The proposed visitor center will provide a base of operations for the bio-blitz and will allow the bio-blitz to go forward in varying weather conditions.

4.32b. Cooperation with area colleges:

DEC will pursue partnerships with local colleges and universities. By allowing research institutions access to the Woods for classes and research, DEC will receive further information about the ecology of the Woods and provide a pool of educated interns who could assist us with management and education activities. Recently, classes from the University at Buffalo and Medaille College have begun using Reinstein as a field site for classroom experience, and Canisius College has used Reinstein for science laboratory projects since at least 1998. We would like to encourage senior and master’s thesis research at the Woods, and DEC will reach out to area university science programs to inform them about the Woods, its resources, and opportunities for research. If a university expresses an interest in developing a research partnership with DEC, a cooperative agreement or temporary revocable permit can be signed by both parties.

The proposed visitor center includes a large exhibit space that could be used to share the results of research activities with the general public. Educational displays about various research project could be housed in the exhibit space. The visitor center could also help facilitate research projects that may require, for example, access to refrigerators or freezers, running water, locked storage facilities, etc.

DEC will approve all research and classroom activity within the Woods and will receive copies of any research findings.

4.32c. Watershed monitoring:

“The World of the Pond” lesson that DEC offers to grades 5-8 involves sampling aquatic insects to develop a “biotic index” that gives a measurement of the health of the aquatic system. Staff will continue to monitor the results of the spring and fall pond sampling.

High school science classes or science clubs can easily collect physical, chemical, and

some biological data that can be valuable in monitoring the health of water resources. This benefits both the students and resource managers. Existing programs such as “Adopt-A-Stream” can provide additional assistance in developing a more comprehensive monitoring program.

DEC will reach out to area high schools, particularly A.P. Environmental Science classes, to locate a partner to begin regular water quality monitoring activities at the Woods. DEC will attempt to coordinate any program with a college science department to validate methodologies, etc.

DEC will also perform annual bacteriological sampling as described in section 4.55c.

4.32d. Cooperation with other researchers:

DEC will cooperate with outside groups such as the Buffalo Ornithological Society that express an interest in performing monitoring or research activities at the Woods that are in keeping with DEC’s environmental stewardship goals.

4.33 Respond to Any Nuisance Wildlife Problems That May Occur on Site

Two species that have been of recent concern are white-tailed deer and Canada geese. Many people have expressed concern that deer from the Woods are wandering onto their property and damaging landscaping or are causing potential vehicle collisions. The issue of deer is addressed in section 4.22b.

Stiglmeier Park has experienced difficulty with a large resident Canada goose population. The goose population produces a significant amount of fecal material, much of which ends up on sports fields, pavilions and other high traffic areas in the park. Cheektowaga has received numerous complaints about the problem from parents, sports teams and others. In 2005, the town of Cheektowaga undertook a goose control program. DEC participated in the egg oiling portion of the program and allowed the US Department of Agriculture (USDA) Wildlife Services staff, under contract with the town of Cheektowaga, to oil eggs on nests in Reinstein Woods. The eggs were coated with corn oil, which prevents them from hatching. The USDA oiled a total of 190 eggs on 45 nests within Reinstein Woods. Nevertheless, at least two pairs of geese successfully raised young within Reinstein Woods. Cheektowaga later rounded up and euthanized geese at Stiglmeier Park, leaving about 50 geese in the park. DEC did not participate in the euthanasia program. DEC will continue to work with the town of Cheektowaga to address concerns about the goose population.

Although not a concern at this time, other species have the potential to cause concern in the future:

- *Rabies Vector Species:* Raccoons and other mammals that live at the Woods could potentially have rabies. We will promptly refer reports of animals acting unusual on the grounds to DEC Environmental Conservation Officers, town police and, in cases involving human contact, the Erie County Department of Health.
- *Pets and Feral Animals:* Pets are not allowed on the trails at the Woods. Pets can spread disease or parasites to other animals through their droppings, disturb animals and/or harass Woods visitors. In cases where abandoned or “wild” domestic animals are found to be living at the Woods, reasonable efforts will be made to humanely trap/transfer or otherwise remove feral animals from the Woods, using the appropriate DEC staff or animal control authorities.

4.4 Management for Public Use and Enjoyment

4.41 Public Use Management Areas

In terms of public use, DEC will identify three basic areas in the Woods: intensive use, interpretive area, and sanctuary (Figure 9).

4.41a. Intensive Use Area

This area is essentially the same as the “Intensive Use Area” outlined in the 1987 draft master plan. All major facilities, including the environmental education center, will be housed in this area. Eventually, the environmental education center building will be a destination in and of itself, and will also be a stepping off point for more rigorous day-use adventure throughout the Woods interpretive trail system.

4.41b. Interpretive Area

This area includes a variety of habitats that are typically visited on guided tours. This area will be the primary area for outdoor environmental education activities and general public enjoyment of the natural resources of the Woods. The area may include interpretive signs, wildlife management tools such as nesting boxes, resting benches and teaching platforms where appropriate. An interpretive trail system will be designated within this area to enhance public enjoyment of the Woods and increase educational opportunities for the general public. DEC will maintain the existing roads and connector trails. Previously abandoned roads will not be rehabilitated, with the exception of the short road that connects a main road to the open field

habitat discussed in section 4.24 (see Figure 4). This road will be rehabilitated to allow access to this habitat type for educational and maintenance purposes. Any discussion of “new” trails in this plan is referring to the designation of a portion of the existing road system as a specific trail (e.g., the Lily Pond Loop trail). The interpretive trail system is described in more detail in section 4.42.

4.41c. Sanctuary

This area is similar to the sanctuary area in the 1986 draft plan. The area includes both immature and mature forest areas as well as wetlands. The boundaries have been reshaped slightly to indicate changes in Woods boundaries due to additional land purchases and to better align with physical resources such as the edge of water bodies.

