Wright Park Management Plan

Prepared for the
Town of Middlebury 2004

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**References**
Acknowledgements

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Support from the Addison County Regional Planning Commission and Middlebury College made possible the internship position in the GIS lab in the Middlebury College Geography Department. The Herculean efforts of intern Clare O’Reilly, who prepared all the maps and the first draft of text, made this plan possible. Bill Hegman and Bob Churchill provided invaluable guidance to her throughout the process.

Marc Lapin’s natural communities assessment provides a solid footing for this document. Without Warren King’s contribution of the avian report this document would be lacking.

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Introduction

Special thanks to Bill Roper, Don Kenney, Katie Reilley, Jim Inglis, and Barbara Dregallo, for making space in their schedules, to allow time for this plan to crystallize in the MALT office.

The objective of the plan is to assess the park and create a comprehensive management plan. The plan will enable informed choices for the future of Wright Park to protect natural resources on the site, and guide recreational development and uses in the park. This document also serves as a compendium of the history of the land, its present context and donor wishes to guide Town of Middlebury officials in future management decisions.

The purpose of this plan is not to limit the uses of the park but rather to inventory and assess the natural resources in the park, current uses, donor wishes, and the desires of current users and town governance. From these analyses and public and official feedback, constraints and opportunities became clear. The limitations of the physical setting, the opportunities presented by the natural and cultural resources combined with particular goals set by the donor, and the recommendations of professionals also set parameters for the plan’s recommendations. This plan was also created in hopes of raising awareness of the park and what it has to offer for those who enjoy the outdoors. Wright Park will continue to see increased use as the population expands in the area, the creation of this document will help define how they will experience and use the site and how the Town of Middlebury will safeguard this natural jewel.

Public Opinion

Public opinion about the park was sought in the development of this plan. A public forum was announced in a front page article (Appendix A) in the local paper, The Addison Independent. In addition several interested individuals and members of the local planning and select boards received letters of invitation. The forum was well attended and also elicited several phone calls regarding the plan. While there is a growing number of avid Middlebury area residents who use it on a regular basis, many community members are not aware of the park’s existence. The general desire of those who responded to the
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request for feedback was to retain the “wild” and remote nature of the recreational experience found there. (See Appendix B for forum responses)

The plan was created through the work of several people under the direction of Gioia Kuss, executive director of the Middlebury Area Land Trust (MALT). Clare O’Reilly prepared text and maps for the plan with guidance from Bill Hegman. Natural community and management units research was done by ecological consultant Marc Lapin. Avian wildlife report was done by ornithologist Warren King. Middlebury College student research was done by the Fall 2002 GG100 Place & Society class and the Spring 2001 GG221 Rural Geography at Middlebury College under the instruction of Professor Peter Nelson, and the Fall 2003 BI302 Vertebrate Natural History course taught by Professor Steve Trombula. The Final Review Committee of Warren King, Judy Peterson and Al Stiles edited drafts used to create the final product.

In the center of the Champlain Valley in Addison County, Charles Wright Park lies in the northwestern-most corner of the Town of Middlebury (Map 1-1), in proximity to the village center. Wright Park, as it is known, makes up the majority of a 173-acre parcel of contiguous municipal (Town of Middlebury) land. Included in this land is the Resource Park or “stump dump” and the Pine Meadows apartment complex. Wright Park contains a small part of the greater deciduous forest ecosystem of Vermont and illustrates well the history of land use patterns in Vermont. The patchwork of forests, shrubland and open fields reflect those present in more rural areas of Vermont. The state has witnessed unprecedented growth in the last two decades, and the maintenance of large blocks of undeveloped areas is an important asset for any community.

Wright Park provides value on the regional level as an ecological and recreational resource for county residents. The natural environment and beauty of Addison County makes it a very attractive place to live. However, Addison County faces similar social and economic difficulties as other rural communities, such as affordable housing and job availability. The population of Addison County grew 9.17% between 1990 and 2000 (US Contributions

Community Setting

Location
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Census 2000. The recent rise in population and demand for residential development makes conservation of open space a critical concern.

Wright Park, like other town parks and recreation areas, is a valuable natural amenity that should be managed to contribute to the vibrant economy and high quality of life that residents enjoy. Recommendations in the 2000-2010 Comprehensive Parks and Recreation Plan discuss increasing public awareness of parks in Middlebury. Currently signs directing visitors to the park share equal billing with the stump dump, and the park is not illustrated on maps other than the Trail Around Middlebury (TAM) Map distributed by the Middlebury Area Land Trust (MALT).

