

Rome Sand Plains Consolidated Management Plan

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PREFACE

This document is a consolidated management plan for approximately 3,875 acres of public and conservancy owned land within a 16,000 acre Unique Natural Area in the city of Rome, Oneida County, New York known as the Rome Sand Plains (RSP). The RSP is an unusual area of mixed wetlands and upland pine barrens developed in fossil sand dunes. The RSP is one of only a handful of inland pine barrens in the nation. Its combination of high sand dunes and low peat bogs make it a truly unique natural feature. The habitat is characterized by mixed northern hardwood and pine barren forests opening abruptly into meadows, wetlands and peat bogs. Several rare vegetative community types are contained within the RSP which include rare and uncommon species such as the frosted elfin butterfly, the spotted turtle and the Red-shouldered Hawk. In addition, the RSP encompasses part of the historic Wood Creek, used by Native Americans and Early American settlers as a major waterway route linking the Mohawk River and the Great Lakes.

The lands for which this plan has been prepared are owned by four entities: The New York State Department of Environmental Conservation (NYSDEC), Oneida County, The Nature Conservancy (TNC) and the Izaak Walton League (IWL). Private property is interspersed with these lands; however the plan does not apply to such private property. The purpose of the plan is to provide a guide for the coordinated management of lands among the property owners listed above. The plan has been prepared to meet the requirements of the NYSDEC's unit management planning process, as well as the needs of the other landowners. It is also intended to serve as a component of the City of Rome comprehensive plan.

With respect to the specific requirements of the NYSDEC, who will use this document as its unit management plan, it is the policy of the Department to manage State lands for multiple benefits to serve the people of New York State. This unit management plan is the first step in carrying out that policy. The plan has been developed to address management activities on this unit for the next ten years, with a review due in five years. Some management recommendations may extend beyond the ten-year period. Factors such as budget constraints, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.

The overall vision for the RSP is to maintain and enhance its unique ecology, especially the pitch pine heath barrens ecosystem. This ecosystem is vulnerable from both natural and human induced forces. The plan therefore contains a variety of recommendations to protect the RSP from degradation. The plan further recommends that the current management

structure, an ad hoc partnership consisting of the public and conservancy landowners and a cross-section of interest partners be maintained for the next five years. The success of this structure in achieving the goals of the plan should be monitored to determine if it is effective or if an alternative structure is necessary.

The other major management recommendations of this plan are as follows.

Land Management Recommendations

1. Acquire or protect sufficient lands to maintain the ecological viability of the RSP. Lands should only be acquired from willing sellers, and if they meet certain criteria set forth in detail in the plan. These values relate to ecology, consolidation, linkages, buffers, natural resource limitations and cultural or historical resources.
2. Limit roadside vegetation cutting except where necessary for health and safety or other management objectives.
3. Engage in regular roadside clean-up activities.
4. Clean up trash and debris from properties where a health hazard or aesthetic impact is present.
5. Designate a historic corridor for 500 feet on either side of Wood Creek.

Public Use Recommendations

1. Develop a foot trail system in the RSP and link it to other trails in the region.
2. Develop a bicycle trail system in the RSP and link it to regional trails.
3. Develop public access to Wood Creek.
4. Allow hunting, fishing and trapping in accordance with State regulations and the policies of the public and conservancy landowners.
5. Prohibit use by motorized vehicles and by livestock.

Ecological Management

1. Engage in experiments to compare the effectiveness of vegetative management activities to maintain the pitch pine heath barrens community, including selective cutting, scarification, herbicide use and prescribed burn methods.
2. Manage lupines to provide for habitat for the frosted elfin butterfly and for the potential future establishment of the Karner blue butterfly.

3. Introduce the Karner blue butterfly if lupines are successfully established.
4. Manage nuisance wildlife through trapping only when necessary to protect private property or public trails and roads.
5. Conduct a variety of research activities to better understand the natural processes at work in the RSP.

Education and Interpretation Recommendations

1. Develop interpretation of the Wood Creek canal cut.
2. Conduct cultural resource investigations at several locations that have been identified as having a higher than average possibility of having been Native American campsites.
3. Engage in a variety of education and publicity activities to inform the public about the RSP, including mobile educational displays.
4. Create a repository for information about the RSP.

Administration Recommendations

1. Install a uniform signage system.
2. Mark the boundaries of the RSP with uniform RSP signage in addition to signage required by NYSDEC on its lands.
3. Resolve boundary encroachment issues.
4. Develop partnerships with private property owners, environmental and conservation organizations, the Albany Pine Bush Commission and local schools and colleges to assist with all aspects of managing the RSP.
5. Adopt regulations on State lands prohibiting horses, overnight camping and the discharge of firearms in proximity to all trail heads.
6. Designate Trailless Areas in which no facilities will be developed.

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1.0 INTRODUCTION

The RSP is an approximately 16,000 acre area of mixed wetlands and upland pine barrens developed in fossil sand dunes in and around the city of Rome, Oneida County, New York. It is one of only a handful of inland pine barrens in the nation. Its combination of high sand dunes and low peat bogs make it a truly unique natural feature. The habitat is characterized by mixed northern hardwood and pine barren forests opening abruptly into meadows, wetlands and peat bogs. Several rare vegetative community types are contained within the RSP which include rare and uncommon species such as the frosted elfin butterfly, the spotted turtle and the Red-shouldered Hawk. In addition, the RSP encompasses part of the historic Wood Creek, used by Native Americans and Early American settlers as a major waterway route linking the Mohawk River and the Great Lakes. This document is a consolidated management plan for approximately 3,875 acres in the city of Rome constituting the core of the RSP that remains as a largely undeveloped natural area.

Among the RSP's unusual qualities are its ownership characteristics, which include ownership of approximately 25% of the RSP by four public and private conservation-oriented groups: Oneida County, NYSDEC, TNC, and the IWL. These groups have been managing their lands in cooperation with one another through an informal management team. The purpose of this document is to create a formal plan for the coordinated long-term management of the lands in the RSP owned by the above entities. The plan has been prepared to meet the requirements of the NYSDEC's unit management planning process, as well as the needs of the other landowners. It is also intended to serve as a component of the City of Rome's comprehensive plan.

1.1 Location and Area Description

Figure 1, "Location Map" illustrates the location of the RSP. For the purposes of this plan, the RSP encompasses approximately 3,875 acres of public and conservancy owned land within a 16,000 acre natural area in the city of Rome, located immediately to the west of the city's inner district. The RSP is bounded on the south by Wood Creek and NYS Rts. 46 and 49, on the north and west by the Rome municipal boundary, and on the east by West Thomas Street and Gifford Road. It should be noted that the RSP as a geological feature extends somewhat beyond the bounds of the study area covered by this plan, encompassing approximately 15,000 acres. Outside of the study area for which this plan has been prepared, the sand plains have been considerably fragmented and degraded by development

patterns.

The RSP's geologic origins date to the end of the last ice age when this area stood on the receding shores of ancient Lake Iroquois. This lake encompassed much of what is now Central New York, forming the Mohawk River as it drained into the Hudson. Windblown sand that accumulated as the glaciers melted formed high dunes with low areas that have become peat bogs. The dunes now support a pine barrens ecology normally found in sandy soils like those in coastal areas. Interspersed are northern hardwoods and transitional open meadows. The mosaic of habitats caused by the area's unique geology make it a diverse ecological resource. Additionally, the RSP is rich in cultural resources centered on Wood Creek, which figured prominently in the activities of the Iroquois Nation, the early transportation history of the United States and the American Revolution.

1.1.1 NYSDEC Holdings

Lands owned by the NYSDEC are located on Figure 2, "Public and Conservancy Ownership." The NYSDEC owns approximately 1,700 acres in the RSP. All of the NYSDEC's lands are classified as Unique Natural Areas. This has certain management implications (see Section 4 of this plan). The NYSDEC's holdings in the RSP are concentrated in the south center of the unit around Hogsback and Oswego roads. NYSDEC lands currently support two of the areas three major developed trails, the Dunes Trail and the Wood Creek Trail.

1.1.2 Nature Conservancy Holdings

Lands owned by TNC are located on Figure 2. TNC owns approximately 965 acres in the RSP concentrated in the center of the unit around Oswego Road. TNC's holdings include some of the most ecologically significant areas, including several rare wetland and barrens communities.

1.1.3 Izaak Walton League Holdings

Lands owned by the IWL are located on Figure 2. The IWL's holdings encompass 440 acres along the eastern boundary of the RSP. The IWL property encompasses the Pitch Pine Bog and is developed with nature trails.

1.1.4 Oneida County Holdings

Lands owned by Oneida County are located on Figure 2. The county's holdings encompass approximately 770 acres in the western end of the RSP. The county's lands are managed for forestry purposes and include substantial wetlands. The county's property includes a fire training tower, as well as a former historical roadway from Wood Creek to Teelins Pond.

1.1.5 Easements

Easements apply to several parcels in the RSP.

The existing New York Central and Hudson railroad bed that traverses the RSP is part of the Oneida County snowmobile trail system. Each fall, snowmobile clubs secure easements from the landowner, secure insurance for the trails, mark trails with ribbons, and then groom and maintain the trails through the winter. In the spring, club volunteers remove the markings and fences, and make any repairs. The snowmobile trail systems cease to exist in the spring when the seasonal easements expire. Therefore at this time it is illegal for other use to be made of the railroad bed once the snowmobile season has ended. The use of the railroad bed for snowmobiling is renewed annually. There may also be another smaller portion of the official trail system on the northwest corner of the RSP, but this is not entirely clear. Parcel 204.000-2-2 in the RSP is privately held. A deed covenant allowing public access applies to the back acreage of this parcel.

1.2 History of the Rome Sand Plains

Pine barrens are relatively uncommon ecosystems that are home to unusual and rare plant and animal species. The exact origins of the RSP ecosystem are not perfectly understood. Based on analysis of fossil sediment and pollen samples, it is believed that during the period from 5,000 to 500 years ago the RSP was an environment dominated by a mesophytic deciduous-coniferous forest in which there was relatively little fire. The pitch pine community on the RSP is not believed to have originated until about 500 years ago, and may have originated more recently. It is generally believed that the pine barrens developed in relatively recent times due to disturbances associated with fire, perhaps due to Native American hunting or clearing activities, and subsequently from both fire and land clearing activities associated with agriculture and logging. With the cessation of these disturbances in the past 50 years, the RSP is succeeding to a more mesic community. This has important management implications since certain rare, threatened and endangered species

are associated with the pine barrens community.

The recorded human history of the RSP begins with accounts of the use of Wood Creek as a Native American, and subsequently a military, settler and trade travel route connecting the Mohawk River with Oneida Lake and points west. Fort Stanwix was constructed to protect the short carry between the Mohawk River and Wood Creek. Until the opening of the Erie Canal in 1825, Wood Creek was a transportation route of national significance, and attempts were made between 1790 and 1820 to straighten the creek and construct locks in order to improve passage. The remains of these activities are still visible and constitute an important resource of the RSP.

During the 19th and first half of the 20th centuries the RSP appears to have been lightly developed with farms; however, the sandy soils and prevalence of wetlands minimized this use. Other human uses included logging and nature centered uses such as hunting and berry picking. The construction of the New York Central and Hudson Railroad through the RSP in the mid-19th century resulted in a number of fires, influencing the vegetation composition of the RSP. Fire frequency decreased with the switch to diesel trains in the mid-20th century and subsequently the abandonment of the railroad tracks in 1975.

The unique flora and fauna of the RSP was recognized in published reports from local birding groups as far back as 1960. In the 1970s, both the NYSDEC and the Oneida County Environmental Management Council began to take note of the sand plains. In 1980, in part in response to a spate of mining permit applications that threatened to destroy the ecology and geology of the RSP, the NYSDEC began planning to acquire lands in the sand plains. Between 1985 and 1987, the NYSDEC acquired 597 acres in the RSP. TNC and the IWL also recognized the unique character and importance of the RSP and subsequently began acquiring property.

During the 1990s, the central and western New York chapters of TNC, NYSDEC, the City of Rome, Oneida County, the IWL and private citizens began efforts to conserve and protect the RSP. These groups banded together to form the RSP Management Team in January, 1997. In October 1997, the RSP Resource Management Area was formally dedicated. Land acquisition efforts by the IWL, TNC and the NYSDEC have been ongoing, the latter funded by money from the 1996 Clean Water/Clean Air Bond Act and the New York State Environmental Protection Fund.

1.3 Generic History of State Forests

The term State Forest is applied to all of the State-owned lands, including unique and natural areas, that lie outside of the boundaries of the Adirondack and Catskill parks that are administered by the NYSDEC's Division of Lands and Forests.

The forestlands outside the Adirondack and Catskill regions owe their present character, in large part, to the impact of pioneer settlement. Following the close of the Revolutionary War, increased pressure for land encouraged expansion. Up to 91% of New York's woodlands were cleared for cultivation and forage.

Early farming efforts met with limited success. As the less fertile soils proved unproductive, they were abandoned and settlement was attempted elsewhere. The stage of succession was set and new forests of young saplings reoccupied the ground once cleared.

The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation which authorized the NYSDEC to acquire land by gift or purchase for reforestation areas. These State Forests, consisting of not less than 500 acres of contiguous land, were to be forever devoted to "reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber, and for recreation and kindred purposes." This broad program is presently authorized under Article 9, Title 5 of the Environmental Conservation Law.

In 1930, Forest Districts were established and the tasks of land acquisition and reforestation were started. In 1933, the Civilian Conservation Corps (CCC) was begun. Thousands of young men were assigned to plant millions of trees on the newly acquired State lands. In addition to tree planting, these men were engaged in road and trail building, erosion control, watershed restoration, forest protection and other projects.

During the war years of 1941-1945, very little was accomplished on the State lands. Plans for further planting, construction, facility maintenance and similar tasks had to be curtailed. However, through the postwar funding, conservation projects once again received needed attention.

The Park and Recreation Land Acquisition Act of 1960, the Environmental Quality Bond Acts of 1972 and 1986, the 1993 Environmental Protection Act and the 1996 Clean Air Clean Water

Bond Act contained provisions for the acquisition of State lands. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forest management and recreation.

Today there are nearly 700,000 acres of State Forest land throughout the State. The use of these lands for a variety of purposes such as timber production, hiking, skiing, fishing, trapping and hunting is of tremendous importance economically and to the health and well-being of the people of New York State.

1.4 Access

The RSP is easily accessible by a network of local and county roads, as illustrated by Figure 1. Humaston Road, Hogsback Road, Oswego Road and State Rts. 46 and 49 provide major east/west access. Tannery Road, Lauther Road, and Rt. 69 provide major north/south access. An abandoned, privately owned New York Central and Hudson River Railroad bed bisects the RSP from southeast to northwest and provides seasonal access to snowmobiles. Access to the managed lands of the RSP from the east is through the IWL property via Thomas Street.

1.5 Planning Activities

1.5.1 Description of Management Team

Interest in creating a management structure for lands being acquired by the TNC and the NYSDEC began in the mid-1990s. Several informal meetings among interested parties were held in 1995 and 1996. In 1997 the parties formalized their structure and the RSP Management Team was created. The management team is a voluntary organization of landowners and interested parties who recognized that they had common interests with respect to the management of the RSP. The management team formed to explore common areas of interest and to develop common strategies for the management of RSP lands. In 1999 the management team determined that a consolidated management plan was required to set forth a unified and coordinated plan of action for activities in the RSP.

The core organizational members of the management team are as follows:

- City of Rome
- IWL
- NYSDEC
- Oneida County
- The Nature Conservancy

Other members of the team who do not have a direct ownership of lands managed in this plan, but have conservation, recreation or other interests related to the RSP include the following:

- Adirondack Mountain Club
- Fifth District, Garden Clubs of New York State
- Mohawk Valley Heritage Corridor Commission
- New York Parks and Conservation Association
- New York Rivers United
- New York State Canal Corporation
- New York State Department of Transportation
- New York State Museum
- Old Erie Audubon Society
- Oneida County Environmental Management and Water Quality Council
- Oneida County Federated Sportsmen
- Oneida-Herkimer Solid Waste Management Authority
- Private Landowners
- Region 6 Open Space Advisory Committee
- Rome Area Chamber of Commerce
- Rome Country Club
- Rome Historical Society
- The Nature Club of Central New York
- The Oneida Indian Nation
- West Rome Riders, Inc.
- Trailbusters Snowmobile Club

1.5.2 Planning Activities to Date

In 1997 the management team adopted a formal Statement of Purpose, which has guided its activities up to the preparation of this plan. The Statement of Purpose and accompanying management principles remain a useful statement of this plan's management philosophy and so it is presented here.