At the November 2001 UMP scoping session, the community indicated strong support for maintaining a sanctuary area at the Woods. The sanctuary will provide an area of the Woods that is managed for wildlife. Self-guided trails and regular tours will not be conducted in the sanctuary. However, members of the public occasionally will be allowed in the sanctuary to assist with maintenance projects (such as spring cleanup at the inlet) and for approved research projects. Trained volunteers also will be allowed in the sanctuary to monitor for inappropriate activity. DEC may conduct habitat improvement projects such as invasive species control in this area as well.

Existing roads that are currently maintained will continue to be maintained. Previously abandoned roads will not be rehabilitated. The boundaries of the area will be posted. Access points to the sanctuary within the Woods will have signs clearly indicating that the area is restricted and explaining the purpose of the sanctuary. DEC will install barriers (e.g. sawhorses, chains) to discourage pedestrian access while still allowing vehicular access by DEC when needed for maintenance and patrolling purposes.

DEC staff, trained volunteers and police will continue to patrol the sanctuary. Unauthorized visitors will be escorted out of the area. Violators of posted regulations may be subjected to sanctions under the Environmental Conservation Law.

4.42 Interpretive Trail System

To increase the educational and aesthetic enjoyment opportunities available to the people of the State of New York at the Woods, DEC will mark a system of existing trails (roads) to accommodate the environmental education program and the enjoyment of the Woods by the general public. This system of self-guided trails will be developed in a manner consistent with those at similar DEC properties. Self-guided interpretive trails will be organized around three objectives: to provide accessibility to Woods habitats without compromising environmental protection; to direct attention to natural areas that have high interpretive value and can reasonably accommodate visitation; and to direct attention away from the sanctuary and areas with sensitive resources. The interpretive trail system will use existing roads and connector

trails and will not involve the construction of any new roads or trails.

Self-guided interpretive trails allow persons to experience nature at their own pace, without having to keep up with a group. It also allows for spending a larger amount of time quietly observing nature from a single spot, which can be advantageous for people such as birders and photographers. Additionally, even people who frequently attend the guided tours may wish to enjoy nature on their own instead of having to listen to the guide relate facts and stories to newcomers that frequent visitors may have heard many times before.

The interpretive trails will introduce the visitor to different habitat types and environmental management techniques. The goals of the interpretive trail system will be:

- 1) historical- to reveal history and a sense of place;
- 2) exploration- to encourage people to enjoy and learn more about nature;
- 3) education- to teach about various habitat types and their features; and
- 4) environmental stewardship- to foster a sense of environmental stewardship and promote the value of natural resources and natural resources protection.

Each designated interpretive trail will be set up similar to the Lily Pond Loop and State Symbols trails (see section 3.32b). DEC will develop interpretive brochures with educational information about points of interest (stations) along the trail. There will be “You Are Here” maps and directional signs at appropriate road intersections to guide visitors in the right direction. All signs will be designed to be visible without being intrusive to the scenic nature of the Woods.

All visitors will be required to sign in indicating their name, number of people in their party, and the date and time of their arrival. They will be required to sign out when they leave. This method of access control has been successfully used at other DEC properties and on the Lily Pond Loop and State Symbols trails.

The interpretive trails will differ in length to accommodate various visitor time frames and time allotted for teaching along each trail. Each interpretive trail will have a “theme” in which a particular topic or set of related topics will be emphasized, depending on the habitat and features along the trail. Permanent interpretive trail markers will be designed to be easily seen but will be in keeping with the natural setting. Directional signs, signs noting the rules and regulations, and signs indicating areas that are off-limits will be added to the trail route.

Benches may be placed at strategic locations along some interpretive trails. The benches enable the elderly and families to access even short trails where they may require a resting spot, allow for a rest spot on longer trails, and provide a spot for contemplation, photography, or observation of scenic overlooks.

DEC will continue to monitor the use of the interpretive trails by the public. In 2005, DEC trained a group of volunteers to be “volunteer trail monitors,” and these volunteers monitored the self-guided trails when DEC staff were unavailable. This volunteer trail monitoring program will be continued and expanded to ensure that there are trained volunteers on site during times when the trails are open and DEC staff are unavailable. New volunteers will be trained as needed to ensure an adequate number of volunteers to cover the trail system. As more interpretive trails are designated and more staff and trained volunteers are available at the Woods, DEC will increase the number of hours the Woods trails are open to the public. Due to staff limitations, we anticipate that it will take several years to designate and provide access to multiple trails. Monitoring will continue throughout the entire process (see section 4.44) so that trail access can be modified as deemed appropriate.

Once the environmental education center is built and appropriately staffed, it will eventually be possible to open the Woods’ interpretive trails to the general public on a full-time basis. Visitors will continue to be required to sign in and out of the interpretive trail system. The trails at all other DEC nature centers are open dawn to dusk seven days a week, and there have been no significant environmental impacts from this use. The types of use permitted along the trails, basically walking and taking pictures, are generally low-impact. Additionally, the increased presence of DEC staff, regular tours, volunteers, and supporters of the Woods will help ensure adherence to the rules governing the Woods. Anyone violating the Woods rules will be subject to sanctions under the Environmental Conservation Law.

By developing the education and public access programs, DEC can ensure the Woods’ future by fostering support for the Woods among the people of Western New York. DEC’s other environmental education centers rely on volunteers and supporters of their facilities not only to support educational programming but to help make sure visitors obey the centers’ rules to protect wildlife. Only a committed group of people caring for the Woods can ensure the Woods’ future needs will be met.

4.43 Trail Maintenance

To enable routine maintenance of all signs at the Woods, DEC has developed a “sign log” that includes a map of the Woods showing the location of each sign. Each sign is numbered and a picture of each sign and description of its text is included in the log. Operations staff have a copy of the log. In this way, sign maintenance needs can easily be addressed. Maintenance needs are also regularly reported by volunteers, trail monitors and staff through forms available in the visitor shed.