Population

Although the total population of Middlebury has only increased by 1.11% over the past decade, there has been an increase in the number of rural residents living in non-farm areas by 71.35% (US Census 2000). This significant growth shows the increasing desire for people to live in rural areas with high natural amenities, which Wright Park provides. Natural amenities, such as preserved open space and forests, have been an influential factor on rural population growth (McGranahan 1999). The quality of life and natural beauty that surround the Town of Middlebury led to its inclusion in several magazine feature stories in “best places to live in America,” including recognition by Outside Magazine as the third best outdoor college town in the country (Outside Magazine, September 2003).

Economics

Population growth resulting from attractiveness of a rural community and the surrounding natural environment has been shown to improve the economy of an area. Migrants that tend to be attracted to amenity rich environments are often young, well educated, self-employed or earning a non-traditional income such as investments, or work in service industries (Nelson 1999). The influx of investment and capital into a rural, high natural amenity community like Middlebury can benefit the local economy with the creation of more service based jobs (Nelson 1999). The economic benefits of conserving natural environments and their “wildness” can
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accrue with greater awareness of Wright Park and all it has to offer. It is possible that the residential neighborhoods near Wright Park will be more attractive to move to if user experiences are enhanced and its location is better known. Because of its proximity to the Industrial Park, it could benefit businesses by providing recreational opportunities as an additional benefit to potential employees if pedestrian access was created.

Middlebury has several other natural and recreational areas available to residents. Several of these parks are small and actively managed for recreation opportunities. These parks include Chipman Hill, Battell Woods, Means Woods, Harold Curtis Park, Middlebury Recreation Park, Town Hall Recreation Facilities, and the Village Green. The Parks and Recreation Department also uses the school and library facilities around Middlebury. Non-town owned parks include Jack Brown Park, Jeffrey Murdock Nature Preserve, and Starr’s Park.

The town has a rich history of donated public land, from the creation of the Town Green in the 1790s to the more recent addition of Wright Park in the early 1980s. The Town Green (1.5 acres) was the first public land in Middlebury and was given by Gamaliel Painter in the 1790s for use as a public space in which criminals could be displayed in stocks. Today a marble pillar across from the Congregational Church marks the location of the stocks. The Town Green today also includes the Episcopal Church, built in 1826, and a bandstand in 1975 (Walking History of Middlebury, 1997).

Joseph Battell donated Battell Woods and Chipman Hill to the Town in 1915. This combined donation of 222.6 acres is the largest land donation ever made to the town. Battell Woods (94.8 acres) has traditionally been used by hikers, skiers and snowshoers. Battell Woods and Chipman Hill are both popular areas for mountain biking.

Chipman Hill (127.8 acres) has historically been the local town skiing hill. A town drinking water reservoir was built in the 1940s, and a road to the top followed in the 1950s. A ski jump was built for the Middlebury Ski Club; and the road was closed
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to motorized traffic. In early 1980s a TV/radio transmitter was installed at the summit. Currently, there is discussion about building a cell phone tower and electric wind turbines at the same site.

Means Woods

Means Woods Nature Preserve was donated to the town in 1969 with the understanding that it would be used as a "green" area for the "enjoyment of future generations as well as to insure the availability of natural woodland recreation grounds for town citizens." (Middlebury Town Report 2000) It would be managed for "ecological, biological, zoological and botanical education purposes and especially for the Town of Middlebury, the State of Vermont and Middlebury College" (Middlebury Town Report 2000). Post-donation changes include the long-delayed creation of nature trails in 1982, Braille and large print signs, and guide ropes in 1983.

These properties show the rich history of public land that the Town of Middlebury holds. The history of Wright Park reflects the most recent town land acquisition for recreation purposes, and previous use of the land is important to consider for the future. The 2000-2010 Comprehensive Parks and Recreation Plan recommended that management of Wright Park along with several other town-owned properties be transferred to MALT by September 2005.

History

The history of Wright Park is similar to the story of Vermont’s land use pattern history. With the arrival of the first European settlers, it was covered with dense forests which were mostly felled during the heyday of forestry in the area. Increased settlement in the area led to the economic reign of agriculture (first sheep then dairy operations). The state’s agricultural industry decline began with the emigration of farmers, starting around the time of the Civil War. The sharp decline from the apex of agriculture as the primary economy of the region was accompanied by the advent of the bulk milk tank, which led to bigger farms and the abandonment of smaller tracts and farms with challenging terrain. This heralded the succession of shrubs followed by shade intolerant trees.
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The mixed land cover presently in the park reflects its agricultural past and historical influences. Although no documented evidence exists of Abenaki presence, it has been speculated that Abenaki Native Americans potentially inhabited the current Wright Park land. However, historical documentation does show that the land was used for agriculture for a significant period of time.