The RSP is a unique area with many public values. The values which should be maintained, protected and enhanced are:

- *The ecological characteristics of the pine barrens area, including*

- the associated wetlands;*
- *The geological characteristics of the glacial era sand dune formations;*
- *The historic characteristics of the area, particularly the Wood Creek corridor, a connecting passageway between the Mohawk River drainage and the Great Lakes in colonial and pre-colonial times;*
- *Recreational and educational opportunities in a wildland setting near a metropolitan area.*

Management principles that should be followed are:

- *Manage the area cooperatively; shared ownership creates shared interest and involvement;*
- *Maintain, protect and enhance the critical ecological, geological and historical values while providing recreational opportunities wherever they are compatible with protection of these values; and*
- *Increase public awareness and understanding of the area.*

In 2000 the management team began developing an outline for a consolidated management plan. In 2001 the Herkimer/Oneida counties comprehensive planning program obtained a grant from the United States Environmental Protection Agency (EPA) in the amount of \$50,000 for preparation of the management plan. This grant was matched with a \$20,000 grant from the NYSDEC and in-kind contributions from many agencies, resulting in the team hiring a consultant to assist with preparation of the plan. In the summer of 2001, the Chazen Companies was hired to work with the management team in the preparation of this plan.

1.5.3 Planning Process

Preparation of the plan began in the summer of 2001 and continued through the spring of 2002. Integral to the development of the plan was an extensive public input process that included public meetings held in September 2001 and June 2003. Additionally, more than 15 interviews were held with stakeholders who had a particular interest or knowledge in the RSP. The results of these interviews are found in Appendix B, "Stakeholder Interview Summaries."

The development of this plan followed a formal planning process consisting of the following steps.

- *Inventory and Analysis.* The planning team was able to rely on a great deal of information that had been collected prior to beginning this plan. Additional information gathering was conducted with respect to land use, visual resources and limited fauna surveys.
- *Public Input.* An extensive public participation process was conducted. The process included the creation of a newsletter mailed to all landowners in the RSP. The newsletter included an invitation to attend a public meeting held on September 10, 2001. Additionally, interviews were held with more than 15 individual stakeholders who are not a part of the formal management team.
- *Issues Identification.* Issues were identified through the public participation process, review and analysis of inventory data and discussion among the members of the management team. The planning consultant prepared a series of white papers that helped define RSP issues.
- *Develop Goals and Objectives.* Based on the results of the previous steps, a series of formal goals and objectives were developed. The goals and objectives set forth a policy framework for managing the RSP.
- *Develop Management Proposals.* Formal management proposals were developed to address the issues identified, consistent with the policy framework set forth by the goals and objectives. A schedule was created for these proposals.
- *Prepare Draft Plan and Draft Environmental Impact Statement.* The draft plan was subject to public review, including a meeting to which all RSP study area landowners were invited.
- *Prepare Final Plan and Final Environmental Impact Statement.*

The plan was prepared in the form of a draft environmental impact statement to facilitate SEQRA compliance. A draft plan was released on June 2, 2003. An informational public meeting was held on June 23, 2003. The plan was completed by the management team on November 24, 2003.

Subsequent to approval of the plan by the management team, the NYSDEC will adopt the plan through a formal sign-off by the Commissioner. It is anticipated that Oneida County, the City of Rome, the IWL and TNC will also adopt the plan according to their own internal procedures.

2.0 RESOURCE OVERVIEW

This section of the plan provides an overview of the physical, biological, historic, visual and man-made resources that collectively compose the RSP. Throughout this section, the terms “RSP,” “Rome Sand Plains” and “the sand plains” are used to refer to the geological and natural feature as a whole. The terms study area and managed lands are used to refer to that core portion of the RSP which is being managed through the creation of this plan.

2.1 Physical Resources

2.1.1 Geology

The RSP are an accumulation of sand, 10 to 15 meters in maximum thickness, underlain by glacio-lacustrine deposits of glacial Lake Iroquois, that in turn overlie glacial till from earlier ice advances. Beneath this mantle of glacial deposits are sedimentary layers of silt stone and shale of Ordovician Age (approximately 450 million years before present).

The sand plains feature the remains of fossil sand dunes which are typically expressed as east-west trending topographic high points. The dunes were primarily formed by prevailing westerly winds that transported well sorted, angular, fine sand grains. The sand had accumulated along the shallow shores of glacial Lake Iroquois during the end of the Wisconsin glaciation. When the lake water drained out to the St. Lawrence Valley, these sediments were reworked by prevailing winds blowing over the sparsely vegetated terrain.

The dunes themselves have a crescent shape and consist of well sorted, fine grain sand. Some of the dunes in and around the sand plains have been mined, destroying them both as a geologic feature and as a unique habitat. Based on a review of aerial photography and topographic mapping, the major dunes within the study area have been located on Figure 3, “Dune Locations.” The remaining intact dunes are concentrated around Hogsback Road where at least six are present.

Also present along Rt. 49 are a series of eskers formed by deposits of sand and gravel by sub-glacial streams. Of particular note is the presence of a bifurcated, or forked esker, also a geologic rarity.

2.1.2 Soils

The ecology of the RSP is partly attributable to the juxtaposition of greatly differing soil types immediately adjacent to one another. Dune soils consist of arid, relatively unproductive sand soils while much of the lowlands adjacent consist of peat or other saturated soils, resulting in wetlands.

Figure 4, "Soils" illustrates Soil Conservation Service mapping for the study area. The dunes and sandy uplands are dominated by the Windsor Soil Series. The Windsor series consists of deep, excessively well drained soils. Portions of the wetlands are dominated by the Saugatuck and Wareham soil series, which consist of waterlogged sands. The Palms and Carlisle series are muck soils that are also found in low lying wet areas.

Appendix C contains soil descriptions for the soil types in the study area.

2.1.3 Hydrogeology

The RSP are generally underlain by relatively thick (25-50 feet) layers of saturated sediments yielding up to 50-200 gallons per minute when developed for wells. The saturated sediments are generally sand and gravel or swamp deposits. The details of localized water flow are not well understood, but it is thought that groundwater generally flows toward the Mohawk River and the New York State Canal System. The sand plains are located on a drainage divide between the westward flowing Wood Creek and the eastward flowing Mohawk River, and they are at the eastern edge of the Oneida/Seneca/Oswego drainage basin.

As stated above, since little is known about localized groundwater flow, it is unknown how construction associated with the railroad bed or roadways may affect the hydrology of the RSP. Property managers have indicated they have observed no trends with respect to areas growing wetter or dryer, which may be attributable to the relatively large amount of water that appears to underlie the RSP.

2.1.4 Topography

Figure 5, “Topography” illustrates topography in the study area. Relief is minimal, ranging from a low point of about 511’ above mean sea level (msl) to a high point of about 546’ above msl. Low points are wetlands and bogs while high points are the tops of dunes.

2.1.5 Water Resources

Figure 6 “Water Resources” illustrates water resources in the study area. The RSP lies within the drainage basin of Oneida Lake. Waters flow south to Wood Creek and then west to Fish Creek and Oneida Lake. A discussion of water quality standards is found in Appendix N. Water resources are summarized as follows.

Approximately six miles of Fish Creek form the northwest border of the study area. Fish Creek and the adjacent ponds have water quality standards of C within the study area. Waters classified as Class C have fish propagation as their highest and best use.

Approximately 11.45 miles of Wood Creek form the southern border of the study area. Wood Creek flows west to Fish Creek, which it joins outside of the study area. Wood Creek has a water quality standard of C(t) from its mouth to approximately the mid-point of the study area. Waters classified as Class C(t) are suitable for fish propagation. From this mid-point, Wood Creek has a water quality standard of D until it reaches the eastern boundary of the study area. Waters classified as D are suitable for fishing and other non-contact uses.

Tributaries of Wood Creek within the study area are Brandy Brook, Burk Creek, Canada Creek, Beaver Brook and Sash Factory Creek. A portion of Beaver Creek, a tributary of Fish Creek, lies within the study area. All of these tributaries are rated NYSDEC Class C or Class C(t) streams.

There are several small ponds within the study area, the most prominent of which is Teelins Pond located adjacent to State Rt. 49.

Floodplains within the study area are illustrated on Figure 6. The 100-year floodplain is the flood elevation that has a 1% chance of being equaled or exceeded each year. Certain restrictions apply

to activities within the 100-year floodplain, as discussed in Section 4 of this plan.

2.1.6 Wetlands

Figure 7 illustrates State classified and regulated wetlands within the study area. As illustrated by this figure, wetlands are extensive within the study area and make up 7,359 acres, or 46 percent of the study area. 66.3 % of the public/conservancy lands are wetlands. By owner, the percentages of wetlands are as follows.

- Izaak Walton League 89.2% wetlands
- The Nature Conservancy 72.5% wetlands
- State of New York 63.4% wetlands
- Oneida County 52.0% wetlands

State regulated wetlands in the study area are numbered and classified as follows.

Table 1 Wetlands Classification and Area¹

SB-18	II	18.4
SB-19	II	15.1
SB-28	II	1748.9
SB-35	II	9.0
VE-1	IV	35.7
VE-2	II	2126.3
VE-3	I	2329.8
VE-4	II	14.2
VE-6	IV	16.5
VE-8	II	883.5
VE-9	II	10.8
VE-10	IV	11.5
VE-11	IV	16.5
LC-44	II	9.8
LC-47	II	77.1
LC-48	II	0.1
LC-50	II	21.3
LC-51	IV	13.5

In addition to those regulated by the State, wetlands in the RSP are also mapped by the U.S. Fish and Wildlife Service (USFWS) and regulated by the U.S. Army Corps of Engineers (COE). The boundaries of such wetlands have not been mapped in the field, but they are likely to be similar in extent to those mapped by the NYSDEC.

Wetlands are one of the major resources of the RSP, providing important habitats to diverse flora and fauna. Details about individual wetland types are found in Section 2.2.1 below.

2.2 Biological Resources

¹Class I wetlands are the highest classification; Class IV are the lowest.

2.2.1 Ecological Communities

The RSP is unique in its juxtaposition of ecological communities. Within a relatively small area there exist elements of northern bogs, mixed northern hardwood and pine barrens forests. The bogs are of noteworthy size and diversity, while the pine barrens are some of the only such communities developed on wind blown sand dunes in the United States. The RSP has been accurately described as a mosaic, in which diverse habitats are found in close proximity to one another. This diversity of habitats within a relatively small area results in a wide variety of flora and fauna, some of which is rare or unusual for this region. This mosaic is best illustrated by Figure 8, “Vegetation Communities.”

There are eight community types within the study area recognized by the Natural Heritage Program (NHP) and TNC, some of which are considered as unique or rare. These community types are located on Figure 8 and are described as follows. Descriptions are based on Reschke (1990) as modified by TNC and local investigation (see the references section of this plan).

Pitch Pine Heath Barrens is the signature community for which the RSP is known. This community is also referred to as *Pitch Pine Blueberry Heath Barren*. It is a shrub-savanna community occurring on the well-drained sand dune uplands. Pitch pine (*Pinus rigida*) is the dominant tree in this community; there is a mix of other tree species. Shrubs are dominated by heaths or by scrub oaks (*Quercus ilicifolia*). This community hosts the wild blue lupine (*Lupinus perennis*) which is the major food source for the frosted elfin butterfly (*Incisalia irus*) as well as the Karner blue butterfly (*Lycaeides melissa samuelis*) which is a State and Federally- listed endangered species. Tree percent cover is generally between 30% and 60%. It is also of interest that pitch pine is also found in certain of the RSP’s bogs. Pitch pine is intolerant of shade and will not reproduce under canopy; hence it is limited to sites with relatively poor soils that will not support other species. Pitch pine cones may or may not be serotinous (i.e. requiring fire to reproduce) depending on the fire history of the individual community. The fire history of the RSP is not well understood and therefore it is unknown what role fire has with respect to this community. However, as fire favors pitch pine at the expense of other species, it is probable that fire has contributed to the overall health and maintenance of this community, if not also its reproductive success. It is likely that fires associated initially with lightning and Native American

activity and subsequently with farming, logging and the railroad passing through the RSP have contributed to the health of this community. Fires within the RSP have been actively suppressed since the 1950s, and this may have a long-term effect on the health of this community, as it appears to be succeeding to a more mesic assemblage of species.

Pitch Pine--Blueberry Peat Swamp is the community type associated with the Huckleberry Swamp, a large wetland located between the abandoned railroad line and Humaston Road. It is also found in depressions between the sand dunes. This rare ecotype is developed on deposits of Wareham sands which are hydric but slightly more aerobic than the Saugatuck sands. The shrub layer is dense and dominant. Typical species include black chokeberry (*Aronia*), wild raisin (*Viburnum*) and highbush blueberry (*Vaccinium*). Gray birch (*Betula populifolia*), and pitch pine are also present. The ground covers include brackenfern (*Pteridium*), wintergreen (*Gaultheria*), wild lily-of-the-valley (*Maianthemum*), trailing arbutus (*Epigaea*) (which occurs in dry areas) and bulrush (*Scirpus*). It is not known how construction of the railroad through the RSP in the mid-1800s affected drainage patterns in the Huckleberry Swamp. Blocking of the drainage culverts beneath the railroad berm has caused some flooding at the southern end of the swamp directly north of the railroad, but it is not known what the effects, if any, are throughout the swamp.

Pine Barrens Vernal Pond is a wetland type located north of Hogsback Road and in between the various sand dunes. These wetlands may also grade into and/or be classified as *Dwarf Shrub Bogs*. The Cranberry Bog owned by the IWL is an example of a dwarf shrub bog. The distinctions between the two wetland types have not been well studied within the RSP. Within the RSP, two sub-communities have been identified under pine barrens vernal pond: 1) *Sphagnum/Chamaedaphne* (open boggy wetlands) dominated by *Sphagnum* spp., leather leaf (*Chamaedaphne calyculata*) and threeway sedge (*Dulichium arundinaceum*); and 2) *Acer/Vaccinium/Sphagnum* (shady wetlands) dominated by red maple (*Acer rubrum*), highbush blueberry (*Vaccinium corymbosum*), chokeberry (*Aronia melanocarpa*), mountain holly (*Nemopanthus mucronatus*), cinnamon fern (*Osmunda cinnamomea*) and *Sphagnum* spp. These wetlands have fluctuating water levels that reflect fluctuations in the groundwater table, which in some cases is perched. Some of the ponds have an open canopy and are boggy, while others have a partial canopy of red

maple or pitch pine and a mix of other hardwoods, with *Vaccinium corymbosum*, *Aronia*, *Nemopanthus* and *Viburnum* as common shrubs and a *Sphagnum*-dominated groundlayer with ferns, sedges and scattered forbs. The soil is peat or muck. More work is needed to classify properly this wetland type within the RSP.

The *Black Spruce--Tamarack Bog* community is a small strip of forest about 20 meters wide between a high bush association not far from the base of a dune and a dwarf shrub bog being invaded by white pine, pitch pine, tamarack and black spruce. The water table in this bog is close to the surface. The entire substrate is made up of *Sphagnum* grading to peat. Quaking is noticeable at the edges. Black spruce grows on the bog edge while tamarack grows in the wetter interior. Although black spruce is semi-serotinous, fire is likely to alter significantly the composition of this community. There is no evidence of this community type having experienced fire.

The *Highbush Blueberry Bog Thicket* is a wetland community on the north side of Hogsback Road. It is a part of a large mosaic of other wetland and upland communities such as Appalachian Oak-Pine Forest and Pitch Pine Heath Barrens. Additional survey work is needed on this community.

The *Rich Hemlock--Hardwood Peat Swamp* community is also located on the north side of Hogsback Road. It is a mosaic of wetlands with seasonally fluctuating water levels, in swales between higher elevation sand dunes vegetated with pine barrens or pine-oak woods. This community type forms a part of an extensive mosaic of swamps, dunes and vernal ponds.

The *Hemlock--Hardwood Swamp* community is located on the south side of Hogsback Road. It is situated in a basin and although small, has a high quality and diversity of vegetation.

The *Red Maple--Hardwood Swamp* community is located between Hogsback and Oswego Roads. This is a fairly large red maple swamp bounded to the west by a smaller but more mature hemlock-hardwood swamp. Additional survey work is needed on this community.

In addition to the rare community types described above, the *Appalachian Oak-Pine Forest* community type is found interspersed throughout the RSP. Although this is a common

community, its occurrence as part of the mosaic with the other community types increases the diversity and richness of the RSP's ecology. This community is a mixed forest that occurs on sandy soils. A mixture of oaks and pines dominates the canopy. The oaks include one or more of the following: black oak (*Quercus velutina*), chestnut oak (*Q. montana*), red oak (*Q. rubra*), white oak (*Q. alba*), and scarlet oak (*Q. coccinea*). The pines are either white pine (*Pinus strobus*), or pitch pine; in some stands both pines are present. Red maple (*Acer rubrum*), hemlock (*Tsuga canadensis*), beech (*Fagus grandifolia*), and black cherry (*Prunus serotina*) are common associates occurring at low densities. The shrub layer is predominantly ericaceous, usually with blueberries (*Vaccinium angustifolium*, *V. pallidum*) and black huckleberry (*Gaylussacia baccata*). The ground layer is relatively sparse and species diversity is low.

In addition to the distinct ecological communities above, several other habitat types are interspersed throughout the RSP, again contributing to diversity. Of particular note are the floodplain of Wood Creek and the sand dunes. Other habitat types in the RSP include:

- Successional old fields
- Agriculture
- Hardwood plantation
- Softwood plantation
- Yards and lawns
- Brushy cleared areas
- Sand mine
- Landfill
- Roads and mowed areas
- Water

It should also be noted that all of the community types described herein grade into one another; the edges are often indistinct.