4.44 Visitor Impact Assessment

DEC's long-term goal is to allow use of the Woods for environmental education and public enjoyment purposes without placing undue stress on the Woods' natural resources. As DEC expands its education program and increases access to the Woods, DEC will periodically assess the impact the visitors are having on the Woods.

Visitation at the Woods is largely weather-dependent. There have generally been fewer attendees at the regular public tours during winter than during the summer months; only special winter programs such as snowshoe walks attract reasonable numbers of visitors. Other DEC education centers experience fewer drop-in visitors during the winter months. Additionally, many visitors to these centers visit only the education center building and/or its immediate surrounds (wildlife gardens etc.) and do not use the trail system. Therefore, their impact on the resources is less than that of trail users.

Potential impacts from increased visitation at the Woods include vandalism, increased garbage and disturbance of flora and fauna. In some ways, the potential for these problems will decrease from its current potential as a dedicated group of "regulars" develop who will notify DEC whenever rules violations occur. This has been the experience at other similar DEC properties. Additionally, the Woods has the advantages of having a resident living on the site and regular police patrols during the evening and overnight hours. DEC's trained volunteer trail monitors are given instructions on how to handle situations where they encounter inappropriate behavior, and they also fill out monitoring forms to note any incidents, maintenance needs, litter, etc. Without these volunteers and regular users on the self-guided trails, such incidents may go unreported. DEC maintains an incident log for any incidents that occur within the Woods.

Erosion is another impact that is often a concern with a trail system. However, because the Reinstein trail system consists of man-made roads and dams, and there are very limited areas with any appreciable slope, erosion impacts from visitors walking at the Woods are likely to be minimal.

To monitor the impact of visitors, DEC will:

- *Track the number of visitors.* This will allow DEC to monitor the increase in visitation so that this factor can be considered when looking at changes in the Woods' habitat. DEC already records the number of visitors attending tours and special events both on and off the site. The trailhead sign-in/sign-out system is used to track the number of visitors using self-guided trails. DEC will periodically take car counts in the parking lot during the hours when trails are open. This method has been used by other DEC education facilities, in conjunction with guidance from the State Department of Transportation, to estimate the number of visitors. The car counts will also help ensure that visitors are using the sign-in/sign-out system. Once the education center is open, DEC will also record the number of visitors using the education center through a guest book and periodic counts of people using the public spaces within the facility (exhibit areas, teacher resource room, bathrooms).

Other DEC education centers have seen growth in their “drop in” visitation rate of about 4% a year. We will evaluate whether Reinstein’s growth rate is similar and how this may affect the services and resources at the Woods. Access and tour policies will be adjusted accordingly.

- *Monitor litter level.* DEC staff and volunteers make litter pickup a regular part of their patrolling activities. DEC provides trash bags for volunteers and staff to carry when walking the trails. The staff/volunteer trail monitoring forms include a space to note any litter picked up on the trail, signs of improper use, etc. There will also be regulation signs that note the “carry-in, carry-out” policy posted throughout the trail system. Self-guided trails will be compared for their level of use and potential problems. Changes to the trail system will be made if warranted to protect certain resources, such as rerouting a trail to a different dam to avoid a sensitive area, etc. All interior roads, with special emphasis on areas not regularly used for tours and programs, will be walked at least weekly to check for problems.
- *Monitor Woods borders.* Staff will walk the entire border of the Woods on a quarterly basis to look for unauthorized foot paths, signs of human use off the trails, etc. Unauthorized paths will be obliterated, signs posted, and monitoring of those areas increased to discourage a repeat of the improper activity.
- *Implement flora and fauna monitoring activities* discussed in section 4.25. These activities may give an indication if the increased presence of people is impacting certain species.

DEC may also temporarily close or reroute trails when sensitive ecological situations arise, such as to avoid disturbing a nest of an endangered bird during nesting season. DEC will clearly explain with signs why the trail is closed or rerouted. Studies suggest that providing an explanation increases the chance that people will heed a sign. These trails will then be monitored by staff regularly to ensure the public is complying with the closure or re-routing of the trail.

4.45 Environmental Education Center

In the past, a lack of facilities has limited the ability of DEC to provide environmental education opportunities to the public. The Family/State Agreement provides that DEC may construct a visitor center and office with related facilities. Therefore, DEC plans to build an environmental education center to enhance the environmental education program at the Woods. The facility will be designed to be a “green” building that is conscious of its impact on the environment during and after construction. In this way, the building itself will become a

teaching tool available at the Woods.

In addition to an office, the environmental education center will include several other spaces:

- *Indoor/Outdoor Storage:* For storing wet and messy supplies (snowshoes, pond lesson supplies, etc.)
- *Exhibit Space:* This will include a reception area and exhibits, including any live exhibits(turtles, frogs, insects etc.). DEC will consider loaning back packs with binoculars, field guides, etc. to visitors who are heading out to the self-guided trails. The backpacks could be picked up and dropped off from the reception desk during the hours of building operation.
- *Educator Prep Room:* This room will provide space for volunteers, including a place for volunteer guides to lock their belongings and pick up a backpack before giving a tour or lesson. A library of environmental education resources available to teachers and volunteer instructors will be housed in this space.
- *Nature Viewing Area:* This extension of the exhibit area will provide a quiet area for observing nature through a tall bank of windows.
- *Classroom:* This large room will be able to be divided into two smaller fully functioning classrooms.
- *Kitchen:* This will allow the non-profit group to host meetings and workshops where refreshments are served.
- *Auditorium:* A large meeting room provides space for meetings, workshops, and special presentations.

The building's exhibit and classroom space may also house small animals, such as turtles, snakes, etc. and occasionally may include non-releasable injured wildlife, such as a bird that lost a wing. These animals will be useful for educational programming for school groups, youth groups, and adults. Other DEC education centers do house small animals that can be kept in aquaria and in some cases house a few larger animals. However, those centers rely on donations to support the care and feeding of the animals. The existence of the education center will provide an opportunity for the Woods to host wildlife groups, such as wildlife rehabilitators or the Buffalo Zoomobile, that can bring a variety of wildlife to the Woods for public education programs at all times of the year. Currently, public programming involving these organizations has been limited to the warmer months of the year due to some of the animals' needs.