The current Wright Park parcel is relatively the same shape and size as it was when Joseph Battell purchased 138 acres of the land, then known as the "Colonel Sumner Farm," from Lewis Threadway in 1882 (Middlebury Town Land Records v. 27 p. 131). The area was geographically defined in the deed as follows:

It being the portion of the Col. Sumner Farm, so called; situated on the West side of the Rutland Rail Road and bounded on the North by the South line of the Town of New Haven; East by the Rutland Rail Road; South by lands of James Burns and West by Otter Creek, containing one hundred thirty eight and one half acres of land…

Comparing this description to the actual location and size of the park indicates that the parcel has remained relatively unchanged.

The Colonel Sumner Farm was located in the northwestern corner of the Town of Middlebury, extending between Otter Creek and Route 7. It was owned by Col. William Sumner, who fought in the War of 1812. The first dated occupancy of the homestead is 1786, and the farm was occupied by the Sumner family until its sale in 1882 to Joseph Battell (Sheldon Museum Archives). Remains of the old homestead barn can be seen along the lower section of the TAM loop.

Battell purchased an additional 6 ½ acres adjacent to the "Colonel Sumner Farm" from William Cota in 1907 to expand the parcel (v.27 p.131). Upon his death in 1916, Joseph Battell left a substantial portion of his real estate to Middlebury College, including the current Wright Park land (v. 38 p. 225-235, 236-239). Middlebury College sold the land in 1917 to Erwin Piper for agricultural use. The Estate of Piper sold 148 acres of
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the land and farm equipment to Jane C. Nichols, wife of E. Nelson Nichols, in 1941 (v. 47 p. 225). The Nichols' sold their total land acquisition of 354 acres in Middlebury, Weybridge and Cornwall to Louis Bergevin in 1955, including the existing Wright Park area (v. 54 p. 172).

The Bergevin family used the land as a pasture for their dairy farm, although there was no structure on the site. Louis Bergevin sold the approximately 150 acre parcel to D. William Pratt in 1971 (vol. 68 p. 641). Pratt then transferred the land in 1979 to its final owner, Willard Jackson, in three separate parcels (v. 89 p. 283, 286, 289).

Jackson, in turn, donated the land to the Town of Middlebury in three parcels between 1980 and 1982. The first parcel was 14.6 acres near the town resource park, which was later gifted by the town to the Interfaith Housing Corporation in 1991 for the development of the affordable housing complex known as Pine Meadow Apartments (v. 137 p. 175). The second and third parcels were given by Jackson in 1981 and 1982 respectively, creating the 150 acre contiguous park (v. 94 p. 429, v. 100 p. 166). The Board of Selectmen at the time of the donation questioned the purpose and usefulness of this donation; however, the donation was still accepted by the town.

The second stipulation of the deed for all lands acquired by Jackson from Pratt and subsequently donated to the town states:

The above described parcel shall be used by the Town of Middlebury for recreational and park purposes only. The Town may construct buildings on said parcel as accessory uses and to further the recreational and park purposes of this grant (v. 91, p.233).

This stipulation set the precedent for use of the land by the Town and future users. The deed also included an easement for road access and parking (v. 91 p. 233). Jackson also retained the oil, gas and mineral rights for 50 years after the donation was made to protect the natural resources.
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Wright Park was dedicated in 1982 in the name of Charles Wright, a friend and Middlebury College classmate of Jackson's and outdoor enthusiast. Wright was a paraplegic for most of his adult life, and his bravery and cheerful disposition was admired by many. At the dedication ceremony, Wright said he felt that “Will Jackson’s establishment of the park is a fitting tribute toward perpetuating my feelings of a very scenic setting to the enjoyment of others who love and derive happiness in the same manner.”

Continued preservation of the park according to the donor's wishes is a high priority. Will Jackson donated this property to the Town to provide rustic recreation experiences for residents in proximity to the village. While he allowed for the possibility of a westerly Route 7 bypass crossing the property and the water treatment pipe crossing the land, his wishes were that it be kept undeveloped. His desire is to maintain several of the open viewsheds on the property as well as managing the property for a diversity of species, especially those of birds. These wishes will provide a backdrop to the analyses and resulting recommendations in this plan.

Wright Park lies at the end of the Seymour Street Extension. Seymour Street Extension is the entrance route to Wright Park. The entrance route is marked where Seymour Street Extension meets Seymour Street. Pulp Mill Bridge, with its pedestrian bridge, links the park entrance route to Weybridge and Middlebury residents along Weybridge Street. A sidewalk along Seymour Street connects the park entrance route to downtown. These dedicated pedestrian routes end at the Pulp Mill Bridge area where a small sign and a shared use gravel road directs users to the park. The park entrance is marked by a large sign which reads simply “Wright Park,” beyond a large cattle gate from the days the park was used for pasturing animals. Occasionally an original trail map and a Rules of the Trail sign is posted in this area. First time visitors would quickly be daunted by the lack of signs explaining the various visible trails leading off into the park with few apparent markings.
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In addition to Wright Park, the municipal parcel includes the resource park, disused community gardens, and the Pine Meadows housing development. These three areas with more intensive human use are adjacent to each other at the south end of the parcel and are passed by visitors as they progress down the gravel road to the parking lot.