2.2.2 Vegetation

The vegetative communities of the RSP are described in Section 2.2.1 above. A comprehensive flora list is found in Appendix D. Combining the results of numerous surveys and sources has derived the comprehensive list. The flora in the RSP is believed to have been well surveyed. However, as noted above, not all communities have been thoroughly studied.

Of note is the presence of the blue lupine (*Lupinus perennis*) a

species that provides the sole food source for the frosted elfin butterfly (*Incisalia irus*) and would provide food for the Karner blue butterfly (*Lycaeides melissa samuelis*) if introduced. The blue lupine is found in the pitch pine heath barrens in the vicinity of Hogsback Road. Efforts began in 1999 to grow this plant in sand dune areas around Hogsback Road in order to expand food sources and potential habitat for the Karner blue butterfly. In 2001 approximately 2,500-3,000 seeds were planted on parcels 220.000-1-19, 220.000-2-37 and 220.000-2-38.1, both at existing and new sites.

There is one State-listed rare, threatened or endangered plant species in the RSP. Location of this species is on file with the RSP Management Team as well as the NYSDEC, but it is not provided in this plan in order to protect the resource. The species is climbing fern (*Lygodium palmatum*) with a global rank of G4 and a State rank of S1.

In addition, there are historic records of ten rare plant species in the RSP. They are as follows.

Table 2 Historically Reported Rare Plant Species in the Rome Sand Plains

Species	Common Name	Global Rank	State Rank
<i>Cypripedium arietinum</i>	Ram's-head lady's slipper	G3	S2
<i>Panicum scabriusculum</i>	Panic grass	G4	S1
<i>Triphora trianthophora</i>	Nodding Pogonia	G4	S1
<i>Carex formosa</i>	Handsome Sedge	G4	S2S3
<i>Calypso bulbosa</i>	Calypso Orchid	G5	SH
<i>Potamogeton alpinus</i>	Northern Pondweed	G5	S2
<i>Carex tenuiflora</i>	Sparse-flowered Sedge	G5	S1
<i>Desmodium ciliare</i>	Little-leaf tick-trefoil	G5	S2S3
<i>Triglochin palustre</i>	Marsh Arrow Grass	G5	S2S3
<i>Platanthera ciliaris</i>	Orange Fringed Orchid	G5	S1

G3 means the species is either rare and local throughout its range, or vulnerable to extinction throughout its range because of other factors.

G4 means that the species is apparently secure globally, though it may be quite rare in parts of its range.

G5 means the species is demonstrably secure globally, though it may be quite rare in parts of its range.

S1 means there are five or fewer occurrences and very few remaining individuals in the State.

S2 means that there are 6-20 occurrences in the State and few remaining individuals.

S3 means there are 21 to 100 occurrences in the State.

SH means the species is historically known in the State, but has not been seen for the last 15 years.

Also of note is the presence of unusual species such as several orchids, pitcher plant and sundew in various RSP bogs. Other species of note include pitch pine, scrub oak, tamarack, roseshell azalea, sphagnum moss, cinnamon fern, cranberry, blueberry, trailing arbutus and viburnum.

The NYSDEC maps the vegetation communities on the lands it owns. Figure 9 illustrates forest cover types as mapped by the NYSDEC. Appendix P provides a key for Figure 9.

2.2.3 Wildlife

Numerous researchers have carried out a variety of fauna surveys. A comprehensive fauna list is found in Appendix E. It is believed that birds (including breeding birds), large and small mammals and insects (especially butterflies and wasps) have been well studied. Bird surveys have been particularly thorough due to the efforts of volunteer bird watchers. Survey work for reptiles and amphibians was carried out in the spring of 2002 by The Chazen Companies. Relatively few species were found. The results are presented in Appendix E.

There are five State-listed special concern, threatened or endangered species in the RSP. The locations of these species are on file with the RSP Management Team, but are not provided in this plan in order to protect the species. Table 3 lists these species.

Table 3 Special Concern, Threatened or Endangered Fauna of the Rome Sand Plains

Species	Common Name	Global Rank	State Rank
<i>Incisalia irus</i>	Frosted elfin	G4	S1S3
<i>Zanclognatha martha</i>	A noctuid moth	G4	S1
<i>Lithophane thaxteri</i>	A noctuid moth	G4	S2
<i>Gomphus fraternus</i>	Midland Clubtail	G5	S1S3
<i>Buteo lineatus</i>	Red-shouldered Hawk	G4	S3
<i>Clemmys guttata</i>	Spotted turtle	G4	S3
<i>Clemmys insculpta</i>	Wood turtle	G4	S3
<i>Ambystoma maculatum</i>	Spotted salamander	G4	S3

G4 means that the species is apparently secure globally, though it may be quite rare in parts of its range.

G5 means the species is demonstrably secure globally, though it may be quite rare in parts of its range.

S1 means there are five or fewer occurrences and very few remaining individuals in the State.

S2 means that there are 6-20 occurrences in the State and few remaining individuals.

S3 means there are 21 to 100 occurrences in the State.

Of particular note in the RSP is the number of species of Lepidoptera (butterflies). A 1995 survey recorded 219 species of Lepidoptera in the RSP. Also of note is the large number of solitary sand wasps. Sixty-three species have been identified in the RSP.

The NYSDEC maintains records of deer and furbearer harvest by township (i.e. the records are not maintained specifically for the RSP, but rather, for the City of Rome within which the RSP lies, as well as the surrounding towns). Deer harvest data is

summarized in Appendix F. These data clearly show that from 1980 to 2000 the deer harvest has steadily increased in all the townships surrounding the Sand plains. It can be inferred that this trend has followed within the RSP, a conclusion that is supported by anecdotal evidence that hunting pressures have increased in recent years. The Huckleberry Swamp is known to be a significant deer wintering area.

With respect to furbearers, only certain species require a fur seal. Records are again kept by county and town. These data are summarized in Appendix G. The data do not appear to show any long-term trend, with harvests varying significantly from year to year (a trend which is often attributed to market forces). Anecdotal evidence suggests that fur trapping does take place in the RSP on lands on which it is allowed.

With respect to birds, a significant diversity of raptors and neotropical migrants breed in the RSP. In recent years flooding of some areas by beaver have developed habitat for waterfowl and water birds. Succession has probably reduced habitat for open country species such as Vesper Sparrow and Eastern Meadowlark during the last 30 years.

Of note is the probable former presence of the Karner blue butterfly, a state and federally listed endangered species. The RSP are thought to have once supported the Karner blue butterfly. Since the RSP has the potential to support a population of blue lupine, the New York State Karner Blue Recovery Team has selected the RSP as a potential future introduction site for the Karner blue. In addition, the Federal *Draft Karner Blue Butterfly Recovery Plan* designates the RSP as a Potential recovery Unit. Potential recovery units are areas in which the Karner blue likely occurred historically and in which sufficient restorable and suitable habitat occurs that could potentially support a viable metapopulation of the species. It has not yet been conclusively determined what constitutes the minimum habitat area that will be required to maintain a self-supporting population of Karner blues. Viable Karner blue populations are found in relatively small areas of habitat in New York State and elsewhere.

Also of note is a small population of the frosted elfin butterfly. This butterfly has habits similar to the Karner blue butterfly. The Blue lupine is the critical food plant for the larval plant of this butterfly. As an adult, the frosted elfin feeds on nectaring plants such as fireweed and blue lupine. The Frosted elfin has been

observed to use open areas such as paths and trails as travel corridors.

2.2.4 Fisheries

Fisheries surveys in the RSP were conducted by the NYSDEC in the fall of 2001. The results are found in Appendix H and summarized in Table 4. The results show the presence of warm water species, including game fish such as large mouth bass, bullhead, grass pickerel and sunfish in Wood Creek, its tributaries and other streams in the RSP. Additionally, a few brook trout were found in Wood Creek, Sash Factory Creek and several tributary streams. All of the fish specimens were relatively small. These data support the conclusion that the RSP is home to a healthy and diverse population of fish (and likely amphibians and other food chain species as well). According to NYSDEC fisheries personnel, within the bounds of the RSP, Wood Creek itself is too warm to support a viable reproducing population of brook trout.

Table 4 Fish of the Rome Sand Plains

Common Name	Scientific Name
Blacknose dace	<i>Rhinichthys atratulus</i>
Blackside darter	<i>Percina maculata</i>
Brook trout	<i>Salvelinus fontinalis</i>
Brown bullhead	<i>Ameiurus nebulosus</i>
Brown trout	<i>Salmo trutta</i>
Common sucker	<i>Catostomus commersoni</i>
Creek chub	<i>Semotilus atromaculatus</i>
Fallfish	<i>Semotilus corporalis</i>
Fantail darter	<i>Etheostoma flabellare</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
Grass pickerel	<i>Esox americanus</i>
Hornyhead chub	<i>Nocomis biguttatus</i>
Largemouth bass	<i>Micropterus salmoides</i>
Mottled sculpin	<i>Cottus bairdi</i>
Central Mudminnow	<i>Umbra Limi</i>
Pumpkinseed sunfish	<i>Lepomis gibbosus</i>
Rock bass	<i>Amblopites rupestris</i>
Roseyface shiner	<i>Notropis rubellus</i>
Small mouth bass	<i>Micropterus dolomieu</i>
Tesselated darter	<i>Etheostoma olmstedii</i>
Chain pickerel	<i>Esox niger</i>

There are historic accounts of the presence of Landlocked Atlantic Salmon (*Salmo salar* - more appropriately, the freshwater or lake salmon, since these Great Lakes fish did not migrate to the sea)

in Fish Creek. Restoration of this population has been under discussion by local sportsmen and conservation groups, but no definitive plans have been adopted as of the date of preparation of this plan. Note that Wood Creek is not suitable for salmon reintroduction.

Limited kick sampling of the stream benthos has been conducted by the NYSDEC around the study area, but there are no records from streams within the area currently available.

2.2.5 Forestry

Oneida County's holdings in the study area are managed as part of Oneida County Reforestation Area 24. The county acquired the property in 1981 at tax auction. The county logs the land in accordance with market demand. White pine is the most valued species in the area. White oak, soft maple, cherry and hemlock are lower quality species. Red oak was cut heavily in the 70's and the current stand is not yet of harvestable size.

NYSDEC forest management practices will be used to accomplish multiple objectives such as habitat enhancement and protection as well as forest crop production. This usually involves selective thinning of trees. The NYSDEC's forestry management plan is detailed in Section 4.2.1.

The TNC and the IWL have not developed forestry management plans for their properties.

2.3 Cultural Resources

A Stage 1A Archaeological/Historical Sensitivity Evaluation was completed for the study area by Greenhouse Consultants, Inc. This study follows a formal methodology established by the New York State Office of Parks, Recreation and Historic Preservation. A copy of this report is found in Appendix I.

With respect to prehistoric resources, a portion of one site thought to be an aboriginal camp has been reported from Brandy Brook within the study area. No other information is available concerning this site. Four other prehistoric sites have been reported within two miles of the study area. The relative lack of sites may be attributable to the fact that no systematic surveys have been conducted, or because the presence of wet areas precluded the development of significant sites. Nevertheless, according to the Stage 1A report, any locations within

the study area that are relatively elevated near streams or marshes are considered to have a higher than average likelihood of containing prehistoric remains associated with hunting or fishing camps. The locations with the highest likelihood of containing prehistoric resources are the confluences of Beaver Creek and Canada Creek, Canada Creek and Wood Creek and Beaver Brook and Wood Creek.

With respect to historic resources, the Wood Creek corridor is an area of significant sensitivity. Prior to the development of the Erie Canal, Wood Creek was a major thoroughfare along the transportation route from Albany to the Great Lakes. Wood Creek and the carry to the Mohawk were the site of military forts during both the French and Indian War and the Revolutionary War. None of the forts appear to have been located directly within the study area. In the 1790s the first private canal company in New York, the Western Inland Lock Navigation Company, built 13 short canals along necks of Wood Creek to enhance navigation. Three of these canals lie within the study area, and remnants can still be seen. Additional information about the canals is found in Appendix M.

With respect to historic sites, nine such sites are located within or adjacent to the study area. Within the study area are the canal cuts noted above, and a settlement known as Seiferts Corners, which includes a former tavern and a dam on Wood Creek constructed to raise the water level. Perhaps the most important nearby site is former Fort Rickey located opposite Wood Creek to the south of the study area.

2.4 Visual Resources

The RSP as an area of low relief and mostly wooded landscapes offers small scale views of subtle beauty. Within its landscape of woods and small meadows are several areas identified by the Management team as having special scenic character These include:

- Hogsback Road
- Oswego Road
- Humaston Road
- Portions of NYS Rt. 69
- NYS Rt. 49 in the vicinity of Teelins Pond

Each of these areas has a particular character tied to the relationship of vegetation and open space. Obviously, maintenance of these characteristics will be important if visual qualities are to be maintained. Appendix J contains photographs illustrating the visual

character of the scenic areas listed above.

In addition to the roads, much of the interior trail system provides wonderful scenery, with views of ponds, wetlands and interesting flora and fauna.

2.5 Man-made Facilities

2.5.1 Roads

Public roads in the study area are illustrated in Figure 1. As this figure illustrates, numerous roads, totaling 32.31 miles pass through the study area. There are two State Forest haul roads in the study area. An approximately one mile haul road follows the bed of Armstrong Road. An approximately 1,000 foot haul road is located on parcel 220.000-2-24.

Haul roads are permanent, unpaved roads but are not designed for all weather travel. They are constructed primarily for the removal of forest products and provide only limited access within the unit. As such, these roads may not be open for public use. The standards for these roads are those of Class C roads as provided for in the NYSDEC Forest Road Handbook.

Table 5 summarizes roads by name, ownership and length.

Table 5 Rome Sand Plains Roads

Name	Owner	Length in Miles
Beck Road	City	1.34
Fish Creek Landing Road	City	1.49
Gore Road	City	1.29
Hogsback Road	City	2.35
Humaston Road	City	2.57
Lauther Road	City	1.83
Link Road	City	1.95
Meadows Road	City	0.54
New London Road	County	0.24
Oswego Road	County	4.40
Passer Road	City	1.95
Rome-New London Road (State Rt. 46)	State	1.61
Rome-Taberg Road (State Rt. 69)	State	4.4
State Rt. 49	State	2.24
Success Drive	City	0.78
Tannery Road	City	1.87
Thomas Road	City	0.36
Upper W. Thomas Street	City	0.33
Wexford Road	City	0.47
White Road	City	0.14
Wuethrich Road	City	0.16

Roads provide excellent access to most of the study area. To some extent they tend to fragment habitats; however ecological units within the RSP are so small as to render this not a major

problem.

2.5.2 Parking

There are three public parking facilities currently located in the study area, each associated with a public trail (see Section 2.5.3 below). None of them are paved or otherwise marked; boulders and landscaping generally delineate the limit of the areas. The following table summarizes the approximate number of spaces at these facilities.

Table 6 Current Parking Facilities

Facility	Approximate Number of Spaces
Pitch Pine Bog Trail	10
Wood Creek Trail	4
Sand Dune Trail	15

Informal, unmarked parking areas have been created by use at the point where Humaston Road intersects with the abandoned railroad bed.

2.5.3 Trails

There are three marked trails in the RSP. Trail registers are located at the start of each trail. The locations of the marked trails are illustrated in Figure 10, Trails. Based on informal observation, none of the trails meet current ADA guidelines for accessibility to the disabled.

The IWL maintains approximately 3.5 miles of trail in several loops on its Pitch Pine Bog property. The trails pass through a mixture of bog, pitch pine and upland forest habitats. The property contains one of the largest beaver ponds in New York State.

The NYSDEC maintains two public trails on its lands. Both trails are accessed from Hogsback Road. The Wood Creek Trail is a 1.22 mile (round trip) trail (with a short 0.16 mile loop extension) portions of which are along the crest of a sand dune to the bank of Wood Creek. Portions of this trail do not have a treadway; but rather, utilize a raised string that hikers are asked to follow. This

is to prevent treading on and damaging the fragile sand dune environment that supports Blue lupines. The trail provides access through a variety of forest cover from pitch pine and barren areas, through tall white pine, hemlock and oak to the shrubby floodplain of Wood Creek.

The Sand Dune Trail is a 0.71 mile loop trail that starts at a former sand mining pit. The trail provides an excellent view of what a dune looks like in cross section.

The former New York Central and Hudson railroad bed bisecting the RSP from west to east is privately owned. The owners have allowed access along the railroad bed through an area snowmobile club for snowmobiles. At the present time this is the only legal access to the bed. However, it is apparent that people routinely walk on and otherwise use the railroad bed.

The former Rome-Osceola railroad bed is found to the west of the IWL property. This railroad bed is also privately owned. There is no public access to it at the present time.

The New York State Barge Canal Recreationway lies less than one mile south of the study area. Portions of the railroad bed, Humaston Road, Lauther Road, Hogsback Road and NYS Rt. 49 within the study area have been proposed for inclusion in Oneida County's bicycle trail system by the Herkimer-Oneida counties transportation study.