DEC has been pursuing the funding needed to construct the building. DEC is pursuing Leadership in Energy and Environmental Design (LEED) certification for the building. LEED is a project of the U.S. Green Building Council, which "certifies" that a building achieves

certain energy and environmental goals. The design and construction process was subjected to review under the State Environmental Quality Review Act, and DEC coordinated lead agency status with the town of Cheektowaga. DEC completed the environmental assessment form on November 1, 2005.

4.46 Other Facility Improvements

4.46a. Parking Availability

The original parking lot provided enough parking for cars under the “guided tour only” policy. However, the lot filled during some larger programs, such as evening walks with multiple guides, and was not adequate during the fall festival. The parking lot could not accommodate school buses and a large number of cars at the same time. Based on the size of the new education center building, additional parking was necessary.

As part of the design for the environmental education center, DEC improved the parking lot to provide additional accessible spaces, bus parking and regular parking. The plan maximized use of the open space already available in the parking lot to minimize the amount of additional clearing that is necessary. Parking areas were configured so that additional parking was created toward the edge of the Woods with minimal disturbance to the current buffer forest between the parking lot and the interior road system. The parking lot also was designed to provide as few intersections of pedestrian and vehicle travel as possible. DEC anticipates moving the dedication sign, which was removed when the parking lot expansion occurred, closer to the new education center building. Additional lighting may also be added in the parking lot to accommodate evening use. Lighting will be designed to minimize the amount of light pollution reaching neighboring areas.

A one-way bus only loop was developed using the existing gravel road to allow buses to enter the Woods, unload school children, park in designated spots, and pick the children up without: 1) children having to cross in front of a bus, 2) any bus needing to back up (many districts prohibit school buses from backing up during field trips).

An employee and delivery parking area for the new environmental education center was also constructed. This lot is currently a gravel surface, but it may be paved after the education center is completed.

4.46b. Accessibility

Persons in wheelchairs and strollers frequently participate in guided tours at the Woods. While it is not a smooth ride, the compacted roads have proven adequate for wheelchairs. The most difficult sections are the Flattail Lake dam (large gravel) and a couple of connector trails that are covered with wood chips. In the past the biggest barrier to access was the lack of an

accessible bathroom. This barrier was removed when the new comfort station opened in September 2003.

To further improve accessibility, DEC plans to:

1. Rate trails using the universal trail assessment process in the next 3 years;
2. When funds are available, extend the boardwalk over the Lily Pond back to the Woods road to provide a complete loop over the open water; and
3. Improve access for mobility-impaired students to have contact with the water's edge during pond lessons through construction of a teaching platform similar to those used at other DEC education centers.

In the long-term, DEC may also pursue 1) developing a trail for the visually impaired, 2) audiotape trail guides, and 3) possible electric cart access at certain designated times.

4.46c. "Getting There"

Currently the only sign indicating the location of Reinstein Woods Nature Preserve is the sign at the corner of Honorine Drive and Como Park Boulevard. People have called DEC numerous times to complain that they went to Reinstein Woods but no one was there for a scheduled program. When the caller was quizzed about where they went, they invariably had gone to Stiglmeier Park instead of Reinstein Woods. It is also common for DEC staff to receive cell phone calls from people on their way to Reinstein Woods who are nearby (usually on Losson Road) but are having trouble finding the entrance to Reinstein Woods. To improve the public's ability to find the Woods and to raise its visibility within the community, DEC will pursue having highway signs placed at strategic locations in the area, such as:

- William Street exit of the Thruway,
- corner of Union and Como Park Boulevard, and
- corner of Transit and Como Park Boulevard.

The sign at the corner of Honorine Drive and Como Park Boulevard will be maintained and a directional arrow added to indicate visitors should turn onto Honorine Drive to find the entrance.

Additionally, as part of its efforts to enhance alternative transportation opportunities for the public to reach the Woods, DEC will investigate having Reinstein Woods as a designated stop on the existing bus route that goes down Como Park Boulevard. DEC will also entertain having Reinstein Woods as a "stop" on a cultural shuttle the town of Cheektowaga is considering developing.

4.46d. Operations Center

The four-bay garage and office building known as the “Operations Center” on the property serves as an office and workstation for some employees of DEC’s Division of Operations. These staff are responsible for maintenance activities at Reinstein Woods and other DEC properties in Erie, Niagara and Wyoming counties. In 2003, some members of the community raised concerns about the visibility of equipment stored around the Operations Center. DEC erected additional fencing and moved some equipment in response to these concerns. By necessity, there will always be some large trucks and pieces of equipment located at the Operations Center. However, DEC will make an effort to store building materials away from Como Park Boulevard and will continue to maintain the spruce trees planted along the property line.

A road construction project is planned for Como Park Boulevard in the next few years. DEC will encourage development of a berm along the property border as part of that construction project.

4.47 Fishing

Some visitors have expressed an interest in fishing at the Woods. Currently, we do not know enough about the fishing resources available at the Woods to determine whether this is even a viable idea. However, because it is a nature preserve, regular fishing will not be permitted at the Woods. In the future, if adequate fishing resources are determined to exist at the Woods, DEC may consider hosting a fishing clinic at the Woods in keeping with its educational goals. A fishing clinic is a one-day event for children in which trained instructors teach participants about fish identification, fishing equipment and techniques, fisheries management, angling ethics and aquatic ecology. This is a “catch and release” event, so no fish would be harvested from the Woods.

4.48 Management of Historic Resources

The Woods contains some features that are of historic significance, including the lot markers (formerly believed to have been placed by the Holland Land Company) and the stone house built by the Reinstein family. DEC will prepare educational materials and displays about these resources for use in the Environmental Education Center as appropriate. Exhibits about these resources may also be displayed at the stone house.