The park is bounded by Otter Creek on the west and railroad tracks on the east. The railroad tracks run between Wright Park and the town industrial park. It should be noted that the effluent pipe from the town water treatment facility, located in the industrial park, runs the width of Wright Park through a field into Otter Creek. To the south and east of the park are areas of intensive development. Residential and municipal uses in the southern end of the park ensure good access and, ultimately, increased use of the park.

The north boundary is the town line of New Haven, and the land adjacent to the north is a conservation parcel, Otter Creek Gorge Preserve, owned by the Middlebury Area Land Trust. West of the creek, in Weybridge, lies the UVM Morgan Horse Farm; north of that is another portion of the Otter Creek Gorge Preserve. The park’s proximity to large, undeveloped land tracts helps maintain the biodiversity potential of the site.

Resource Park
"Stump Dump"

In 1940, Walter Harrington sold the 14-acre parcel of land which makes up the current Middlebury Resource Park to the Town of Middlebury (v. 47 p. 135). The Town relocated the dump formerly located at Chipman Hill to this location shortly after purchasing the parcel. The dump was used as a burning landfill, with no restrictions on the type or quantity of garbage allowed at the dump. The State of Vermont passed the Waste Disposal Act in 1968 which prohibited the open burning of garbage. Middlebury continued to use the site as a burning facility despite local protest until October 21st, 1970, when the town voted to end open incineration and use the dump as a composting site. The name also changed from the "dump" to the Middlebury Resource Park, commonly referred to as the "stump dump" by area residents.
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The resource park accepts yard waste, discarded Christmas trees, and clean fill in a "low-technology operation" as defined by the EPA (EPA, 1998). Currently, yard waste is pushed over the edge of the former landfill to decompose on its own. However, this “landfill” area is slowly encroaching upon the forest that exists below the stump dump. Modern municipal composting techniques are not currently employed on the site. Green waste composting is an alternative to the current mixed waste that is present on the site. Use of screening and filtering technology would allow the town to compost yard waste at the site for possible use in gardens and agricultural areas. Active

The Town is taking steps to extend the life of that facility by monitoring the site more effectively and closing out portions adjacent to Wright Park. The ultimate goal for this property is to merge it with Wright Park for recreational use. (Town of Middlebury, 2000)

prevent further encroachment of the “stump dump” into the forests below the site.

The Town also stores used asphalt and cement at the site for municipal storage. Material from town excavation projects is spread over yard waste as a cover for yard waste. In regard to the future of the site, the 2000 Middlebury Town Plan states:

In 1991, the Interfaith Housing Corporation (IHC) was gifted the first 14.6 acre parcel donated by Willard Jackson to the Town. Jackson allowed for the land to be gifted per stipulations in the deed (v.137 p. 175). In response to the growing affordable housing need in Addison County, IHC constructed Pine Meadow Apartments. The site was decided to be a good location for such a development because of the existing municipal sewer lines from the nearby Woodbridge Road development.

Pine Meadow Apartments are 30 units of two to three bedroom handicapped accessible apartments and one single bed-
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room apartment. The development is currently managed by Maloney Properties, which handles the tenant applications and maintains the property. There are income requirements to live in the apartments to insure that residents are able to pay rent and have a demonstrated housing need. The development was home to several Bosnian refugee families in the early 1990s following the war in former Yugoslavia.

It is unclear if residents of the apartments use the park, as there is no defined trail between the two areas. However, the park is within walking distance along the roads leading to the park. Although there is a housing need in Addison County, as in other rural areas, it is not feasible to expand Pine Meadow Apartments because of its location in between Wright Park and railroad

Current Use

Wright Park is conveniently located near a rural population center. Although no surveys have been done in the park to count users, an increase in users has been noted in the past few years.

Wright Park is currently managed by the Town of Middlebury Recreation and Parks Department. In the 2000-2010 Comprehensive Parks & Recreation Plan, the park is described as having several trails maintained by local residents, and an informal community garden located near the entrance of the park. This community garden was formerly maintained by ACCAG, but fell into disrepair and is no longer actively managed. However, several families still maintain active garden plots there. Use of the park is described as scant because many residents do not know about it, but it is also mentioned that the park has great potential for recreational activities, including cross-country skiing and snowshoeing.