The New York State Canalway Trail lies ½ mile south of the study area. This trail goes from the Old Erie Canal Village to Syracuse.

The New York State Department of Transportation (NYSDOT) is planning to construct a bicycle trail in the shoulder of State Rts. 46/49 from the Canal Village to Rt. 69.

In addition to these marked trails, a network of inactive logging roads provides informal access to much of the interior of the RSP. TNC has surveyed these trails using a global positioning system (GPS) and mapped 35 miles of informal trails. Many of these trails are associated with old logging roads and have been maintained by use.

2.5.4 Historic Canal Structures

In the summer of 1793 the Western Inland Lock Navigation

Company began cutting 13 short “canals” across the necks of the worst of the sharp meanders in Wood Creek, thus shortening the distance between Rome and Oneida Lake by six miles. Remains of these historic “mini-canals” are located along Wood Creek upstream of its crossing of Rt. 49. Detailed information about these canals is found in Appendix M.

In close proximity to the study area are various historic structures associated with the old Erie Canal and the New York State Canal System, both located within a mile to the south.

2.5.5 Signage

In 2001 the RSP Management Team placed an informational sign at the Wood Creek Trailhead. The sign is an attractive two-panel color model that provides information about the RSP. The first panel is entitled “Rome Sand plains” and describes how the area was formed 10,000 years ago and the unique features of the site. The second panel is entitled “Wood Creek” and includes maps and narratives on the use of this creek 200 years ago as a link in the network of inland waterways from Albany to the Great Lakes. Reproductions of the sign panels are found in Appendix K. This sign provides a successful model for other RSP signage.

The individual landowners who are part of the management team each post their own boundaries with their own unique markers.

2.5.6 Infrastructure

There are no other types of infrastructure to support public use in the study area (e.g. outhouses, bicycle racks, etc.).

The RSP is generally unserved with water or sewer infrastructure. The nearest such infrastructure is located at the Rome Industrial and Business Park on State rt. 69 just west of the intersection of State Rts. 46 and 49. The City of Rome does not currently have plans to extend municipal infrastructure to the study area.

Private electric and telecommunications infrastructure is located along roadways throughout the RSP.

2.5.7 Other

The former City of Rome Municipal Landfill and Oneida Herkimer

Solid Waste Management Authority Ash Landfill is located off of Tannery Road within the bounds of the study area. Neither of these landfills is currently active. The ash landfill was closed and capped in 1997. Monitoring wells are in place and a leachate collection system directs leachate directly to the municipal sewer. The municipal landfill is surrounded by a slurry wall that collects leachate. Therefore, these facilities are not considered to be a threat to the RSP.

2.6 Land Use Patterns

Land use patterns in the study area as derived from real property tax records are illustrated by Figure 11, Land Use Patterns. The most prevalent land use category is unoccupied land (5,570 acres or 35% of the RSP) followed by public and conservation lands (3,974 acres or 25% of the RSP), residential lands (2,686 acres or 17% of the RSP) and agriculture (1,609 acres or 10% of the RSP).

The following table illustrates the number of parcels and total acreage of each land use category.

Table 7 Land Use Patterns

Land Use	Number of Parcels	Total Acreage	Percentage of Total Area
Agricultural	32	1,609	10.13%
Residential	356	2,686	16.92%
Unoccupied	233	5,570	35.08%
Commercial	38	348	2.19%
Recreation/Entertainment	6	282	1.78%
Community Services	9	33	0.21%
Industrial	7	110	1.75%
Public Services	4	274	1.73%
Conservation Lands	53	3,974	25.03%
No Property Class Assigned	53	990	6.24%
Totals	767	15,876	

The total 2002 assessed value of the RSP is \$77,448,702. Land use values in the RSP are concentrated in the commercial and residential sectors. Commercial lands make up only 2.19% of the land area in the RSP, but have a total assessed value of approximately \$31.7 million. Residential lands make up about 17% of the land area and have a total assessed value of approximately \$20.7 million. By contrast, unoccupied lands account for about 35% of the RSP but have a total assessed value of only about \$3 million. Unoccupied land represents 3.6% of the total assessed value of the RSP.

The NYSDEC maintains an inventory of land uses within its holdings according to specific categories required by the unit management planning process. The inventory of “land uses” is really an inventory of vegetative types and stages and is presented in Table 8.

Table 8 NYSDEC Lands By Classification, Acreage and Size Distribution

	Acres By Size Class			Non-Forest	Totals	% of Totals
	0-5"	6-11'	12"+			
Natural Forest						
Hardwood	76	162	9		247	14
Mixed	5	297	390		692	40
Softwood	4	545	44		593	35
Softwood			1		1	<1
Open land/Brushy				51	51	3
Wetland				109	109	6
Pond				1	1	<1
Roads Parking				14	14	<1
Total Acres	85	1004	444	175	1708	

2.7 Adjoining Uses

Uses adjacent and nearby the study area are summarized as follows.

To the east and southeast is the urbanized city of Rome. To the north, west and south are rural and suburban areas characterized by low-density housing and occasionally commercial uses, agriculture, forest and open space lands. The study area is bordered on the south by Wood Creek and on the northwest by Fish Creek. A significant recreation resource, the New York State Barge Canal, lies approximately one mile south of the study area. The Erie Canal Village, a tourist attraction, lies immediately to the east, as does Fort Bull. Other nearby features of interest include Fort Stanwix in the city of Rome.

3.0 PUBLIC USE AND CAPACITY TO WITHSTAND USE

This section of the plan describes the various uses of the RSP and the potential impacts of such use.

3.1 Indirect Use

Indirect use refers to those people who may never set foot in the RSP but who derive satisfaction from knowing that such areas exist. Such individuals derive value from knowing that they, their children and

future generations may have the opportunity to enjoy the resources in the RSP. There is no way to quantify the value of this use, but it undoubtedly exists.

3.2 Scientific and Research Use

The RSP is used for a variety of research purposes. Research has focused on inventorying the flora and fauna of the RSP, including ongoing studies to determine the breeding bird populations, to determine Red-shouldered Hawk use, to determine the status of lupines and their use by various insects, especially frosted elfins, and to determine the feasibility of using the RSP as a recovery location for the Karner blue butterfly.

In addition, research has been examining the successional processes on this site. Specifically, research has examined the fire history of the RSP in order to better understand its origins and ecological processes. The results of this work have been compared to research from other pine barrens communities in New York State in an attempt to determine the best management strategies for the area. Others have been researching the geologic and hydrogeologic links between the aquifer and wetlands in the RSP.

There is also significant ongoing archeological and historic research.

The primary researchers in the RSP are affiliated with TNC, The State University of New York College of Environmental Science and Forestry, Hamilton College, Rutgers University, Colgate University, Utica College and the New York State Museum.

3.3 Education Use

The RSP is used for educational purposes, primarily by local high school and college teachers who use it as an outdoor classroom and laboratory. No formal curriculum has been developed, although some college teachers have established research locations (i.e., groundwater monitoring wells or plant plots) in the area.

Adjacent landowners, the general public, elected and other government officials and others are being educated about the RSP through the RSP Management Team newsletter, articles in local newspapers about the ongoing efforts of the RSP Management Team, and through the outreach efforts of members of the RSP Management Team.

Stories have been published for specific interests, such as birding articles, articles in the TNC newsletter, and history articles in regional newspapers. In addition, the TNC has developed a slide show about the RSP. Brochures are also available for the NYSDEC and IWL properties, with distribution through local Chambers of Commerce and other venues. In addition, the RSP Management Team, TNC and the IWL have hosted field walks in the RSP. Volunteers have been enlisted to clean up trash and plant lupines. Elected and other government officials have been involved in the process through mailings, on-site tours and outreach efforts of the RSP Management Team.

3.4 Recreation Use

The primary human use of the RSP is undoubtedly as a recreation area. Although trailhead registers have been installed at the three public trails, not all people register and the registers at the State-owned trail heads have not been in place long enough to generate meaningful numerical results.

The IWL, whose property is the most heavily used, has collected register data since 1994. From 1994 to 2001 an average of 471 users have registered annually. Note that a registered user may include a party of more than one person; party size data has not been recorded. The data show a number of clubs and organizations using the property.

A review of register data at the Sand Dunes Trailhead for the period from April 20, 2001 to July 20, 2001 and from April 2002 to August 2002, showed 143 individual registrations (0.52 entries/day) and total reported visitation of 165 (1.2 persons/day). Of interest is that almost all parties reported only one or two persons; there were only three large parties (more than ten people) reported during this period, two of which were recorded as nature clubs and one as a group of teachers.

Register data at the Wood Creek Trailhead for the period from April 2002 through August 2002 showed 82 individual registrations (0.53/day) and total reported visitation of 153 persons (1.1 persons/day). Only one party of ten or more was recorded in this register.

Review of the limited available register data and discussion with property owners and managers who are active participants in the management team and review of register comments leads to the

following observations with respect to use.

Use of the RSP is almost entirely limited to day use due to the absence of formal camping areas. Users fall into three major categories: hikers and nature watchers, hunters and trappers and snowmobilers.

Hikers and day users generally take short walks in the RSP for exercise, bird watching or other nature centered activities. The duration of these activities is relatively short, on the order of several hours. Group size is relatively small, usually one or two people. Few people bring pets. Most of this activity occurs during the warm weather months.

Hunting and trapping activity occurs during the fall. Hunters and trappers primarily use NYSDEC, TNC and county-owned lands. The IWL reports increased hunting pressure on its lands in recent years. These observations are consistent with data showing an increased deer take from the region over the last ten years.

Snowmobilers use the abandoned railroad bed as a right-of-way (ROW). During the winter months, use of this corridor is frequent.

Wood Creek is lightly used by canoeists. There is also light use by fishermen of Wood Creek and its tributaries.

In addition, it is likely that the RSP is used for uses such as berry and mushroom collecting. The extent to which these activities occur on RSP lands is unknown.

The roads traversing the RSP are used for bicycling and walking purposes.

Although not allowed on NYSDEC, IWL or TNC lands, ATVs make significant use of portions of the RSP. There are ongoing trespass problems with respect to ATV use. This is a significant problem because ATVs can severely damage the fragile dune and wetland environments that make up much of the RSP. Also, ATV use is incompatible with certain types of recreation uses prevalent in the RSP such as bird watching and hunting.

3.5 Capacity to Withstand Use

To date, problems associated with use have been relatively few. Minor sign and tree vandalism have been reported. Illegal dumping of

garbage and construction/demolition debris occasionally occurs. These types of problems are found in any area subject to public use and will require ongoing management activity including posting, road closures and patrols. Similarly, property managers occasionally receive reports of illegal hunting, ATV use or overnight parties on RSP lands. These are handled on a case-by-case basis by contacting the appropriate authority, including the NYSDEC Forest Ranger assigned to the RSP, or the local Environmental Conservation Police Officer.

Several issues present more significant challenges to the long-term health of the RSP.

First is the issue of ATV use and trespass. ATVs have the potential to significantly damage the fragile plant communities and dune and wetland environments of the RSP. Prohibiting or managing ATV use is necessary to prevent such damage and to ensure compatible recreation uses.

Similarly, certain of the environments within the RSP are so fragile as to render any sort of formal public access problematic. Prime examples are the sphagnum bogs and the Huckleberry Swamp whose plant life can be damaged if walked upon. This also holds true of some of the sand dune environments that have almost no soil and little plant life stabilizing them. Even light use of these areas has the potential to destroy the habitat. Thus, use must be managed to ensure that trails and other forms of access do not adversely affect sensitive areas.

4.0 MANAGEMENT AND POLICY OVERVIEW

This section of the plan presents an overview of the management activities that are currently undertaken in the study area, as well as the policies that guide such activities.

4.1 Current Management Activities

The RSP Management Team and the individual property owners have already undertaken a number of management activities. Many of these activities are ongoing. They are summarized as follows.

- Developed trails and associated signs, registers and parking areas on the IWL and at two locations on NYSDEC properties.
- Developed two trail brochures.
- Developed an interpretive sign at the Wood Creek trailhead.

- Engaged in a number of public education and outreach activities, including nature walks.
- Germinated, planted and nurtured blue lupine seeds.
- Cleaned up trash and garbage at various locations.
- Conducted inventories of flora and fauna.
- Conducted a GPS inventory of trails.
- Cooperated with research on a variety of topics related to the health of the RSP.

4.2 Landowner Management Policies

4.2.1 NYSDEC

Management activities on State-owned land are governed by specific rules and regulations, which are set forth in Section 4.3 below. In 1997 the NYSDEC prepared a “Custodial Plan for the RSP” an internal document summarizing its management approach to the RSP. A copy of this document is found in Appendix O. This document has guided NYSDEC’s actions up to the date of preparation of this plan. The NYSDEC’s approach is as follows.

Ownership Interest

NYSDEC originally sought to purchase sufficient acreage in the RSP to provide for an ecologically viable preserve. As other organizations became involved in the sand plains, NYSDEC began acquiring property in consultation and cooperation with them. 597 acres had been acquired by 1983. Acquisition activities were then halted until the Environmental Protection Fund and the Clean Water/Clean Air Act provided funding for additional land purchases. To date, approximately 1,700 acres have been acquired using funds from the 1972 and 1986 Environmental Quality Bond Acts, the 1996 Clean Water/Clean Air Bond Act, the Environmental Protection Fund and other sources. The NYSDEC intends to continue to purchase lands to protect the RSP’s unique geological formations and habitats.

The NYSDEC does not currently undertake fire management in the RSP and participates in putting out any fire.

The following goals, needs and challenges are taken directly from NYSDEC’s custodial plan.

Management Goals.

1. *Preserve areas of geologic significance, specifically sand dunes.*
2. *Preserve ecologically significant areas, especially the bog and other wetland areas. Areas identified as habitat for rare or endangered plants or animals should also be protected from influences that would alter the habitat.*
3. *Wood Creek should be maintained as near as possible in its original form, while allowing canoeing.*
4. *Maintain Pitch Pine Cover Type. Unmanaged hardwood species may encroach and eventually take over the site. Use of prescribed fire in maintaining pitch pine habitat should be further investigated.*
5. *Increase public awareness of the sand plains. Use existing roads and develop additional trails that will encompass the area's unique features. Avoid putting trails in sensitive areas. Develop trail brochure. Increase understanding of the significance of the sand plains.*

Needs and Challenges

1. *Continue to acquire, from willing sellers, additional land when funding allows and land becomes available.*
2. *Investigate, identify and compile a list of plants and animals peculiar to the Sand plains. Include rare or endangered species.*
3. *Management of Pitch Pine Forest Type. Need for prescribed fire and the chances for successful establishment of pitch pine should be investigated. At the present time the Rome Fire Department does not allow the use of prescribed fire as a tool for forest management. NYSDEC should work with Rome Fire Department toward gaining acceptance of the use of fire to achieve forestry objectives. Treat small blocks of pine at intervals.*
4. *Gate the existing wood roads throughout the sand plains to prevent vehicular access. This will also help to reduce dumping.*
5. *Identify common goals with other landowners.*
6. *Encourage efforts by volunteer groups: cleaning, identifying rare and endangered flora and fauna, trail layout and maintenance.*
7. *Survey and mark property lines.*

Forestry

The NYSDEC has developed specific forestry objectives for its holdings in the RSP. Forest management practices will be used to accomplish the goals listed above such as habitat enhancement and protection and to maintain the existing ecological communities.

Thinning and harvesting will be conducted and forest products will be removed to maintain desirable growth and stand densities, to salvage losses from insects, disease and destructive weather occurrences and to prepare mature stands for establishment of new stands. Forestry areas are illustrated by Figure 13, NYSDEC Forest Management Areas. Note that these objectives should also be thought of as specific management objectives and are therefore outlined in Section 7.5 of this plan.

4.2.2 The Nature Conservancy

The RSP emerged as a priority action site in the Great Lakes Plain ecoregion for TNC. TNC manages its lands through an interim plan prepared in 1998.

TNC's interim management plan contains several goals. These goals are to:

1. Maintain the mosaic of a number of state-rare natural areas including the Pitch Pine-Blueberry Peat Swamp, the Pine Barrens Vernal Pond, the Dwarf Shrub Bog, the Black Spruce Tamarack Bog, the Pitch Pine Heath Barrens within a healthy matrix of Appalachian Oak Pine Forest.
2. Provide long-term maintenance of rare species including the frosted elfin and Red-shouldered Hawk.
3. Provide for persistence of natural communities including Rich Hemlock Hardwood Peat Swamp and Highbush Blueberry Bog Thicket.
4. Provide for persistence of viable breeding populations of neo-tropical migrant birds currently occurring within the RSP.
5. Connect the RSP to other natural areas.

To achieve these goals TNC has developed a five-pronged management approach, to include land protection, research, restoration, management and education. This approach is summarized as follows.