4.48a. Stone Markers

DEC will further investigate the history of the stone markers that were believed to have been placed by the Holland Land Company. Appropriate, accurate information about the markers will be incorporated into educational programs. Photographic records of the stones and

their locations will be maintained.

4.48b. Tree Carvings

The Woods is home to several beech trees that contain carvings from the 1800s, some of which are believed to have been made by the early settlers of Cheektowaga. Some people would like these carvings preserved. There are several options available:

- 1) Take pictures of the carvings, but let “nature take its course” and when the tree dies, the carvings will be lost.
- 2) Make a cast of the tree carvings in addition to taking pictures. The mold would provide something that people could touch that could accompany a display about the carvings and their history and would last after the trees had died.
- 3) Attempt to “preserve” the carvings by removing them from the tree while the tree is still alive and using some type of preservative on them. This would most likely accelerate the death of the tree. Alternatively, we could attempt to extract and preserve the carvings soon after the tree dies. This may be difficult because the tree may die slowly (over a period of years), and intense monitoring of the tree may be required to determine when it is dead. If the preservation was successful, the carvings would be available for display and interpretation. Discussions with naturalists from other historic parks indicate that others have tried this using a method involving repeated soaking in preservatives, but with varied success.

DEC has had mixed responses from the public about which preservation option is preferred. DEC will establish photographic records and maps of where the carvings were located on the property. DEC will attempt to make a cast of the carvings while further investigating the methods that may be available for preservation of the carvings themselves. DEC will also pursue having an artist’s rendering of the carving done for display in the planned environmental education center.

4.48c. Stone House

DEC acquired the Reinstein family house located on Flattail Lake in March 2004. DEC intends to assess the structure’s condition for possible rehabilitation to provide one or more of the following uses:

- *Indoor/outdoor classroom:* The structure’s location on the shore of Flattail Lake makes it ideal for an indoor/outdoor classroom. For example, during a teacher training program, participants could view a slide presentation in the house and then walk out the door to the lake to practice lessons involving water testing, collection of pond creatures, etc. The classroom could double as a meeting room for volunteers or other groups.

- *Exhibit space for historic exhibits:* There has been public interest in having displays within the house that describe the history of Reinstein Woods and the Reinstein family, especially in light of the family's prominent role in the history of Western New York. If this is not feasible, DEC intends to include displays about the Reinstein family and Reinstein Woods in the environmental education center.
- *Housing for naturalist interns.* Other DEC environmental education centers provide housing for interns who work at the center for ten or twelve weeks. The interns provide much needed staff during busy times of the year and allow expanded educational programming that otherwise would not be possible. DEC and Friends of Reinstein Nature Preserve Inc. are pursuing the development of a naturalist intern program at Reinstein Woods. Housing would allow Reinstein to compete with other facilities for quality interns. The stone house could provide adequate living and sleeping quarters for the interns. Additionally, interns living on site would be able to help monitor the property.
- *Storage of seasonal educational materials and equipment.*

There are several renovations that are necessary before the building can be occupied. As described previously, a stone fireplace runs up through the middle of the building. One of the fireplace walls is filled with exposed bricks made out of asbestos that will need to be removed before the building can be occupied. Other obstacles to occupying the house include the sanitation system, heating system, inadequate doors and windows, accessibility of the second floor, and potential building code issues. DEC needs to have the house professionally inspected to determine what occupancy will be allowed for the building. Once the inspection is completed, DEC can determine appropriate uses for the house.

4.5 Management for Health and Safety

Consistent with Departmental policy, Reinstein Woods is committed to a pro-active and comprehensive health and safety program that places the highest priority on safe public and administrative facilities and operating procedures, and fosters a work culture in which health and safety are accepted on all levels as the most fundamental considerations in Woods management and operation.

4.51 Annual Environmental Audit

Pursuant to Environmental Conservation Law Section 3-0309 of Chapter 595, DEC Region 9 Operations staff conduct an annual Environmental Audit of the Woods to identify, assess and rank in priority order all actual and potential environmental threats to the site and to public health. When conditions are found to be non-compliant with state or federal requirements, staff must develop, implement and monitor remedial actions.

This annual audit has proven to be an effective tool for assessing the environmental integrity of the site. The audit has resulted in repairs to several dams in recent years, including the Flattail Lake rehabilitation project and the Mallard Pond control structure replacement.

4.52 Site Safety and Security

Because Reinstein Woods Nature Preserve is located in a densely populated suburban area, there have been concerns about the potential for incidents such as vandalism, littering, vegetation destruction, and harassment of wildlife (by pets or humans). Several security measures will help to prevent this and will help deter misuse of the Woods.

4.52a. Rules and Regulations

To protect the natural resources of the Woods, DEC has instituted rules in accordance with the objectives and principles of the Family/State agreement. These rules apply to all persons visiting the Woods.

The following are not permitted within the Woods:

- hunting, fishing, trapping
- jogging, bicycling, ice skating
- camping, swimming, boating
- motorized vehicles (with the exception of DEC maintenance vehicles and motorized vehicles to provide reasonable access for persons with disabilities)
- pets
- picnicking along the trails (outside the intensive use area)
- alcoholic beverages or smoking

DEC may grant special permission for some of these activities under special circumstances, for example, live trapping (i.e. trap and release) as part of a scientific study, service dogs, etc. Part 623 of Title 6, New York Codes, Rules and Regulations prohibits hunting and trapping on environmental education center grounds “except in designated areas and by written permission only.”

Visitors are asked to:

- Leave vegetation and wildlife undisturbed
- Stay on the trails
- Carry out all garbage.

Signs will be posted at the entrance gate, trail heads, restrooms, and education center to remind people of the rules and regulations. “No swimming/boating/fishing/skating” signs will be posted near water bodies.

No matter how obvious the regulatory signs, there will always be visitors who choose to ignore the signs. While recognizing this limitation, DEC will strive to create that balance where regulatory signs are strategically placed and reasonably noticeable without significantly diminishing the visual experience.