The Town currently employs a passive management style in Wright Park. Creation and maintenance of trails have largely been undertaken by Al Stiles and John Derick (TAM Coordinator). From conversations with both of them, increased use of the trails has and will require increased levels of maintenance. While their management of the trails is commendable and is testimony to their volunteer spirit, a comprehensive
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look at where and why trails exist within different regions of the park has not been completed. Because of limited maintenance efforts, trail construction and re-routing have at times created some trails that are currently poorly maintained and poorly marked. Although general recommendations about trails are discussed in this plan, particular recommendations and analysis of specific trail conditions and maintenance would be the topic of a more detailed assessment and plan addressing long-term trail maintenance needs.

Currently the park is used by area residents for its trail system including part of the Trail Around Middlebury (TAM) currently maintained by MALT. The trails are used primarily for walking, running, hiking, biking, dog walking, and observing nature. During the winter season, the trails are used for cross-country skiing and snow-shoeing. The network of trails includes those that have been in place for a long time, probably since the area was a working farm, and those that have been recently constructed. There are three main trails running north/south through the park. The White Circle trail runs next to Otter Creek, past a small bay to a thirty foot cliff, and past a marsh. The White Triangle trail runs along the eastern boundary near the railroad tracks, and the TAM/White Square trail goes through the central part of the park. The TAM loop in Wright Park consists of the main TAM trail into the Otter Creek Gorge parcel, then returning along a lower trail marked as the Blue/White trail. The trails making up the TAM loop are the most heavily used trails in the park as they are the best marked. At times heavy use from hikers and bikers degrade the trail. Where water pools in the path, erosion potential along the trail increases. There are several other cross trails that connect to these main trails and form loops. The TAM provides through hiking north to the Otter Creek Gorge Preserve in New Haven that proceeds into Weybridge via a footbridge at Beldens Falls (Lapin 2003). Because the park is largely used for its trail system the environmental analyses will focus on this aspect of the management of the park.

The Trail Around Middlebury, or "The TAM" as it is known locally, is a major project of MALT. The TAM, an 18-mile footpath, encircles the village of Middlebury and links several
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Trail Management

hundred acres of town land, conserved properties, schools, and other local landmarks. The larger TAM loop is now complete with the construction of two bridges that span Otter Creek, made possible by generous support from the Arnold family and the Vermont Department of Forests, Parks and Recreation. Designed and constructed for recreational use, it is open year round for area residents and visitors alike. The TAM cuts through the center of Wright Park.

John Derick, the TAM coordinator, conducts and supervises the management of the main trails in the park. An average of five days a year are dedicated to trail maintenance done by community volunteers. Some trails are periodically closed in order to prevent further damage. Woodchips have been placed on some trails to withstand erosion, while other trails have been shifted higher up to bedrock in attempts to salvage muddy areas and keep sediment from overland flow. Al Stiles has largely taken responsibility for the remainder of the trail routes in the park.

Biking

Mountain biking is becoming a more popular use of the trails, particularly by Middlebury College students. The Middlebury Bike Club uses the park for their enjoyment as well. The diversity of the trail system has been described as an attractive element by local bikers. In addition, the TAM section open to mountain bikers allows for a loop from town through the park and into Weybridge, and has become a popular route. However, there are certain trails unsuitable for biking due to excessive wetness of shallow, erosion-prone soils, some of which are indicated by informal plastic signs. The trails are subject to intense erosion due to their use. Mountain biking during the spring, or mud season, can be particularly damaging to the trails.

Rock Climbing

The rock face in the northwestern part of the park is used for recreational rock climbing. Most of those using the cliff system are believed to be from Middlebury College, whom have a website devoted to the area. Several bolts have been placed in the face. While these bolts are of the “permanent style,” the rock type is not of consistent structural integrity and is not a variety favored by rock climbers because of its soft character. Several small areas show signs of exfoliation or giv-
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ing way of pieces of the rock. This is not a recreational use which should be promoted as it is not a desirable rock type to support a rock climbing area. The cliff face is in a remote part of the park and emergency access is difficult. It is recommended that the town communicate with college officials and the Mountain Club organization at Middlebury College to eliminate use of this area for rock climbing to protect individuals and the delicate nature of the rock face. Because it is not a sanctioned activity in the park, recommendations beyond these above are not made. Signs placed in the area could lead others to consider activities beyond individual abilities. Visiting the site should not be discouraged because of its particular beauty. However marking of the white trail that goes up along the face should be discontinued and installing a hand cable up this old steep trail should not be considered.