- Research: Fill information gaps necessary to good long-term management of protected lands.
- Restoration: Reverse the successional shift that is eliminating open habitats for the frosted elfin. Use experimental management of small areas to promote open areas for the persistence of Frosted elfin. TNC will also advocate maintenance of the Pitch Pine Heath Barrens Community (a small component of the overall site) through prescribed fire management.
- Management: TNC intends to continue to hold and manage the

Huckleberry Swamp area. Such use would not allow the use of vehicles or the presence of pets. The Conservancy will seek to foster a coordinated approach to management of other lands within the RSP area that includes recreational uses on State-owned land. TNC seeks to communicate, cooperate, and develop supportive relationships with other members of the RSP Management Team and the City of Rome.

- Education and Outreach: TNC seeks to form a supportive user constituency throughout the local area. Education will be multi-modal. It will be coordinated through the RSP Resource Management Team and will focus on the Frosted elfin, the lupine, and the ecological history of the sand plains.

The hunting policy of TNC at the RSP is based on TNC's national policy adapted to fit local needs. The primary purpose of this management effort is to maintain the ecological viability of ecosystems by controlling species that significantly alter balances of natural communities. Persons are allowed to hunt on TNC lands to achieve control of overabundant species. In addition TNC recognizes that hunting is a part of the human culture. At RSP white-tailed deer may be hunted by permit. Proof of liability insurance is required and hunters are asked to volunteer for 1-2 days of work on the property during the non-hunting season.

4.2.3 Izaak Walton League

The mission of the IWL is to maintain, protect and restore the soil, forest, water and other natural resources of the United States and other lands; to promote means and opportunities for the education of the public with respect to such resources and their enjoyment and wholesome utilization. The Rome, NY Chapter of the IWLA, formed in 1946, has secured over 400 acres of RSP land that is now protected for the public interest.

The IWL manages its property for recreation and outdoor education use. Cross-country skiing, hiking and biking are allowed on the property. Hunting and trapping is allowed on the Pitch Pine Bog property provided hunters and trappers first obtain a special permit from the president of the Rome chapter. Hunting and trapping may not be conducted within 100 feet of any marked foot trails. However access for these activities via the trails is allowed. Big game may be taken with legal archery, but permittees may not construct permanent tree stands. Small game may be taken with shotguns using bird shot only. Trapping is allowed using all legal sets. There are no fires, motorized bikes,

ATVs or camping allowed on the property. Trail work is underway on the property, and perimeter posting and trail markers have been ordered.

4.2.4 Oneida County

Oneida County's lands, consisting of approximately 800 acres, are managed for timber production by the county Forester. There is no formal written plan for such management, which is discussed in Section 2.5. The county allows ATV and legal hunting and trapping uses of its property. Its policy is to suppress all fires.

4.3 State Agency Regulations

4.3.1 NYSDEC

Regulations Governing Management of State Lands (6 NYCRR 190-199)

The NYSDEC's Division of Lands and Forests manages most public lands in New York State. The Division is made up of three bureaus: Forest Preserve, State Land Management, Private Land Services, and Real Property.

The NYSDEC Bureaus of Forest Preserve and State Land Management are responsible for the management and care of four million acres of land owned by the people of the State of New York. These include State Forests, Unique Areas, the Forest Preserve and Multiple Use areas throughout the State of New York. Most of this land is open for public use and recreation. Included in this area is the State land within the RSP managed by the NYSDEC and classified as a Unique Natural Area. The term "Unique Area" is generally applied to lands purchased under the Unique Area category of the 1972 Environmental Quality Bond Act and the Unique Character land acquisition project rating category of the 1986 Environmental Quality Bond Act and the Unique Area and Unique Character land acquisition project rating categories of 1992, 1995, 1998 and 2002 versions of the Open Space Conservation Plan. State lands classified as Unique Areas are not afforded any specific legal, regulatory or policy protections or management restrictions. Rather, they are managed subject to existing Department of Environmental Conservation laws, regulations and policies in a manner that attempts to perpetuate and enhance their unique ecological,

scenic and geological characteristics.

The NYSDEC Regulations at 6 NYCRR 190-199 describe the regulations and uses of State lands managed by the NYSDEC. These regulations can also apply to lands on which the NYSDEC holds a conservation easement that restricts development, management or use of such property, although public use may also be restricted.

Part 190: This section describes general regulations on state lands involving fire, official signs and structures, camping, use of pesticides, unique areas, environmentally sensitive lands, and conservation easements. Sections of this law that currently apply, or could in the future apply to the RSP include regulations that:

- Define conservation easement as an easement, covenant, restriction or other interest in real property, which limits or restricts development, management or use of such real property for the purposes of preserving or maintaining the significance of the property. (Section 190 (b)(4)).
- Define “unique lands” acquired under the authority of Section 51-0701(3) of the Environmental Conservation Law. (Section 190 (b)(12)). The RSP Management Area is defined as a “Unique Area.” There are no specific regulations in Section 190.10 that discuss the RSP, and so the sections of 190.0, 190.1, 190.2, 190.3, 190.4, 190.8, and 190.9 apply to all Unique Areas managed by the Division of Lands and Forests. All Unique Areas are posted as such; descriptions of each Unique Area are available at the central and regional offices of the Department of Environmental Conservation.
- Prohibit snowmobile use on designated ski trails. (Section 190.8 (d)).
- State that it is illegal to deface, remove, destroy or injure plants, rocks, fossils and minerals on state lands, or to bother wildlife except during the open season for the species. (Section 190.8(g)).
- Prohibit the use of motor vehicles on State land under the jurisdiction of the NYSDEC, except where specifically permitted by posting. (Section 190.8(m)).
- Allow the riding, driving, or leading of horses on State land unless otherwise prohibited by law, regulation, posted notice or the exceptions in the regulation. The exceptions where horses are excluded include land devoted to intensively developed facilities, foot trails (except where such trails are part of a publicly maintained road or specifically designated to

- allow travel by horse), and/or designated snowmobile or ski trails covered with ice or snow. (Section 190.8 (n)).
- Expect people to comply with instructions on NYSDEC signage. (Section 190.8(o)).
 - Prohibit the application of pesticides to any State land under the NYSDEC jurisdiction without written authorization from the Department. (Section 190.9(a)).
 - On conservation easements held by the Department to which the public has a right of access, the following general regulations apply to persons using such land. The public may not deface, mutilate, remove or destroy signs or structures of the landowner, leasee or Department. The public may not erect signs, structures, gates, barriers or other improvements unless specifically authorized by the conservation easement. No one except the landowner, invitees or leasees, or the Department can operate a motor vehicle or snowmobile on any roads or trails except those posted for such use. No person except the landowner, invitees or leasees or the Department shall occupy any structure except in conjunction with temporary camping.

Part 191 -- Forest Fire Prevention: Section 191.2 describes the fire districts in the State, and indicates that the Oneida County fire district includes the towns of Annsville, Ava, Boonville, Bridgewater, Camden, Florence, Lee, Sangerfield, Steuben, Vienna and Western, but does not include the cities and villages located therein. According to Section 191.3, the Department has the authority to close State-owned lands if a serious fire hazard exists. According to the NYSDEC's custodial plan for the RSP dated May 25, 1995, the Rome Fire Department has jurisdiction over fire management in this area. At the present time the Rome Fire Department does not allow the use of prescribed fire as a tool for forest management; however, this agency has expressed a willingness to discuss the use of fire as a management tool.

Part 194 -- Forest Practices: This section of the regulations authorizes the Department to sell stock to private landowners from nurseries it operates in order to reforest areas. It is possible that this portion of the regulation could be used to facilitate operation of a lupine or other butterfly-beneficial plant nursery in the RSP. Such a nursery could provide for the distribution of seedlings to landowners in the RSP to increase the presence of beneficial plants in the area.

Part 194 -- Forest Practices: This section of the regulations

authorizes and governs the Department in prescribing and undertaking fires and fire management on state lands under the jurisdiction of the Department. It also describes how the Department is to review, approve, and undertake prescribed burns on non-Department lands. It discusses measures to protect adjoining properties, as well as permit, reporting and enforcement requirements.

Prescribed burns are allowed on State lands such as Unique Areas outside the Forest Preserve for silviculture management, wildlife habitat management, insect/disease control, forest fuel reduction, wildfire suppression or as an alternative action to mechanical or chemical control of vegetation. Fires that are not natural (*i.e.*, ignited on purpose) must first have an approved prescribed fire management plan with provisions for notifying or waiving notification to local fire officials, airports, police agencies and health care facilities (Section 194.2). The specific information that must be contained in any fire management plan is detailed in Section 194.3.

Wildlife Management Unit

The RSP are in NYSDEC management unit 6K. The NYSDEC has no special regulations for hunting or trapping in the RSP. The NYSDEC lands within the RSP are open for hunting and trapping in accordance with State-wide regulations.

NYSDEC – Article 24 – Freshwater Wetlands Act

The NYSDEC regulates nearly all types of activities within NYSDEC freshwater wetlands 12.4 acres in size or larger, or smaller if possessing special characteristics, or their 100-foot adjacent area. Wetlands are mapped on USGS Topographic Quadrangles that are filed with the county and the town. Figure 7 illustrates the location of NYSDEC mapped wetlands in the RSP. The types of activities regulated within mapped NYSDEC wetlands or adjacent areas include:

- Construction of trails and installation of culverts
- Vegetation clearing
- Filling or grading activities
- Structures in the wetland

- Draining or otherwise altering water levels except for agriculture

NYSDEC - Section 608 – Use and Protection of Waters:

Under this regulatory program, the NYSDEC regulates activities that may disturb the bed or banks of protected streams (having a water quality standard of C(t) or higher), the construction of dams or impoundments, the construction of docks or moorings, the excavation or placement of fill in navigable waters, and the issuance of water quality certificates under Section 401 of the Clean Water Act for activities requiring a federal permit. The review generally examines the impact the project could have on the aquatic environment.

In addition, if any federal permit is required for a project, that involves a discharge into a navigable water, a Section 401 Water Quality Certificate is required from the NYSDEC under 6 NYCRR Section 608, “Use and Protection of Waters.” For example, if a permit is required from the COE place fill for a boat ramp in a stream, then a Section 401 Water Quality Certificate would also be required from the NYSDEC.

Temporary Revocable Permits

The NYSDEC is authorized to issue temporary revocable permits (TRP’s), generally for education or research purposes. TRP’s allow the State to evaluate impacts and ensure there are not liability concerns from uses not otherwise allowed, as well as to provide feedback on the results of the research conducted. TRPs currently issued in the RSP are those allowing the study of Frosted elfin butterflies for research purposes.

4.3.2 New York State Office of Parks, Recreation and Historic Preservation (OPRHP)

OPRHP administers Federal and State preservation programs for New York State. Project review for impacts to cultural and archeological resources are triggered by the involvement of Federal or State agencies responsible for undertaking, funding, permitting or licensing any activity that may affect historic properties. Federal “actions” are reviewed under the National Historic Preservation Act of 1966, Section 106. State “actions” are reviewed under the New York State Historic Preservation Act of 1980.

Additionally, State Education Law Section 233 provides for the protection of cultural and scientific resources on State lands. Such resources may not be damaged or removed except with permission of the State.

4.4 Federal Agency Regulations

4.4.1 U. S. Army Corps of Engineers

The COE (Buffalo District Regulatory Branch) regulates activities in navigable waters and related wetlands. Under this regulatory program, authorization is required for work or structures in navigable waters, or the discharge of dredged or fill material into any regulated water or wetland. Note that a navigable water includes all tributaries of a stream.

In the area of the RSP, Fish Creek is considered navigable from the Erie Canal to Fish Creek Landing, where Rt. 13 crosses Fish Creek. Wood Creek is considered navigable to Cove Road. Wetlands are not “pre-mapped” by the COE, but rather identified by on-site delineation of the wetland boundary using soils, vegetation and hydrology.

The following are some examples of activities which, if undertaken within a water or wetland, could require a permit from the COE:

- Construction of trails and installation of culvert
- Burial of utility lines underground for visual improvements
- Streambank stabilization
- Minor discharges and/or dredging to clean out creeks or ponds
- Stream and Wetland Restoration Activities
- Improving habitat quality of wetlands for wildlife
- Maintenance of existing flood control projects
- Reshaping drainage ditches
- Recreational facilities

Some minor activities can be permitted through the Nationwide Permit process, while other activities with potentially greater impacts would require an individual permit.

4.4.2 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) has mapped

areas of flooding along streams in the RSP study area. These floodplains are illustrated on Figure 6. In general, new structures constructed in the 100-year floodplain must be elevated at or above the 100-year floodplain elevation, or they must be flood-proofed. Construction within floodways must not reduce storage volumes or cause an increase in the base flood elevation. A permit is required for construction within the floodplain or floodway.

4.5 City of Rome Regulations

The RSP are within the municipal boundaries of the city of Rome. The City of Rome has divided its municipal area into two areas designated as the Inner District and the Outer District. The Inner District is the more densely developed land, while the Outer District is less developed. The Inner District extends northward to Potter Road, eastward encompassing Griffiss Business and Technology Park, adjacent to the town of Floyd, southward to the New York State Barge Canal, and westward to Gifford Road. The study area lies within the Outer District, which encompasses all of the lands outside of the above-described boundaries.

A comprehensive master plan for 1970 to 1990 was developed for the Inner District of the city of Rome; this plan also included portions of the RSP west of the Inner District (i.e. the Outer District). The city initiated an update to the plan in 2002. Within the study area, the RSP are designated for rural residential and agriculture use, with some of the stream corridors designated for Recreation and Open Space use. The Rural Residential and Agriculture Use designations are identified in the master plan as being suitable for single family housing, convenience commercial facilities, farming, forestry and extractive type activities. The master plan identified a growth limit of two dwelling units per acre. The Recreation/Open Space Use is designated as suitable for parks, cemeteries and conservation type uses. The West Rome Industrial Site, located on the eastern edge of the RSP on both sides of Rt. 69 is identified as an industrial area, suitable for wholesaling, warehousing, transportation, retailing and manufacturing activities.

The comprehensive master plan states “urban growth will be gradual and continuous, forming a lineal corridor type of development along Turin Road and West Thomas Street. If the City of Rome is to maximize its future growth potential, it should give high priority to development programs along Turin Road and West Thomas Street. Secondary priorities should be assigned to the new industrial park located west of the urban core in the vicinity of Rt. 69 and residential

areas along Rts. 69 and 233 south of the urban area of Rome.”

Zoning in the RSP is illustrated by Figure 12, Zoning. The majority of the RSP is zoned F-1 and F-2, although there are other designations, as illustrated by Figure 12. Appendix L, *City of Rome Zoning Regulations*, provides tables summarizing the zoning regulations for all of the zoning districts in the RSP.

The purpose of the F-1 Zoning District is to fill the need for land with agricultural uses encouraged and residential uses permitted, and provide a compatible environment for raising crops and dairy products with limited residential development. Allowed uses include agricultural uses, one-family dwellings, places of worship, library or school, public park or facility and public utility structures and private outdoor recreation facilities, seasonal roadside stands for agricultural products, riding stables, commercial dog kennels and commercial raising of farm animals, veterinary hospitals, and bed and breakfasts. Within the F-1 Zoning District, the minimum lot size is one acre, with 25% building coverage, and building heights of 35 feet. The minimum lot width is 100 feet, and front, side, and rear yard set backs are 30, 15 and 30 feet respectively.

The purpose of the F-2 Zoning District is to protect land from development where soil, water and access conditions make development possible only under certain conditions. In these areas, natural conditions may cause damage to buildings and danger to human health, and because of that, all development is reviewed on an individual basis. Allowed uses include agricultural uses, one family dwelling with structures, boat launching areas with structures accessory to the primary use, public utilities and public landfill operations. Within the F-2 Zoning District, the minimum lot size is three acres, and development can only occur in planned development districts. The minimum lot width is 175 feet, and the front, side, and rear yard set backs are 50, 30, and 50 feet respectively.

5.0 MANAGEMENT ISSUES

This section of the plan discusses the major issues identified by the planning process with respect to use and management of the RSP. It sets forth the questions to be addressed in the creation of the plan. Such questions are then addressed through the adoption of goals and objectives (see Section 6.0) and the formulation of specific management recommendations (see Section 7.0).

5.1 Information Needs

There are significant data needs with respect to understanding some of the ecologic and biologic processes at work in the RSP. In some instances it is not yet possible to make good management decisions because insufficient data are available on which to base such decisions. The following is a summary of these data needs.