4.52b. Sanctuary Protection

To deter visitors from visiting the sanctuary area, DEC will:

- Design interpretive trails to keep people on the trails and away from the sanctuary area. Strategically planted vegetation, logs or railroad ties to indicate the edge of trails, sawhorse style barricades, etc., can help guide visitors to desirable areas. Additionally, in the spring and occasionally at other times of year, water flowing over the overflow at Muskrat Marsh provides a natural barrier to entry into the sanctuary.
- Post signs at DEC access points to the sanctuary indicating that unauthorized visitors are not allowed. Signs will also explain the purpose of the sanctuary.

- Omit sanctuary roads from trail guides.

In addition to the annual border inspections discussed in section 4.52cii, DEC staff will periodically walk the sanctuary borders to ensure posted signs are in place and look for signs of unauthorized access. Additionally, patrols through the sanctuary by DEC staff and local police will continue (see section 4.52c). As visitation increases, DEC will evaluate whether additional steps are necessary to protect the sanctuary area.

To protect the habitat of the sanctuary, DEC will continue to regularly remove trash that accumulates in the water inlet area of the sanctuary. Volunteer labor will continue to be used for this activity.

4.52c. General Security

DEC will continue to have an on-site presence at all times by having a staff person or persons continue to live in the on-site residence. Patrols by the DEC resident and DEC Environmental Conservation Officers will continue. This deters people from improperly using the Woods outside of normal working hours, when Reinstein Education and Operations staff are not on site. Additionally, the Town of Cheektowaga Police Department, pursuant to a Memorandum of Understanding with the DEC, has a gate key and access privileges to the Woods. The Police regularly patrol the Woods, particularly in the late afternoon and evening hours. These patrols will continue.

4.52ci. Gates

Three gates exist and will be maintained on the Woods' access roads to prevent unauthorized vehicles. A gate for the bus loop/fire access road is closed and locked except when in use. A second gate leading from the parking lot to the patrol/ maintenance road is locked except when large tours are going through the Woods. A third gate on Honorine Drive is used by the police and maintenance vehicles and is closed and locked. DEC may install a new entrance gate to the parking lot. The previous gate was removed when the parking lot expansion project occurred and has not been replaced. Any new gate would be open during regular business hours and whenever the Woods is open to the public.

4.52cii. Fences

Existing perimeter fencing will remain on the Woods (Figure 9):

- A portion of the eastern property line is fenced with 5' high chain link fence. Additionally, the West Seneca Service Action Corps installed 150 feet of 5' high chain link fence along the northern border (former Bernice parcel) of the site in 1994-1995. This fence delineates the property line and limits access by vehicles, pets, and pedestrians.

- Most of the border between Stiglmeier Park and Reinstein Woods contains some type of fence. In 1994-1995, the West Seneca Service Action Corps installed 1,000 feet of 5' high chain link fence along the northwestern border. South of this fence is approximately 1,500 feet of stump fence ranging from five to ten feet in height. Continuing south along the border, there is approximately 3,000 feet of 48-inch high chain link fence that was installed around 1980.

In recent years, DEC has had more problems with neighbor relations in areas where fencing exists than in parts of the border where there is no fencing. The largest problem has been neighbors dumping garbage and lawn wastes over the fences. In two instances, homeowners even cut the fence and installed a gate so that they could pass through the fence to dump their yard wastes and store lawn equipment on the Woods side of the fence. In portions of the Woods where there is no fence, the boundary between a neighbor's property and the State's property is less apparent and appears to result in more respectful behavior.

DEC will continue to maintain a border with Stiglmeier Park and does not intend to have any trail connection between the two properties. In 2002, DEC repaired some existing fencing along the border. DEC staff also walked the Stiglmeier Park/ Reinstein Woods border with members of the Stiglmeier Park Committee and discussed issues related to the fencing. The visit revealed two major points where people could easily access the Woods without knowingly realizing they were trespassing. The first was a deer path over the stump fence that was so well-worn it appeared to be a regular trail. In 2002, 2004 and 2005, DEC added more stumps to this location to obliterate the path. Additional barriers may be needed at this point as new paths appear. To address the concerns of some individuals, DEC will install some fencing, purchased many years ago but never installed, along the stump fence area.

The second point is a seasonally wet spot where the 48-inch fence was down. In the winter when the water freezes, it is easy for skiers and snowshoes to follow deer paths into the Woods at this point. Because of the water, it will be difficult to maintain the fence across this area. Therefore, DEC will add additional signs to the area indicating the Woods border and no trespassing.

When someone enters Reinstein Woods from Stiglmeier Park, DEC staff or volunteers explain the Woods' access policy and direct the individual(s) back to Stiglmeier Park. Experience has shown that the vast majority of people who wander into Reinstein Woods from Stiglmeier Park are simply there to enjoy nature, not to cause problems. If someone is found to be violating Environmental Conservation Law, DEC can issue a ticket to them.

The entire perimeter of the Woods is posted in conformance with posting law. In 2001, additional signs were placed along the border with Stiglmeier Park. DEC will inspect all of the Woods' borders annually to determine maintenance needs for signs and fencing.

4.52ciii. Trailhead Kiosk and Signs

Any trailhead kiosks will include a map with the basic trail routing clearly identified and will provide general information about accessibility conditions such as trail surface(s), terrain and length. In addition, there will be banner space so that temporary safety advisories (e.g.- icy spots) may be posted when necessary.

4.52civ. Permit for After-Hours Use

The Center Director may issue a permit to an individual or group wishing to engage in legitimate education or research-related activities on the grounds after dark. Frogwatch volunteers currently have such permits. Staff and Cheektowaga police patrol the premises after dark and check for use permits.

4.52d. Parking Lot Safety

As discussed previously, a bus loop and additional parking have been added to improve parking availability and increase the safety of school children visiting the Woods. In 2004, DEC installed lights in the parking lot for evening programs. The lighting is designed to illuminate just the parking area without illuminating the surrounding woods and street. Additional permanent parking lot lights will be installed when the environmental education center is built. This will increase safety for participants in evening tours without negatively impacting the neighborhood.