Otter Creek, running along the western boundary of the park, offers access for kayaking, canoeing and fishing. One of few public access points to Otter Creek for fishing is located in Wright Park. Nature observation is another use of Wright Park. See the Landscape Character section for more information on the flora and fauna of Wright Park. The park hosts at least one public hike annually sponsored by the Town Recreation Department, the Ilsley Library, Middlebury Community Television, and MALT. The park is used occasionally by Middlebury College academic classes for nature observation, but not extensively for research as there are college owned lands reserved for that purpose. The site offers a diverse outdoor classroom for the public school system in Middlebury and the Otter Creek Explorers Day Camp organized by MALT. Information about the frequency of such use was not investigated. In the past a small outdoor camp with accompanying permanent wooden tent platforms was held near the southern entrance of the park.

Park use also raises issues of access and safety. The Middlebury Police Department has limited access to four wheel drive vehicles in the event of an emergency within the park. The park is considered a wilderness area and emergency situations would be afforded similar emergency rescue services to those provided in the Green Mountain National Forest. The Police De-
Section 2: Environmental Inventory & Analysis

The department also has limited capability in enforcing the ordinance restricting the discharge of firearms within the park (Ordinance Regarding the Discharge of Firearms, 1993). There have been reports of hunting within the park, which is difficult to monitor and control. Hunting, while currently not allowed in the park, would help control deer populations if necessary.

These various uses of the park show that it is a valuable resource for Middlebury area residents, and that the park should be managed with these uses along with the park’s ecological integrity in mind. The following Environmental Inventory and Analysis section explores these natural aspects in depth.

Landscape Character

The lands of the Otter Creek Gorge Preserve and the northern one-third of Wright Park form a highly significant natural area – an area that features one of the largest blocks and best remaining representatives of lowland forest types, particularly transition hardwood limestone forest, in the southern Champlain Valley. The remaining open and transitional forest stands are representative of the shifting land use patterns of the last century as forestry and then agriculture were replaced by tourism and manufacturing as the region’s dominant economic engines. The surrounding area is now giving way to open areas, where hedgerows and areas of connected shrubland are being bulldozed to accommodate larger farm equipment, suburbs or large tract residential developments with lawns and manicured trees. This leads to lacking understory growth and shrub cover, or areas with dense forest cover of varying age that will either be used for timber or fall in the path of development. Wright Park contains an interesting mix of local vegetation and terrain which reflects the area’s cultural history and ecological diversity.

Topography

The highest elevations, approximately 120 meters (393 feet) above sea level, are located along the ridge of a cliff system in the northern portion of the park (Map 2-1). The northwestern area of the park has the highest terrain which extends along the eastern boundary. The northwest section descends to the main drainage stream which bisects the park. Other
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areas with high vantage points are at the 100 meter level in the mid section of the park close to the edge of Otter Creek and the flat topped area in the “stump dump” contiguous municipal land, where natural contours have been altered by dumping and pushing fill. The lowest elevations, 85-90 meters above sea level, are located along the banks of Otter Creek and the main drainage in route. Wright Park affords several magnificent views of the surrounding area, including Chipman Hill and the Green Mountains. The orientation of the park allows visitors to escape from the noise of the nearby industrial and commercial areas and travel corridors.

The bedrock of the parcel is principally of the Beldens Formation, which consists of limestone, dolomite and marble. The marble was historically a valuable dimension stone, as evidenced by the quarry to the north in New Haven. The relatively soft bedrock has high concentrations of calcium and magnesium carbonates, which are minerals that are correlated with “rich” forest types that feature high plant species diversity. In the area of the cliff systems, the exposed rock face can be unstable, and many large blocks of stone have apparently fallen from the escarpment. The cliff system is a highlight of Wright Park, and the 30-50 foot rock face has high scenic value. In other areas in the park glacial “potholes” can be seen in exposed areas of bedrock. The orientation of the cliff faces and steep slopes reflect the area’s glacial history as well as erosion from the current and historical flow in Otter Creek. Karst topography, where soft rock allows water to carve a channel, can be seen on the east edge of the park and is a special feature.

Wright Park has several drainage systems within the park, most of which are affected by water sources outside the park’s boundary (Map 2-2). There are two primary drainage systems. The northern section of the park has two independent drainages. The main drainage starts inside the park and drains northwest into the Otter Creek Gorge Preserve and into Otter Creek. A smaller drainage is affected by the high water stage of Otter Creek, where in the late spring and summer vernal pools form in inundated areas below the cliffs.
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The southern two thirds of the park is part of a larger drainage basin that extends east to Chipman Hill and Route 7. The main stem of the system arises on Chipman Hill and travels in front of the Bridge School and continues through the Industrial Park and General Commercial District of Middlebury. Here there are several large parking lots and a stormwater retention pond which drains westward, and then crosses under the railroad tracks and into Wright Park, where the stream disappears into an exposed area of Karst limestone bedrock. The stream reappears in an incised stream channel that flows south west into a beaver meadow area and eventually Otter Creek. A small stream also runs from the banks of the stump dump area through the floodplain forest where it reaches Otter Creek. It is unknown if water quality in either of these two southern drainages is negatively impacted by the industrial complex and the “stump dump.” These human activities outside the park could contribute to poor water quality within the park.