1. *Better Understanding of the Role of Fire in Maintaining the Pitch Pine Community.* The role of fire in maintaining the pitch pine community is poorly understood. Based on the limited data available (one core from a peat bog), it appears that pitch pine did not appear in the RSP until 300 to 600 years ago. It is unknown whether the appearance of pitch pine is correlated with fires, perhaps from Native American activities (hence the older date) or from clearing activities such as logging and agriculture associated with settlers (resulting in a younger date). It does appear probable that twentieth century fires associated with the railroad lines through the RSP helped maintain the pitch pine community. The railroads switched to diesel in the 1950s and have been inactive since the 1970s, removing this source of fire. It appears that the pitch pine community is now succeeding to a typical Appalachian-oak forest community in the uplands, although not in the wetlands. The key question is whether the unusual pitch pine community represents the climax community for the RSP, or whether it is a temporary, perhaps human induced aberration. With additional information in hand, a decision can be made whether to attempt to manage the pitch pine community with fire or through means such as selective harvests, seed tree, shelterwood or clearcutting management systems or a combination of fire and silviculture methods. Research activities needed to understand the role of fire in maintaining this ecosystem include the collection, analysis and carbon dating of additional cores from peat bogs in various locations; the examination of soils in the vicinity of the railroad bed; collection and analysis for fire history of cores from pitch pines in various locations; review of precipitation records and correlation with recorded fire history; review of additional recorded sources for accounts of historic fires; and interviews with elders and Native Americans to collect information about past fire history.
2. *Better Understanding of Hydrology in the RSP.* Although it appears that water levels in the RSP's wetlands and bogs have remained stable and that the area is underlain by a good aquifer, there is

little scientific understanding of the underlying hydrology of the RSP. For example, it has been speculated that the construction of the railroad bed through the RSP may have influenced drainage in the Huckleberry Swamp. Blocking of culverts by beavers has caused some flooding in the southern end of the swamp, but it is not known what the effects are throughout the swamp. Changes in nearby land use, for example paving in association with commercial development immediately to the east of the RSP may affect runoff and infiltration patterns. The cemented ortstein layer may be a contributor to the perched water table. These questions in turn relate to an understanding of processes within the swamp. As an example, the genesis of the hummocks in the Huckleberry swamp is unknown. Similarly, it is not understood why there are pitch pines, a species that likes dry, arid soils, growing in hummocks in some wetlands. A better understanding of hydrology is necessary to assess how management activities may affect the health of wetlands as well as to assess how human activities such as construction of commercial development, wells or landfills and sand mining may affect recharge and water movement. The primary research need here is the design and implementation of a plan to measure and monitor ground and surface water levels throughout the RSP in order to create a baseline of information.

3. *Collection of Water Quality Data.* There is very little water quality data, either for surface or ground water, available for the RSP. For example, it is not known whether runoff from the Tannery Road Landfill may be adversely affecting water quality, nor is it known if any land uses may be affecting surface water quality, for example the quality of water in Brandy Brook. Baseline water quality data is needed throughout the RSP to better understand its natural processes.
4. *Map Red-shouldered Hawk Nest Trees.* The Red-shouldered Hawk is a State listed species of special concern that nests in the RSP, especially in swamp forests. Nest trees and potential nest trees should be located and mapped so that they may be protected and avoided. It may also be desirable to extend such mapping to include other tree nesting species such as owls.
5. *Conduct Additional Lupine Research.* Additional research is needed to understand the best way to grow and maintain healthy populations of blue lupine, which can in turn be used to maintain the frosted elfin butterfly as well as potentially support the introduction/re-introduction of the Karner blue butterfly, both of

which are State-listed rare species (the Karner blue is also Federally listed). Examples of poorly understood topics include whether nitrogen-fixing by lupines alters plant succession and whether micorrhizae are important for lupines.

6. *Conduct Periodic Plant and Animal Censuses.* Ongoing data collection is essential to managing a healthy ecosystem. Periodic plant and animal censuses are needed to establish long-term trends and to monitor the health of the RSP's diverse, and in some cases, fragile, ecosystems.
7. *Undertake Comprehensive GIS Mapping.* Although good GIS mapping exists in the RSP, more detailed mapping of features such as the sand dunes, nest trees and species locations is needed. Data collection would ideally be carried out using global positioning system (GPS) technology.

5.2 Ecological Integrity

There are major issues that must be addressed to protect the ecological integrity of the RSP's diverse natural areas. These issues are summarized as follows:

1. *Land Protection.* Key to maintaining the ecological integrity of the RSP is the acquisition or other protection of sufficient lands to allow ecological processes to continue to function. This applies to all the unique ecosystems that make up the RSP. In addition to acquiring property that helps to assemble a unique area of the appropriate minimum size, other lands may also be needed to abate potential threats to the resources within the RSP. Furthermore, the acquisition or other protection of land (including land protection strategies such as fee acquisition, conservation easements and local zoning regulations) may be needed to link units of land together, protect ecologically valuable lands, and/or provide access to key use areas. This plan recommends that the decision to acquire and/or protect additional land be based on the extent to which lands meet certain defined criteria, which are further discussed in Section 7. This plan further recommends that methods of protection other than acquisition be considered, such as easements and development right purchase or transfer.
2. *Fire Management.* A fundamental issue with respect to the management of the RSP is whether or not to use fire in the management of the pitch pine community. As discussed in

section 5.1 above, it appears likely, but is not completely certain, that fire has had a role in creating and maintaining the pitch pine community. It does appear that fire had a maintenance role during the 20th century. Whether due to the absence of fire or the decline of agriculture and logging, the pitch pine community appears to be succeeding to an Appalachian oak forest community. There are societal pressures against the use of fire, especially in an area as small as the RSP. Furthermore, fire is personnel intensive and requires the use of public resources. If fire is to be used, it will require a concerted education and communication effort with local government and fire response officials. Whether or not fire can be an effective tool may best be answered by conducting a test burn and comparing the results with those achieved by the application of various silviculture techniques, soil scarification and herbicide use. Such a test would allow for the development of guidelines for keeping fire at a prescribed distance from houses, maintaining a smoke buffer and similar considerations.

3. *Lupine Management.* Various activities are needed to manage the blue lupine if frosted elfin butterfly populations are to be maintained and the Karner blue butterfly introduced. Requirements as outlined in New York State's Karner Blue Butterfly Recovery Plan include the need to establish the lupine on at least four sites a minimum five acres in size each. The sites should ideally be separated by at least 200 meters, and formal corridors are needed if the sites are more than 500 meters apart. Significant work will be needed to identify and establish such sites. Substantial volunteer labor is likely to be necessary to establish new and expanded populations of lupines, for example, place and transplant sets, water them, protect them from herbivore predation and maintain an open canopy. Additional nectaring plants are likely to be required.
4. *Land Sensitivity.* The RSP consists of a mix of lands of varying sensitivity. Some parts of the RSP can tolerate relatively high levels of use, while others are very sensitive. It is important that only those levels of use and facilities development that can be supported by the natural resources without adverse impact be allowed.
5. *Invasive Plants.* Invasive plants can displace native species, often forming monotypic stands which are low quality for wildlife. They can drastically alter the functions of natural systems. Because invasive plants are highly successful and very adaptive, once

established they are difficult to eliminate. It is important to take preemptive measures to prevent the introduction and/or spread of noxious weeds.

The use of the term weeds suggests plants that are typically thought of as undesirable or that have no use. However plants that are desirable in certain locations may be undesirable in other locations. Common grasses and agricultural plants, introduced to a natural environment may be undesirable and become invasive.

Invasive species may gain a foothold through a wide range of sources including: construction equipment, landscape disturbances, highway traffic, people, pets, livestock, wild animal dispersion or escape from cultivation. Monitoring, assessment and management decisions should be carried out consistent with factual, science based knowledge in order to protect the attributes of this unique area.

5.3 Wildlife Management

There are several unique wildlife issues that must be considered related to the unique habitats present in the RSP.

1. *Maintenance and Enhancement of Frosted Elfin Habitat.* Issues with respect to enhancement of frosted elfin habitat are the establishment of suitable nectaring species in appropriate locations and the creation of flight corridors between as well as within habitat areas. Further evaluation of the RSP is needed to identify the areas best suited for Frosted elfin habitat enhancement.
2. *Reintroduction of Karner Blue Butterfly.* Although it has not been confirmed that the Karner blue butterfly was historically present in the RSP, the State's Karner blue butterfly recovery team considers the RSP as a potential re-introduction site. In addition, the Federal Karner Blue Butterfly Recovery team identified the RSP as a potential recovery unit. This plan advocates the re-introduction of the Karner blue to the RSP. Key issues to be resolved are the location and amount of habitat (i.e. blue lupine) in the recovery sites, since the State's recovery team recommends at least four sites of five acres each. In addition, flight corridors will likely need to be established between different habitat areas. Further evaluation of the RSP is needed to identify the areas best suited for Karner blue recovery. It is likely that these will be the same areas selected for enhancement of Frosted elfin habitat. Among factors thought to be important to lupine introduction are

protection from herbivores, suitable pre-germination treatment of the seeds and maintaining adequate moisture for Blue lupine seedlings. There may also be other factors. It is expected that a substantial volunteer effort will be required to establish populations of blue lupine of sufficient viability to allow establishment of the Karner blue.

3. *Reintroduction of Landlocked Atlantic Salmon.* Various proposals have been made for the reintroduction of Landlocked Atlantic Salmon to Fish Creek. Wood Creek, as a tributary of Fish Creek, also likely harbored these fish at one time. This issue is mostly outside the scope of this plan because the resource extends well beyond the bounds of the RSP; however, the viability and desirability of such restoration should be further explored.
4. *Chronic Wasting Disease.* In 1995 Chronic Wasting Disease (CWD) was discovered in the wild white-tailed deer population in the central Oneida County area. Special regulations have been enacted to help contain the spread of this disease and to protect the health of white-tailed deer in New York. These regulations establish a containment area and control the transport of wild or captive deer including those taken in the containment area during the regular big game season. The Rome Sand Plains is included in the area where the special regulations apply.

5.4 Public Use

Public use is an important component of the management considerations in the RSP.

1. *Hunting.* Hunting regulations in the RSP vary by landowner. Among the landowners there are institutional constraints to making the rules uniform, including concerns about ecosystem maintenance, trespass, liability and conflicts with other users. The NYSDEC's and the county's hunting rules are the same as the uniform statewide regulations. The IWL allows small game hunting (e.g. rabbits and squirrels); TNC does not. The IWL may allow bird hunting; TNC will not. The IWL allows trapping; TNC currently does not. The IWL does not currently allow the use of rifles in hunting deer, but does allow shotguns for birds and bow hunting for deer. TNC will consider allowing both. The IWL and TNC require permits to hunt on their land. TNC will consider doing away with this requirement; the IWL will not. In general, TNC has expressed a willingness to adopt hunting regulations

similar to the State's. The differing rules and regulations reflect the differing philosophies of the ownership entities and it therefore may not be possible to forge a uniform set of hunting rules within the RSP.

2. *All Terrain Vehicles.* All terrain vehicle (ATV) use is popular in the RSP, even though it is prohibited on all lands covered by this plan. Unfortunately, ATVs can cause a great deal of damage to the sensitive bog and sand dune environments of the sand plains. Trespass is a significant problem on some properties. ATVs are difficult to catch, so enforcement is a problem. Options include outright banning or attempting to find an area where responsible use can be allowed and encouraged. Any allowed use would have to not result in damage to the environment and would have to be compatible with other public use while protecting the rights of adjacent property owners. However, any scheme that allowed some form of use would be likely to conflict with one or more of this plan's goals because of the trespass problem and the extreme sensitivity of the resource.
3. *Trail Access.* Where and how to allow recreational access are issues in the development of any plan for natural areas. Given the sensitivity of this resource, it is important to allow only those forms of access that will not damage the resource. This includes foot and cross country ski use of all trails and mountain bicycle use of selected trails. Although not owned by members of the current RSP Management Team, the use of the former New York Central and Hudson railroad bed through the sand plains would benefit the overall trail system. Ideally, all trails in the RSP would be appropriately marked, preferably with a uniform RSP trail marker. Gates will be needed to prevent inappropriate use. The concept of a uniform trail marker could be extended to the scenic roads in the RSP. Similarly, trails could be linked to resources such as Wood Creek and, if public lands are acquired, on Fish Creek. Additionally one or more forms of recreational access for the disabled are needed. Guidelines for such access are provided in Appendix Q. The management of recreational access while avoiding vandalism is a concern. Trailhead signage and parking areas are required. Finally, the trails on the Izaak Walton land are periodically flooded by beaver activity and thus require frequent rerouting.
4. *Water Access.* With limited clearing of downed trees and movement of snags, Wood Creek could be well suited to providing a canoe trail for users of the RSP. The intersection of Wood Creek

with Rts. 46/49 provides an outstanding put-in point, while its intersection with Rt. 49 provides a logical take-out point. Wood Creek could also be allowed as a public fishing area. Care must be taken not to destroy the historic resources such as canal cuts found along Wood Creek. Access to and control of these resources must be addressed.

5. *User Conflicts.* Managing user conflicts is necessary for any plan such as this. Such conflicts may be both magnified and easier to solve in the RSP because of its small size. The following conflicts have been identified.
 - a. Hunters and non-hunters. Hikers and nature watchers are sometimes uncomfortable knowing that hunters are in the area. Hunters in turn sometimes complain that hikers scare and run-off the wildlife they are stalking.
 - b. ATV users and other users. ATV users feel that theirs is a legitimate use of public land. Others find them noisy, intrusive and damaging to the environment.
 - c. Target shooting and other users. The former sandpit on Hogsback Road is used by target shooters. As with hunters, some hikers are bothered by the noise and intrusion. Furthermore, there are apparent safety conflicts with this use occurring in close proximity to a public trailhead.
6. *Sanitary Facilities.* As use of the sand plains increases, the need for sanitary facilities will have to be considered. These could include temporary or permanent facilities at trailheads.

5.5 Cultural and Historic Resources

There are a number of cultural and historic features that need consideration in the management plan, most related to RPS location along a historic transportation corridor along Wood Creek and near the Erie Canal.

1. *Wood Creek.* Wood Creek is, according to the New York State Museum, a landscape of national significance. It is also little publicized and has not been thoroughly investigated. It should be considered an area rich in cultural and archaeological resources waiting to be discovered. Protection of this resource, while at the same time allowing access to features such as historic canal cuts, is therefore of great importance.
2. *Heritage Corridors.* The RSP lies within both the Mohawk Valley

Heritage Corridor and the Erie Canalway National Heritage Corridor. Interpretation of the role of the RSP within these larger features is needed.

3. *Cultural Resources*. High ground in the vicinity of the three stream confluences discussed in Section 2.3 may contain prehistoric resources. Historic resources may be found in the area of Seiferts Corners. Surveys by qualified specialists should be undertaken to determine if resources are present and, if so, they should be protected and interpreted.

5.6 Education and Interpretation

1. *Public Awareness*. The overall level of public knowledge and awareness of the RSP is considered relatively low, but it is growing. Efforts are needed on a number of fronts to build awareness; an aware public is one that will support and participate in the protection and enhancement of the resource. Diverse efforts including the creation of mobile presentations, brochures, curricula for classes and web sites are needed. Sponsored hikes and other events can help build publicity. Community leaders, teachers and decision makers can be invited to visit and learn about the sand plains, turning them into advocates for the area.
2. *Partnerships*. A variety of partnerships are essential to managing an area such as the RSP. These include partnerships with landowners in and around the RSP, partnerships with organizations managing similar resources such as the Albany Pine Bush Commission, partnerships with local government, partnerships with schools, colleges and universities and partnerships with other environmental, conservation, educational, sportsman and recreation organizations. Partnerships can have both formal and informal structures. Volunteers can assist with wildlife censuses, trails layout and a variety of maintenance activities.
3. *Signage*. Consistent signage is important to building an identity as well as informing and educating the public. Signs should be strategically placed, attractively designed and able to withstand vandals and the weather. Additionally, waypoint signs are needed to direct visitors to the RSP.

5.7 Aesthetics

1. *Maintaining Scenic Character.* One of the RSP's major assets is its scenic character. Many of the roadways traversing the Sand plains are pleasant to drive, bicycle or walk along. Structures constructed within the RSP, including new development, have the potential to detract from its scenic character. Similarly, litter and trash detract from the aesthetic character of the RSP.
2. *Property Clean-up.* Clean up of property in the RSP has been ongoing and will need to continue, both to ensure aesthetic quality and to prevent environmental contamination. Priority has been given to recent acquisitions. It is anticipated that clean-up of trails will be required as they are brought into public use, as they have frequently been the scene of dumping.

5.8 Land Use and Development

1. *Infrastructure Extension.* Extension of water and sewer infrastructure into the RSP could have the effect of encouraging development, thus converting natural areas to a developed state and in all likelihood adversely impacting the RSP's ecosystems, particularly by fragmenting intact habitat areas. Therefore, such extensions should, if they occur, be targeted towards serving existing development rather than promoting new development. This should be considered by the City of Rome as it develops its master plan for the Outer District, in which the RSP lies.
2. *Hydrology.* Increased development in and around the RSP has the potential to adversely impact the hydrological patterns on which it depends through the creation of increased impervious area and altered patterns of runoff. This too should be considered by the City of Rome in its planning and zoning activities.
3. *Tax Base.* Acquisition of additional lands in the RSP may be perceived as adversely affecting the City of Rome's tax base. However, this issue is likely to be one of perception rather than fact because the types of lands to be acquired in the future would likely be predominantly wetlands or similar properties with a low development (and therefore assessed) value (see Section 2.6 of this plan). Furthermore, a variety of evidence suggests that the proximity of undeveloped natural areas favorably influences the value of nearby residential properties. Additionally, the presence of an important natural area such as the RSP contributes to the overall quality of life in the greater Rome community, again positively impacting property values.