Safety lighting was also installed to the comfort station (bathroom) and pavilion in 2004. Additional safety lighting for pedestrians along the walkways to the environmental education center and around the center will be needed when the center is built.

4.52e. Trails and Outdoor Amenities

4.52ei. Trail Safety Patrols

Reinstein Woods staff will check all major roads on at least a weekly basis for safety problems and file a trail condition report. Trail hazards are referred to the Operations staff. Operations staff also conduct periodic checks of trails and amenities to identify and correct threats to health and safety.

4.52eii. Water's Edge

Most access to the water's edge at the Woods occurs along dams, which are difficult to block due to dam safety regulations that prohibit excessive vegetation on a dam, invasive structures such as fences, etc.

DEC will post signs in areas where water's edge access is desirable for teaching purposes but unauthorized use needs to be discouraged. Within a year, DEC will also survey the water's edge areas throughout the Woods and determine if certain areas should be changed to obstruct

access to the water's edge. DEC will continue to patrol for unauthorized pathways leading to the water's edge.

To improve access for teaching purposes, DEC will develop teaching decks which offer safety railings and sturdy decking to provide handicap-accessible access to the water. Because the pond program is one of the most popular guided lessons, it is imperative that we provide access for all students.

4.53 Emergency Preparedness

Reinstein Woods staff and site-related personnel will review emergency response protocols on an annual basis. Many procedures are outlined in the Reinstein Woods Employee Emergency Handbook.

4.53a. Medical Emergency Plan

The medical emergency plan is included in the Reinstein Woods Employee Emergency Handbook. Staff and volunteers are informed at least annually of the location in the Visitor's Shed of the first aid kit, "instant ice" packs, emergency numbers and directions to the closest hospital. Directions to the closest hospital and emergency phone numbers are also posted in the Reinstein Woods office located in the garage behind the house.

Staff are urged to receive and maintain certification in CPR and basic first aid protocols. Staff review basic medical emergency protocols annually to rehearse staff roles and responsibilities, to establish appropriate limits to their participation, and to know how and when to refer emergency situations to certified health professionals.

4.53b. Missing Person Plan

When someone reports a lost or missing person on the grounds, the staff member fills out a missing person form and follows the procedures attached to the form (see Appendix 4).

4.53c. Reportable Accidents

Consistent with Department policy, Woods staff make every reasonable effort to prevent and reduce injuries or illnesses attributable to Woods operation and, where such may have occurred, to fully document and report any incident and rectify unsafe conditions without delay.

Any work-related accident must be reported to DEC's Personnel Office within 24 hours in a Supervisor's Occupational Accident Investigation Report.

4.53d. Reportable Violations

Staff regularly patrol the Woods. Staff are encouraged to immediately address any minor violation of Woods rules which they may encounter by tactfully informing the violator about (applicable) site regulations. Any reckless, dangerous or unlawful action reported to or discovered by staff is more appropriately referred to the Woods Director (or designee), who immediately checks out the situation and/or assesses its severity.

The Director (or designee) addresses the situation or refers it to DEC Environmental Conservation Officers, Forest Rangers or the town police. An Incident Log documents as much information as possible about the subject, witnesses and reported action.

4.54 Child Protective Measures

At Reinstein Woods Nature Preserve, we strive to do all we can to ensure the safety and security of visiting school and youth groups.

4.54a. Two-Adult Rule

When conducting programs for school or youth groups, we require that two adults accompany children at all times. When it may become necessary to bring a child from the school field lesson to the Visitor Shed or other site amenity for first aid or to go to the bathroom, if a staff member or volunteer accompanies the child, a second adult must also accompany the child. This “two-adult” rule is for both the protection of the child and of staff, volunteer instructors, the school/youth group leaders, and the chaperones. We strongly recommend that teachers and youth leaders bringing children to the Woods also adopt the “two adult” rule, whether coming for a guided lesson or a self-guided experience.

Additionally, as a precautionary measure, staff will not divulge information over the phone about the date or time of any scheduled school or youth group reservation. Anyone wishing information about the date or time of his/her child’s upcoming visit will be referred to the teacher/youth leader who initially made the reservation with DEC staff.

4.54b. Staff/Volunteer Screening

As part of the employment application process, DEC will require that prospective staff and volunteers who might work with children at the Woods provide a positive character reference from a recognized institutional or community representative such as a teacher, landlord, former employer, or scout leader (in addition to professional references, when so required).

Prospective staff and volunteers are required to self-report any criminal convictions on the DEC volunteer application form. As part of the application verification process, we have the right to refer to criminal conviction data banks such as the Megan’s Law registry. DEC

currently screens all applicants against the registry of level 3 sex offenders.

We provide official name tags to identify staff and trained volunteers who conduct tours at the Woods.

4.54c. Emergency Communications

DEC purchased “walkie-talkies” to enable guides to contact the DEC staff on duty in the event of an emergency during a school group tour. A DEC staff have access to a phone in the Reinstein Woods office. There is also a cell phone available when needed for use on the Woods grounds.

4.54d. Model Release

Before staff may use or lend photographic images showing any identifiable child, model releases signed by a parent or guardian must be on file at the Woods.

4.55 Environmental Factors

4.55a. Pesticide Use/Notification

For localized treatment (e.g., to eliminate a hornet’s nest), a DEC licensed pesticide applicator or a person under their supervision uses non-toxic, structural, biological and mechanical controls wherever possible. Failing that, they are required by law to use the least toxic control (boric acid, baits, gels, horticultural oils, non-volatile chemicals).

If DEC is ever required to institute a general (emergency) commercial spray program, such as Bit to combat West Nile virus, DEC will abide by guidance in the Neighbor Notification Bill and provide neighbors, scheduled visitors and staff with 48 hours notice, information regarding date and location of application, the product being used and how to get more information on the product. Informational signs would also be posted to provide notification to unscheduled (drop-in) visitors.