In addition to the aforementioned stream channels in the park, several intermittent tributary streams areas are crossed by trails. Depending on recent rainfall amounts and seasonal conditions, these crossings may be inundated.

Slopes

The natural terrain and slope of the land influence the drainages discussed above. A minority of the property affords slopes of 0-3%. Areas where farming or development is the most affordable and least susceptible to erosion have slopes of 0-3%. Of course, this is where trail construction also is the most suitable. When designing new trails preference to areas with the lowest grade possible should be chosen. The majority of the property has slopes in the 3% to 8% range which are suitable for trail use, most of which lies in the central section where the farmstead is located. Bands of steep slopes (8-15%) envelope zones of excessively steep slopes greater than 15%. These steep zones run longitudinally along the property. The largest area encompasses the cliff area in the northern section and continues south along the current bank of Otter Creek. Ribbons of steep slopes run along trails in the southern section and extend around the perimeter of the stump dump.
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Soils of Wright Park are of three general types, all of which are nutrient rich (Griggs 1971):

1) deep (and in some places shallow), moderately well to somewhat poorly (and in pockets poorly) drained clays that were deposited in post-glacial Lake Vermont are classified as the Vergennes and Covington-Panton soil series;
2) very shallow, somewhat excessively drained soils that occur where bedrock is very close to or at the surface are classified as Farmington series
3) deep loamy soils along the floodplain of Otter Creek are mapped as the moderately well drained Winookski series.
4) a very narrow, wetland swale in the northeast corner of the park is very poorly drained Livingston clay soil.

The majority of the soils are highly erodible and with low permeability. Those soils that are made of larger particles are located in flood zones or on steep slopes.

Because of a combination of particle size, location and slope, protection from erosion is very important when considering development of trails, construction of facilities, or any disturbance of the soil inside the park. The use of construction erosion protections such as haybales or other methods to slow the flow of water over areas of exposed soil is acceptable practice during construction; the revegetation of those exposed areas soon after disturbance is of great importance. Methods of protecting trails from erosion would include:

- Installation of water bars along trail sections with greater than 6% grade to redirect water from the trail.
- Regrading and creating no greater than a 3% cross grade is also helpful in reducing impacts from trail use.
- Armoring or lining trails with large flat rocks in areas of low grade or for intermittent stream crossings is also effective.
- Allow trails to follow land contours to reduce erosion.

Erosion of soil in areas does more than reduce topsoil in any given area; it increases the sediment in waters flowing over
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land and in stream channels, which ultimately reach large rivers. Increased sediment load is responsible for phosphorus loading in rivers, and decreased oxygen and light levels which negatively impact fish habitat. Because of the poor quality of the water in Otter Creek, protecting this natural resource should be a mainstay in any new development projects in the park.

The natural communities of Wright Park make for a rather diverse mosaic (Map 2-5). The park’s two predominant natural communities are very characteristic of the Champlain Valley landscape. They are to some extent, although imperfectly so, correlated to the soils types. The majority (45%) of the park is covered with either Clayplain Forest or variants of Transition Hardwood Limestone Forest. Transition hardwood limestone forest occurs on the shallow, ledgy Farmington soils, and valley clayplain forest exists on the clay soils. Smaller, less extensive natural communities are interspersed among the dominant forest types. A shaded temperate calcareous cliff and temperate calcareous outcrops are interspersed among the forest on shallow soils; riverine floodplain forest, riverside mud shore, rivershore grassland, and erosional river bluff occur alongside Otter Creek; and shallow emergent marsh and a beaver pond occur in low-lying swales. Several small-stream natural communities flow in Wright Park also. Vermont’s natural communities are described in *Wetland, Woodland, Wildland* (Thompson and Sorenson 2000) where there is a wealth of general information about the plants, animals, physical setting, geographic extent and conservation status of natural community types mentioned in this plan. These descriptions can be found in Appendix D.

Although Wright Park would naturally be almost totally forested, the land has a farming history and portions remain as shrubby and grassy old fields. Since the fields have not been mowed for several years, succession to shrubs is advancing steadily. A high proportion of the shrub composition appears to be invasive exotic shrubs, including species of honeysuckle, buckthorn and barberry. Also a legacy of the previous land-use, some of the forested areas are not currently in the cover-type of the natural community native to the land, but
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rather are in various ages of old-field white pine forest. Some portions of these pine-dominated forests contain an abundance of exotic invasive shrubs, while other portions are not quite so infested.