5.9 Administration

1. *Administrative Structure.* As public and private conservation organization ownership in the RSP grows in size and complexity and as facilities are developed, there may be the need to ensure that a long-term management structure is in place that can effectively address the RSP's issues

The current management structure, an ad hoc voluntary arrangement among the public and conservancy landowners and interested parties has so far proved effective at protecting sensitive resources and increasing recreation opportunities. Issues that may effect the future viability of this structure include its limited ability to obtain State or Federal funding, its lack of legal authority, its difficulty in hiring staff and its inability to enforce appropriate restrictions.

The creation of a long-term management structure for the RSP is a significant challenge because of the large number of both landowners and stakeholders. Key considerations in choosing an organizational structure are:

- Local and State government own only a portion of the RSP; hence if a government led model was chosen, it must adequately represent the interests of non-government landowners. Additionally, there may be some distrust of a new government entity among local landowners.
- The structure should include mechanisms for participation by landowners, stakeholders and local residents, since all have legitimate interests in the RSP.
- The structure should be able to meet some level of staffing and funding needs.
- Visibility, flexibility and accountability are needed.
- The ability to generate funding and maintain long term stability are essential.

There are a variety of structures that have been considered by the current voluntary management team. These include:

- a. Continue the current partnership structure. This structure has so far proved effective. It has the advantages and disadvantages discussed above.
- b. Not-for-profit corporation. Such a corporation would be governed by a board of directors and elected officers. It could

be formed with or without members. If there were dues-paying members, they would elect the board of directors. If there were no dues-paying members, then the board of directors would choose its own members. A not-for-profit corporation can receive charitable donations from individuals and grants from corporations and foundations. It is eligible for some State and Federal grants, but not all types (for example, those limited to municipal corporations). A not-for-profit could function as a land trust. This type of structure is flexible, has few restrictions such as are placed on State agencies, and allows existing not-for-profit entities a direct role in management of the organization. The Wilton Wildlife Preserve is an example of a not-for-profit corporation made up of members from the TNC and town and county government.

- c. **State Agency With Regulatory Power.** With appropriate authorizing legislation, a state agency with regulatory power could be created. The enabling legislation would specify the organizational structure. This type of organization would receive funding from the State, and often through some sort of local revenue stream such as licenses or permits. Its employees are State employees. It has the power to promulgate and enforce regulations. Among the advantages of this model are the direct access to State funds and the authority to exert regulatory control. Disadvantages are the cost to operate and the lack of a formal role for non-State members of the management structure. An example of this type of agency is the Lake George Park Commission.
- d. **State Agency Without Regulatory Power.** State legislation can also create an agency without regulatory powers that serves more of a planning and coordinating function. Such agencies can be governed by a board appointed by state and local agencies. Such agencies receive State funding and their employees are state employees. This model has the same advantages and disadvantages as the previous model, except that it lacks regulatory authority. An example of this type of agency is the Tug Hill Commission.
- e. **Hybrid State Agency.** This type of State agency is represented by the Albany Pine Bush Commission, which manages an area similar to the RSP. Its board is made up of members appointed by State and local entities. Unlike the previous examples, staffing can come from non-state employees. It is eligible to receive state, private, foundation and not-for-profit

organization funding. This type of agency may regulate public lands under its control, but not private lands. It may not adopt regulations. This model has the advantage of greater flexibility than the other state agency models, although it is still subject to operational difficulties because of the rules governing state agency operations.

- f. *State Facilitated Compact.* This model involves the signing of a written compact among all member entities. It can involve both public and private entities. Funding may be obtained from government and non-government sources, with such funding used to hire staff. It is similar to the current RSP Management team in that it is both informal and flexible. Disadvantages are the lack of a formal structure for many types of management activities. An example of this type of model is the Lake George 2000 Compact.

As noted, each of these structures has advantages and disadvantages that must be considered within the framework of all of the RSP's goals.

2. *Enforcement.* Enforcement is a difficult issue because of the size of the sand plains and its diverse ownership. Enforcement is currently carried out by individual property owners as well as a NYSDEC Forest Ranger, who has many responsibilities besides patrolling the sand plains. It is important to ensure that the formal Forest Ranger and/or Environmental Conservation Police Officer enforcement presence continues to be adequately funded. Fish and Wildlife Management Act (FWMA) cooperator agreements could provide NYSDEC enforcement of lands not owned by NYSDEC.
3. *Boundary Identification.* Both internal and external boundaries of the RSP need to be better defined. Uniform marking will help raise public awareness and will assist with trespass avoidance. A uniform marker could be employed on both public and privately held lands. Because of NYSDEC administrative requirements, separate State and RSP signs may still have to be maintained on State land.

6.0 GOALS OF THE PLAN

Goals are broad policy directives that provide the framework for future decisions. This section of the plan sets forth the formal goals guiding

management of the RSP. It bears repeating at the outset that the central vision of this plan is the maintenance of a healthy ecosystem in the RSP.

6.1 Land Management Goals

- *Goal:* Preserve and protect areas of geological significance, specifically the sand dunes.
- *Goal:* Preserve and protect sensitive environmental and cultural resources from inappropriate or destructive development.
- *Goal:* Encourage a compatible balance of conservancy lands and low-density residential development.
- *Goal:* Maintain the vegetated character of publicly owned ROW's in the RSP.
- *Goal:* Maintain the natural and historic character of Wood Creek.
- *Goal:* Clearly define the external, internal and trail boundaries of the RSP.
- *Goal:* Ensure adequate resources for enforcement of rules and regulations.
- *Goal:* Keep properties free from trash and debris.

6.2 Ecological Management Goals

- *Goal:* Maintain the diverse mosaic of rare natural communities in the RSP: Pitch Pine Blueberry Peat Swamp, Pine Barrens Vernal Pond, Dwarf Shrub Bog, Black Spruce-Tamarack Bog, and Pitch Pine Heath Barrens within the matrix of common communities such as the Appalachian Oak Forest.
- *Goal:* Obtain a better understanding of the frosted elfin's natural history, habitat requirements and host plants and take steps to increase the population of this species.
- *Goal:* Establish sufficient blue lupine and nectar plants to allow introduction of the Karner blue butterfly.
- *Goal:* Reverse the successional processes that are leading to

the decline of the pitch pine habitat.

- *Goal:* Manage and protect areas for special concern, threatened or endangered species such as the frosted elfin and the Red-shouldered Hawk, as well as unusual or uncommon species such as orchids, pitcher plant, sundew, fisher and neo-tropical migrant birds.
- *Goal:* Acquire additional lands to support the long-term health and maintenance of the RSP and link the RSP to other natural areas.
- *Goal:* Engage in research programs to better understand the natural and anthropogenic processes at work in the RSP, especially the role of silviculture, fire and hydrologic processes with respect to maintenance of natural communities.
- *Goal:* Engage in research to better understand the composition and sustaining processes of the natural communities that make up the RSP.
- *Goal:* Engage in a regular monitoring program of surveys and censuses of plant and animal populations and natural community boundaries and conditions in order to better understand the health of the ecosystem.
- *Goal:* Manage nuisance wildlife only as required to avoid impacts to trails, roads, private properties and other natural communities.
- *Goal:* Provide a public fishing experience on Wood Creek.
- *Goal:* Support re-introduction of Atlantic Salmon in Fish Creek.

6.3 Public Use Management Goals

- *Goal:* Designate sensitive communities as trailless areas in which no man-made structures will intrude.
- *Goal:* Create an integrated trail system in the RSP, including the potential for and linkages to trails that are specifically marked for cross-country skiing, bicycle, snowmobile and disabled accessible trails.

- *Goal:* Link the RSP trails to other regional trail systems, including the New York State Canalway to the south.
- *Goal:* Create a canoe trail on Wood Creek.
- *Goal:* Take measures to prohibit ATV use on the public and private conservation organization lands in the RSP.
- *Goal:* Provide for public hunting and trapping in accordance with the rules and regulations of the various ownership interests.
- *Goal:* Resolve encroachment issues on RSP lands.

6.4 Education and Interpretation Goals

- *Goal:* Promote awareness of the unique biological and cultural resources of the RSP through development of educational materials such as a school curriculum, a mobile slide show and internet site.
- *Goal:* Engage in a regular program of educational hikes, lectures and activities.
- *Goal:* Develop a trail brochure providing information about the RSP
- *Goal:* Develop a signage plan providing an identity to and information about the RSP.
- *Goal:* Continue to investigate, preserve and publicize the historic and cultural resources of the RSP.
- *Goal:* Cooperate with other agencies and entities to publicize the RSP.

6.5 Administration Goals

- *Goal:* Provide a suitable administration/management structure consisting of landowners, stakeholders and residents, in order to effectively carry out the management activities set forth in this plan.
- *Goal:* Identify dedicated funding sources to support the

management of the RSP.

- *Goal:* Engage in partnerships with landowners and environmental, conservation, sportsman and recreation organizations, including the development of volunteer partnerships.
- *Goal:* Regularly review and update the management plan.
- *Goal:* Secure funding for seasonal land steward positions devoted to programs of information and education, stewardship, lupine management and other activities related to the management of the RSP.

7.0 MANAGEMENT RECOMMENDATIONS

This section of the plan sets forth specific management proposals to be implemented in the RSP. Management proposals have been developed to address the issues in Section 5 and be consistent with the goals in Section 6. Management proposals are both policy oriented (e.g. adoption of a rule or regulation of some kind) and action oriented (e.g. construct an improvement of some kind). Figure 14 illustrates the physical recommendations of this plan.

In addition, the NYSDEC, as required by State regulations, has identified a specific schedule of actions and budget for activities on State lands. This information is found in Appendix R.

7.1 Land Acquisition

Key to maintaining the ecological integrity of the RSP is the acquisition or other protection of sufficient lands to allow ecological processes to continue to function. This applies to all the unique ecosystems that make up the RSP. In addition to acquiring property that helps to assemble a unique area of the appropriate minimum size, other lands may also be needed to abate potential threats to the resources within the RSP. Furthermore, the acquisition or other protection of land may be needed to link units of land together, protect ecologically valuable lands, and/or provide access to key use areas. This plan recommends that the decision to acquire and/or protect additional land be based on the extent to which such lands meet certain criteria.

In general, the more of the criteria a specific property meets, the more valuable that property may be from a land protection and/or acquisition viewpoint. This does not, however, relate in any way to the

property appraisal, the assessed value, or the monetary payment that may be offered to acquire that property. Additionally, although the following criteria provide an indication of which areas may be desirable to acquire or otherwise protect, the overriding factor which influences this ultimate decision is whether there is a willing seller. For example, although an area may be identified as being highly desirable or valuable, the property will not be obtained unless there is a willing seller. Therefore, there may also be instances where lands that meet fewer of the following criteria may be purchased or protected sooner because of the offer from a willing seller. All of these criteria and factors must be considered and carefully balanced in the decision to acquire and/or protect lands within or near the RSP. This is especially significant if resources needed to acquire or otherwise protect lands are limited.

Again, this plan recommends that the decision to acquire and/or protect additional land be based on the extent to which such lands meet the following criteria and that all acquisition efforts be consistent with the policies and procedures of the New York State Open Space Conservation Plan.

- A. The property includes an ECOLOGICALLY VALUABLE area requiring protection.

The following factors are considered in determining “ecologically valuable” land:

1. The property is within the geologically defined “sand plains” as is typically characterized by sandy soils and sand dunes, remnant of the ancient Lake Iroquois.
2. The property contains plant communities considered rare or unusual and/or plants and animals listed as rare, endangered, or species of special concern, and/or it contains areas potentially suitable for the restoration of such species.
3. The property is wholly or partially within NYS Class I or Class II regulated wetlands.
4. The property is wholly or partially within the Huckleberry Swamp or the Pitch Pine Bog.
5. The property contains significant wildlife habitat areas as defined through the NHP.

- B. The property CONSOLIDATES existing holdings or ecologically

valuable areas.

The following factors are considered in defining what properties may serve to “consolidate” existing holdings and ecologically valuable land:

1. The property is surrounded by or directly adjacent to property currently owned by the NYS DEC, TNC, IWL, and/or the county of Oneida.
 2. The property is surrounded by or directly adjacent to ecologically valuable property as identified in Criteria A.
- C. The property is geographically located to provide for regional and localized linkages.

The following factors are considered in defining what properties may serve as “linkages.” The linkages can occur between any combination of the areas noted below.

1. The property is geographically located between existing holdings (as defined in Criteria C.1.) and /or ecologically significant areas (as defined in Criteria A).
 2. The property is within or adjoins railroad or utility ROW’s.
 3. The property abuts an existing stream corridor.
 4. The property provides for a continuation of ecologically important cover types and/or forests.
 5. The property is within 500 feet of the Wood Creek, Fish Creek and/or Brandy Brook corridor.
 6. The property is located within or adjacent to an area noted by the NYS Museum, NYS Parks, Recreation and Historic Preservation, and/or Mohawk Valley Heritage Corridor Commission for historic and/or cultural significance.
- D. The property provides a BUFFER needed to protect ecologically-valuable lands from inappropriate use.

The following factors are considered in defining what properties may serve to “buffer” ecologically valuable land:

1. The property is directly adjacent to an ecologically significant area (as defined in Criteria A).

2. The property is geographically located between an ecologically significant area (as defined in Criteria A) and a “land use” that may threaten the integrity of the ecologically significant area. Such land uses may include, but not be limited to: commercial/industrial land uses, mining activities, high density residential areas, intensive recreation or public use areas, areas needed for smoke buffers and areas exposed to toxic substances

- E. The property is strategically located to provide ACCESS for recreation or other types of uses.

The following are considered in determining properties that may be valuable as points of “access” for recreation and other types of uses:

1. The property is located at the intersection of a public road and stream corridor.
2. The property includes frontage on a public road and provides a direct linkage to an ecologically significant area (as defined in Criteria A) or a primary use area as defined within the RSP Management Plan.

- F. The property is largely comprised of certain NATURAL RESOURCES AND LIMITATIONS that are not conducive to supporting development consistent with local land use regulation.

The following factors are considered in determining lands with certain “natural resources and limitations”:

1. The property is largely comprised of NYS regulated wetlands that may provide limitations to appropriate development.
2. The property is largely comprised of NFIP regulated floodplain areas that may provide limitations to appropriate development.
3. The property is largely comprised of soils with “severe limitations” for septic absorption fields that may provide limitations to appropriate development.
4. The property is largely comprised of soils with “severe limitations” for buildings with basements that may provide limitations to appropriate development.

5. The property is largely comprised of soils with a depth to groundwater of less than 6 feet that may provide limitations to appropriate development.
- G. The property includes CULTURALLY AND/OR HISTORICALLY VALUABLE areas requiring protection.

The following factors are considered in determining “culturally and/or historically valuable” land:

1. The property is located within or adjacent to an area noted by the NYS Museum, NYS Parks Recreation and Historic Preservation, and/or Mohawk Valley Heritage Corridor Commission for historic and/or cultural significance.
2. The property is within or provides a linkage to historic corridors, such as, but not limited to: Wood Creek, Fish Creek, and the NYS Canal System.

7.2 Trailless Areas

Certain areas of the RSP should be designated as Trailless Areas because of the sensitivity of their resources. These areas are illustrated in Figure 15. They are generally comprised of wetlands and other Unique Natural Areas discussed in Section 2.2.

7.3 Non-Motorized Trail System

This plan proposes the development of a non-motorized trail system in the RSP. The trail system is based on the use of existing logging roads and trails. Specific foot trail locations are not shown at this time. It is anticipated that such trails would be developed along public and conservancy lands using the existing logging trail system.

Motor vehicle access trails, such as for ATVs, are not considered appropriate for this area due to the sensitive nature of the plant community and because of the relatively limited area of land. The sandy soils in the RSP are easily displaced by the tires of motor vehicles. Damage to the trails can occur in a short time. Evidence of this soil loss is apparent in numerous locations and has resulted in soil deposition in streams or wetlands. There is not currently a legal ATV trail system on lands adjacent to the RSP, consequently connector trails would not be appropriate. There is no assurance that ATV use, if allowed, would not conflict with other public use. For these reasons, motorized access does not fit into the overall objectives

for management of the RSP area.

Horses will not be allowed on any designated foot trail in the RSP. The use of horses on NYSDEC lands in the RSP will be allowed consistent with NYCRR 190.8(n)(2), which allows them anywhere except on any designated foot trail unless the designated foot trail is also signed for horse use. The RSP is simply not envisioned as a destination for horse use, there being facilities at the Otter Creek Horse Trail system near Boonville and Brookfield Trail System south of Utica that provide well developed facilities for recreational horse riding.

Bicycles will be allowed only on designated trails.

The following actions will be required to develop the trail system.

- a. Survey and flag trails.
- b. Clear brush and obstacles; address erosion and related problems; develop drainage facilities, bridges and other support construction as required.
- c. Develop and implement marking system.
- d. Discourage use of non-designated trails, particularly those in or near areas of sensitive natural resources.
- e. Develop parking areas.
- f. Install signage.
- g. Install gates as necessary.
- h. Develop partnership(s) with local outdoors and hiking groups for regular clean-up and maintenance patrols.
- I. Develop trail map brochure.

Specific recommendations are as follows.