4.55b. Severe Weather Protocol

4.55bi. Program Cancellation

We conduct tours in rain, snow or shine; however, we cancel tours if there is thunder and lightning. Scheduled public programs may be canceled at staff discretion when travel or severe weather advisories are posted. The *Lily Pad* newsletter and program press releases carry disclaimers to this effect and request that people call first to confirm in such conditions.

Before taking groups afield, staff and site-related personnel discuss weather forecasts, and, when deemed appropriate, designate alternative (shortened) field routes in the event that changing weather conditions dictate retreat while a public or school program is in progress. Staff can communicate via the walkie talkies if retreat becomes necessary due to thunder or lightning.

4.55bii. Trail Condition Advisories

Staff may close a hiking trail during periods when general flooding or icing make foot travel dangerous. During periods when minor or localized flooding/icing exist but may be safely circumnavigated, caution signs will be posted at trailhead to clearly identify the hazard.

4.55c. Water Quality at Stream Sampling Sites

The most popular guided lesson program is “Pond Life.” As part of these lessons, students search for aquatic invertebrates in the ponds and wetlands. To preclude exposure to E. coli contamination, DEC will have water samples from each flow system tested to bathing beach specifications on an annual basis.

4.6 Schedule for Implementation and Estimated Budget

The following tables outline a schedule for implementation of the proposed management actions and their estimated costs. Accomplishments are contingent upon sufficient staffing levels and available funding. The estimated costs of implementing these projects is based on historical costs incurred by the Department for similar projects. Values for some projects are based on projected costs for service contracting. These cost estimates do not include capital expenditures for items such as equipment, nor do they include the value of program staff salaries.

Annual Maintenance and other Activities	Estimated Cost
Maintain dam and trail system	\$5,000
Annual control of invasive species (after year 2)	\$1,000
Maintain comfort station, pavilion, education garage	\$5,000
Maintain environmental education center	\$25,000
Maintain parking lot, gates, border fences	\$1,000
Meet health and safety requirements (water testing etc.)	\$500
TOTAL	\$37,500

Year 1	Estimated Cost
Build environmental education Center; install additional parking lot light	\$1,734,700
Stone House: Remove asbestos from stone house; hire professional to report on restoration needs	\$40,000
Restore old field access road and brush hog field	\$1,000
Begin invasive species (Common reed) control program	\$5,000
Remove water lilies from Heron Pond and Flattail Lake	\$5,000
Replace culvert at Birdsong Marsh	\$5,000
Repair existing fence and install fencing currently in storage along western boundary	\$1,500
TOTAL	\$1,792,200

Years 2	Estimated Cost
Pave employee parking lot and access road	\$15,000
Begin deer exclosure project	\$5,000
Remove purple loosestrife infestations	\$1,500
Install teaching platform - Heron Pond	\$10,000
Replace doors and windows on stone house	\$15,000
TOTAL	\$46,500

Year 3	Estimated Cost
Replace roof on stone house	\$20,000
Install teaching platform- Flattail Lake	\$12,000
Research project: deer population study	\$2,500
TOTAL	\$34,500

Year 4	Estimated Cost
Upgrade plumbing and electric at stone house	\$75,000
Dredge and recontour Lily Pond; install beaver control pipe	\$10,000
TOTAL	\$85,000

Year 5	Estimated Cost
Expand boardwalk trail to provide accessible trail loop	\$45,000
Dredge Birdsong Marsh	\$10,000
TOTAL	\$55,000

Year 6 and Beyond	Estimated Cost
Complete restoration of Stone House	\$150, 000
TOTAL	\$150,000

Cost Summary

Annual Maintenance Costs: \$37,500

Five year annual total: \$187,500

Total Cost of New Projects: \$2,163,200

References

- Arthur Carhart National Wilderness Training Center, 1999. *Wilderness Planning and Training Module*, Missoula, MT. (<http://carhart.wilderness.net/manual/aware/aware.pdf>)
- Batzer, D. P. and KA Sion. 1999. *Autumnal woodland pools of Western New York: Temporary habitats that support permanent water invertebrates*. In: Batzer, D.P., RB Rader, and S.A. Wissinger, eds. *Invertebrates in Freshwater Wetlands of North America: Ecology and Management*. John Wiley & Sons, Inc.
- Blossey, Bernd. 2002. *Phragmites: Common Reed. Problem and Control Methods*. Invasiveplants.net.
- Buffalo Ornithological Society. April 1993. *Dr. Victor Reinstein Woods Nature Preserve Survey of Breeding Birds and Amphibians*. Unpublished.
- Hammitt, W.E. and Cole, D. N. 1987. *Wildland Recreation: Ecology and Management*. New York: John Wiley and Sons.
- Invasive Plant Council of New York State. *Purple Loosestrife*. December 2000.
- Kershner, Bruce S. 1993. *Buffalo's Backyard Wilderness: An Ecological Study of the Dr. Victor Reinstein Woods Nature Preserve*. Buffalo, NY: Western New York Heritage Institute of Canisius College.
- Krumpe, Edward E. and Stokes, Jerry. 1993. *Application of the limits of acceptable change planning process in United States Forest Service wilderness management*. In: Hendee, J.C., Martin, V.G., comps. *Proceedings of the 5th World Wilderness Congress Symposium on International Wilderness Allocations, Management and Research; September 24 - October 2, 1993; Tromso, Norway*. Fort Collins, CO: International Wilderness Leadership Foundation: 186-191.
- New York Natural Heritage Program. 1997. *Reinstein Woods Nature Preserve Biodiversity Inventory Final Report*.
- Washington State Department of Ecology. 2002. *Non-Native Freshwater Plants: Fragrant Water Lily*. Internet publication.
- Zika, Norman J. 1992. *Flora of the Dr. Victor Reinstein Woods Nature Preserve*. Clintonia vol. 7, issue 5, p. 5-10 . Sept/Oct. 1992.