- A. IWL Property
 1. Pending future acquisitions, create a vehicle access to an overlook of the bog for persons with disabilities.
 2. Increase the size of the parking lot at the existing site or find an alternate location for parking. Such relocation may require an additional trail to connect the new

parking area to existing trails. Parking should accommodate space for ten vehicles plus space for a bus turn-around.

3. Investigate alternate trail routes to establish trails that are not subject to flooding. In areas where suitable alternatives are not available, trails should be constructed or modified to minimize impacts of fluctuating water levels. Modifications could include bridges, corduroy, boardwalks, turnpikes, causeways, puncheon or other trail building techniques intended specifically for trails in wet areas.

B. NYSDEC and TNC properties

1. Develop access for persons with disabilities to the bog north of Hogsback Road. Develop a viewing platform with interpretive signs.
2. Develop a trail loop from the dune trail parking lot to the bog north of Hogsback Road and if feasible make it accessible to the disabled. A segment with appropriate signage may be required along Hogsback Road; however, off-road alternatives should be explored.
3. Maintain the string trail in the lupine bed.
4. Close the trail spur to the railroad bed. If this railroad corridor is ever acquired, this spur could be re-opened.
5. Install a gate on each end of Armstrong/Mason Road.
6. Install a gate with barrier rocks at tax parcel 220.000-2-24.
7. Install two gates on tax parcels 220.000-2-8 and 203.000-1-72 on the north and south sides of Oswego Road.

C. Parking Lots

1. Develop a 2-3 car parking lot for persons with disabilities on Hogsback Road south of the bog.
2. Expand the parking lot at the dune trail to accommodate ten cars and a bus turn-around. Two of the parking spaces shall be for accessible parking.
3. Expand the Wood Creek parking lot to accommodate 10

cars including two accessible parking spaces.

4. Develop a 10 car parking lot on tax parcel 220.000-2-8 on Oswego Road. Include two accessible parking spaces.

D. Canoe Access

1. Develop an access road to Wood Creek and a 5-6 car parking lot at the canoe put-in at Rts. 46/49.
2. Develop a 3 car parking lot at the location of the gateway sign. One parking space shall be accessible.
3. Develop a 5-6 car parking lot with one accessible parking space at the canoe take out in the DOT ROW on Rt. 49 and Wood Creek or work with private landowners to acquire sufficient land to develop the access.

7.4 Water Access

This plan proposes the development of a public canoe trail on Wood Creek. Assuming that ownership and control difficulties can be overcome, the logical put in is the DOT ROW at the intersection of Wood Creek and Rts. 46/49. The DOT ROW at Rt. 49 should be developed as a takeout point. The following actions are needed.

- a. Determine access details and layout
- b. Open a travel corridor through selective clearing of brush and strainers.
- c. Develop and install signage.
- d. Develop partnership(s) for regular cleanup and maintenance patrols.
- e. Develop map and brochure.

7.5 Vegetation Management

Vegetation management is necessary if the RSP's pitch pine community is to be maintained and prevented from succeeding to an Appalachian Oak Forest Community. This plan proposes that both vegetative cutting and fire be assessed.

- a. Vegetative Cutting, Scarification and Herbicide Use. A series of experiments should be designed in which test plots are cut and/or scarified at varying intensities to allow evaluation of their

effect on desirable communities. The effects of herbicide use should also be evaluated. The goal of these experiments is to determine the amount of canopy opening combined with other mechanisms needed to maintain the pitch pine community. The results should be compared and then evaluated to determine which combination of methods is most effective at maintaining the pitch pine community.

- b. Fire Management. One or more test plots should be selected for fire management. The plot(s) should be of similar size and species composition as that selected for vegetation cutting, scarification and herbicide use. Properly designed monitoring mechanisms should be implemented to allow comparison between the plots.

The RSP Management Team will establish a task force and develop an emergency fire response plan. The task force will work with local landowners, fire departments likely to respond to a fire emergency on lands currently under public and conservation ownership, and others to put an emergency fire response plan in place. The plan shall address how best to engage a fire emergency so private property is not lost; rare, threatened or endangered species and their habitats are not destroyed; fire suppression strategies do not inadvertently destroy unique geological land forms (sand dunes) and species/habitat restoration management initiatives; and related issues are considered.

- c. Forest Management. TNC, IWL and Oneida County should develop detailed forestry management plans similar to that developed by the NYSDEC. The NYSDEC's specific plans are as follows.

- *Manage 334 acres to perpetuate pitch pine either in pure stands or as a component with white pine and hardwoods using even aged management systems on a 100- to 120-year rotation. Seedbed preparation and control of competing vegetation will most likely be necessary to ensure successful establishment of pitch pine. Intermediate treatments on 20-year cutting cycles will be conducted to maintain healthy crowns and vigorous growth rates. Pitch pine management areas lie outside, but often adjacent to NYSDEC regulated wetlands. The regulated 100-foot area adjacent to wetlands will not be included in the area managed under the even aged management system. Wetland boundaries should be reviewed which may result in additional acreage suitable for management of pitch pine.*
- *Manage 30 acres for development of wild blue lupine. Tree*

cutting and other periodic treatments will be directed at interrupting the process of natural succession and maintaining a balance of shade and open which is optimal for natural establishment, vigorous growth and maximum flower production. Other plant species will also be promoted in these areas to provide a diversity of nectar plants for the frosted elfin butterfly and potentially for the Karner blue butterfly.

- *Remove non-native tree species, specifically red pine and scotch pine, on 27 acres.*
- *Manage 1113 acres as protection areas. These protection areas lie primarily within the boundaries of regulated wetlands and include open and alder wetlands in various stages of development as well as wooded wetlands. Protection areas are restricted from harvesting due to the sensitivity of the sites and the inability of the soils to support mechanical equipment. Included in protection areas are the steep lee slopes of the sand dunes which should be maintained in continuous cover to prevent erosion from changing the topography of these unique geological features.*
- *Manage 216 acres for oak, mixed hardwoods and mixed softwoods. Manage on 120-year rotations to favor development of large diameter trees and a diversity of species while maintaining a component of oak. Intermediate treatments should be infrequent and only as necessary to maintain health, vigorous growth and diversity in stand structure.*

7.6 Lupine Management

Various activities are needed to manage the blue lupine, as well as related nectaring plants, in order to maintain and enhance the frosted elfin butterfly population and, potentially, allow for the introduction of the Karner blue butterfly. Four sites of at least five acres each should be designated for lupine establishment. The sites should be in proximity to one another, or be able to be connected by corridors. Lupine establishment should follow the protocol established for the efforts now underway. This will include close cooperation with volunteers, as well as the establishment of monitoring and feedback mechanisms.

7.7 Karner Blue Butterfly Introduction

Should the lupine introduction efforts discussed in Management Action 7.6 be successful, this plan advocates the introduction of the

Karner blue butterfly to the RSP. A detailed plan for such introduction will need to be developed in cooperation with the USFWS and the NYSDEC Karner Blue Recovery Team should lupine establishment prove successful.

7.8 Nuisance Wildlife Management

Beaver and other potential nuisance species may be trapped or destroyed generally only when they pose a nuisance to public trails and roads or to private property. Wildlife will otherwise be allowed to function as part of the natural ecosystem.

7.9 Hunting and Trapping

New York State lands will be subject to State hunting and trapping regulations. The other landowners in the RSP are encouraged to adopt regulations identical to the State's. To the extent that such regulations may differ, signage and brochures will be required to publicize the regulations applying to specific properties.

7.10 Red-shouldered Hawk Nest Sites

Concerns that spring turkey hunting will conflict with nesting Red-shouldered Hawks, a species of special concern, warrant consideration. Input from wildlife biologists suggests that the impact on Red-shouldered Hawks from turkey hunters would not be significant with the possible exception of nest sites that are in close proximity to high use areas such as trails. It may be deemed prudent to close appropriate trails during the spring nesting season. A first step is to identify and inventory nest sites.

7.11 Research Activities

A variety of basic research is needed in the RSP in order to understand its natural processes. These needs are outlined in Section 5.1 of this plan.

7.12 Motorized Use

This plan supports the ongoing use of the former New York Central and Hudson Railroad ROW for snowmobile use. Other public motor vehicle use will not be allowed on the managed lands within the RSP.

7.13 Signage

A uniform system of signage based on the signs recently installed at the Wood Creek Trail entrance should be developed. Similar signs

should be placed at other key locations. Specifically, a gateway sign should be installed at the intersection of Rt. 49 and Oswego Road. A similar format should be followed, providing information about the RSP's history, natural resources and recreation opportunities. The signs should include information linking the RSP with other resources in the Mohawk Valley Heritage Corridor as well as the Erie Canalway National Heritage Corridor.

7.14 Roadside Cutting

Cutting of roadside vegetation by public agencies should be prohibited within the ROW of the RSP's designated scenic roads, except where necessary for reasons of health or the habitat management objectives of this plan. Herbicides should not be used on roadside ROW's where there is a possibility of drifting onto lupines.

7.15 Roadside Clean-up

Volunteer groups should be enlisted to establish a regular program of roadside clean-ups in the RSP. Law enforcement personnel will be requested to enforce litter laws.

7.16 Property Clean-up

Trash and debris should be removed where they pose a hazard or create an aesthetic impact. Clean-up efforts on existing properties should be completed. Surplus buildings should be demolished and disposed of.

7.17 Wood Creek Historic Corridor

An area 500 feet on each side of Wood Creek should be designated a historic corridor. This would not imply any regulatory restriction; rather, it would help publicize the sensitive and important historic nature of this landscape.

7.18 Canal Cut Trail

Initiate discussions with the landowner to develop a short, historically-oriented trail on Wood Creek located just east of its intersection with Rt. 49. This trail will need to be carefully located to assure that the resource is not damaged. Appropriate signage and interpretive material will be needed.

7.19 Cultural Resource Investigations

Surveys should be made of the three stream confluences discussed in Section 2.3 and of the Seiferts Corners area to determine if cultural resources are present. If so, such resources should be preserved and potentially interpreted.

7.20 Mark Boundaries

The boundary lines of new acquisitions should be surveyed and boundary lines should be maintained according to the internal policies of the landowners. A uniform system of internal and external property boundary markers to be used by all landowners should be created and integrated to augment boundary signage of each landowner within the RSP. The markers should include the RSP logo. These will complement the NYSDEC's boundary markers, which will continue to be used according to NYSDEC policy. Encroachment issues should be resolved.

7.21 Education and Publicity

A variety of education and publicity activities should be implemented. These include:

- a. Create an RSP page and presence on the world wide web.
- b. Create educational brochures for distribution at trailheads and elsewhere.
- c. Create a mobile exhibit for use at schools and public events.
- d. Work with schools to sponsor regular educational hikes in the RSP.

7.22 Develop Partnerships

A variety of partnerships are essential to the long-term management of the RSP. These include the following.

- a. Partnerships with the owners of the New York Central and Hudson railroad bed. The railroad bed provides access to the heart of the RSP. Currently, only snowmobile use is allowed. By allowing foot and bicycle traffic, much of the interior of the RSP would be opened to recreational use. The bed would also serve as a major component of the RSP's future trail system.
- b. Partnerships with the State and Federal agencies such as the

Albany Pine Bush Commission. The Albany Pine Bush Commission manages a natural area that is very similar to the RSP. Many of the lessons learned by the commission can undoubtedly be applied to the RSP. Forging close ties with the commission can only aid in the long-term management of the RSP. Other agencies with whom a partnership should be formed include the USFWS.

- c. Partnerships with environmental, business and outdoors organizations and private landowners. Such partnerships are essential to carrying out many of the day-to-day management tasks in the RSP: trail patrols, maintenance, lupine introduction, wildlife censuses and education are only a few essential roles for these organizations.
- d. Partnerships with schools, colleges and educational organizations. These partnerships are necessary both for raising public awareness and for carrying out much of the basic research on the RSP that is still needed.

7.23 Adopt Regulations

The following regulations should be adopted by the NYSDEC with respect to State-owned land in the RSP. The TNC, IWL and Oneida County should adopt similar regulations.

- a. Prohibit the discharge of firearms at and within a specified distance of the sand dunes trailhead.
- b. Prohibit overnight camping within the RSP.

7.24 Development Density

This plan recommends that water and sewer infrastructure extensions in the RSP be limited to those necessary to serve existing needs and that to the extent that such extensions occur they are located along legal ROWs for such infrastructure and do not include the capacity for significant new development. Residential development should be maintained at a low density in the RSP to avoid conflicts with sensitive natural areas. Commercial development should be prohibited. These recommendations should be incorporated into the development of the new City of Rome Comprehensive Plan and existing or new land use regulations.

7.25 Management Structure

This plan recommends that the current RSP management structure, an ad hoc partnership of the public and conservancy landowners and interested partners, be maintained for the next five years. The success of this structure in achieving the goals of the plan should be monitored to determine if it is effective. The management team should develop a series of objective measures to determine if it is adequately achieving its goals. These would likely include:

1. The extent to which the dunes and wetlands which comprise the ecologically important parts of the RSP are protected.
2. The extent to which pitch pine habitat is protected and increased.
3. The extent to which the Karner blue and frosted elfin butterflies are restored and enhanced.
4. The extent to which public access is improved.
5. The extent to which historical and cultural resources are protected and public access to them improved.
6. The extent to which rules and regulations are enforced and the resources are protected from damage.
7. The extent to which education about and interpretation of the RSP is increased.

GLOSSARY

Appalachian oak-pine forest – An ecological community characterized by oaks and pines in the overstory and shrubs such as blueberry and huckleberry in the understory. In the RSP, this community occurs on sandy soils.

ATV – All terrain vehicle.

Black spruce tamarack bog – An ecological community characterized by a sphagnum mat with black spruce on the edge and tamarack in the interior.

Blue lupine – A flowering plant that provides the only food source for the larval stage of the Karner blue butterfly and the frosted elfin butterfly.

Deed covenant – A restriction or condition in a property deed.

Drainage basin – The entire land area drained by a stream or river.

Easement – The right to make use of a property without owning such property. The use to be allowed may be restricted by the terms of the easement.

Ecosystem – A functional system which includes the organisms of a natural community together with their environment.

Esker – A land form consisting of a sinuous ridge of stratified glacial sand and gravel.

Glacial till – Unsorted material deposited by a glacier consisting of a heterogeneous mixture of clay, sand, gravel and boulders.

Glacio-lacustrine deposits – Sediments deposited in former lake beds by glaciers.

Hemlock hardwood swamp – An ecological community characterized by a mosaic of wetlands with fluctuating water levels in swales between higher elevation sand dunes vegetated with pine barrens or pine oak woods.

Highbush blueberry bog thicket – An ecological community characterized by wetlands within a mosaic of other wetland and upland communities.

Hummock – A round or conical mound on the surface of the ground.

Hydrogeology – The science dealing with the occurrence and utilization of ground and surface water and its function in modifying the surface of the earth.

Karner blue butterfly – A federally- and New York State-listed endangered butterfly species.

Management structure – The entity charged with carrying out the recommendations of this plan.

Management team – The existing RSP Management Team.

Mesic community – Term describing areas with moist, well-drained soils; intermediate between xeric (dry) soils and hydric (wet) soils.

Mycorrhiza – A commonly mutualistic and intimate association between the roots of a plant and a fungus.

Nationwide permit – A permit issued by the COE that allows a group or class of activities provided that such activities are carried out in accordance with pre-determined regulations.

New York State Barge Canal recreationway – A designated area along the New York State Barge Canal in which recreation activities are encouraged and supported.

Northern hardwood forest – An ecological community characterized by a mix of hardwoods in an upland environment.

Ortstein layer – A layer of the soil consisting of cemented organic matter through which water, but not plant roots, may pass.

Peat bog – A wetland in which peat has formed under conditions of acidity.

Pine barrens – An ecological community dominated by pitch pine and developed in arid or dry soils.

Pine barrens vernal pool -- An ecological community characterized by wetlands which may include cranberry bushes. This community may be open or it may have a canopy of red maple, pitch pine and other trees.

Pitch pine blueberry heath barren -- See pitch pine heath barren.

Pitch pine blueberry peat swamp -- An ecological wetland community type developed on sandy soils with a dense and dominant shrub layer.

Pitch pine heath barren -- An ecological community occurring on well drained sand uplands dominated by pitch pine, with a mix of other tree and shrub species.

Prescribed burns – The use of fire for ecological management purposes.

Red maple hardwood swamp – An ecological community characterized by a red maple overstory in a wetland environment.

Rich hemlock hardwood peat swamp -- An ecological community characterized by a diverse mix of hemlock and hardwoods in a wetland environment.

Sphagnum bog – A wetland in which sphagnum moss dominates the surface.

Stakeholder – A person with a particular interest in a plan or event.

State-listed rare, threatened or endangered species – A plant or animal which is officially considered to be in danger of extirpation in New York State.

Transitional open meadows – Areas of meadow or open field located between different ecological communities.

Unique Natural Area – A site with outstanding environmental characteristics worthy of protection and preservation.

Wetland – An area inundated by water, either seasonally or year round, in which plant species have adapted to this condition.

Xeric – Term describing areas with dry, well drained soils.

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