Two tree diseases of local concern are butternut canker and ash yellows; their present and potential future impacts on the forests of the park were assessed. Although butternut is frequent along many stretches of Otter Creek’s levee forests and is even a co-dominant overstory tree in some areas, the species was not noted in the floodplain forests at Wright Park. Changes to forest composition and structure due to mortality from butternut canker, therefore, will not impact the vegetation of the park. White ash is an overstory associate in the park’s transition hardwood limestone forest and valley clayplain forest natural communities; additionally, white ash often establishes well in successional old-fields in the Champlain Valley. Ash yellows may have future impacts that slightly alter the composition of Wright Park’s forests, but the disease is not expected to significantly impact the forests since ash is neither a dominant nor co-dominant species at the site. White ash is able to produce fruits at relatively young ages (as young as 15-30 years in old fields). Therefore it will likely continue to establish in successional vegetation and canopy gaps and is not likely to disappear from the park’s flora.

The land was divided into management units based on a combination of natural community types and current conditions, more commonly thought of as cover-types. Individual prescriptions or recommendations for each unit follow the management unit description. In this way, expert advice sought for this plan can be read as it was written. In some cases the Natural Community and the Avian recommendations differ. The creation of this plan integrates these different elements, to compile a comprehensive list of management recommendations found in the Recommendations section (Section 4). The independent ecological recommendations follow management unit descriptions in italics.

Please note that there has been an unequal level of detail or refinement used to divide units. For the most part, old fields
were split into numerous sub-units; the utility in this is that some areas may be managed more intensively and some less so. Hence, the draft management units split more densely shrubby parts of the fields from the more herbaceous parts. Forest natural communities were split or lumped based on two factors: 1) greatly varying current condition, as in a high-quality portion and a heavily degraded portion of the same community type, and 2) inability to adequately delineate different natural communities given the time and financial resources available for development of the plan. Please review the Natural Communities map (Map 2-7) for management area locations.

Unit 1.1 is predominantly very high-quality transition hardwood limestone forest. It comprises the western half of the northern third of Wright Park. Forested limestone/dolomite/marble ledges are very common in the area, and this unit includes a temperate calcareous cliff that was mentioned in the overview. Much of the unit is steeply or very steeply sloping and the soils are thus thin and fragile. It is a forest patch that has high ecological integrity, with respect to general conditions of the Champlain Valley’s numerous forest fragments. A small stream and wetland complex, which are backwaters on of the Otter Creek floodplain, occur in the northwestern part of the unit, and flow into Unit 16. The westernmost forests in Unit 1.1 are not transition hardwood limestone forest, but more likely include patches of both hemlock and hemlock-northern hardwood forest. Those types occur in the flatter, lower portions of the unit, where soils are deeper and trapping of cold air likely occurs.

Unit 1.1 is one of the three large, ecologically intact parts of Wright Park, and is truly one of Middlebury’s ecological jewels. It should receive the highest level of conservation protection that the Town can confer. Extractive harvest of trees or other plants should not be permitted, and tree cutting is recommended only for trees that have fully or partially fallen across trails or if non-native species are discovered. When such trees are cut, no wood should be removed from the forest; dead and decaying wood, in ecological jargon “coarse woody debris,” is an integral part of forest ecosystems and is a component that is usually at unnaturally low levels in forests managed for timber or pulpwood extraction. The forest offers a
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valuable educational opportunity for local groups to learn about one of the principal natural communities of the Champlain Valley. To maximize populations of these species management should avoid disturbance of the forest cover, especially at the margins, where access by predators, parasites and desiccating factors is highest.

Unit 1.2 is another of the three large, ecologically intact portions of the park. It differs from Unit 1.1 in being nearly level and including numerous wet pockets in small bedrock depressions. The wet pockets observed in the course of field reconnaissance for this plan are patches of wet clayplain forest.

Unit 1.2 should be managed in the same manner as 1.1. It should receive the highest level of conservation protection that the Town can confer. Extractive harvest of trees is not recommended, and tree-cutting should be limited in the same manner as described above.

Unit 2 – Clayplain forest is the predominant natural community of Unit 2, and although much of it is characterized by trees of modest diameter and height, it is ecologically rather intact. The unit is an example of the wet type of Clayplain Forest, and trees in the especially moist portions tend to grow slowly, die at relatively young ages, and perhaps blow down at a high rate. Ecologists call this a very dynamic forest ecosystem – there are frequent visible changes related to natural disturbances, tree-death and tree-fall. Thus, the forest canopy is moderately open and coarse woody debris is rather common, both as standing- and down-wood on the forest floor.

Within this patch of clayplain forest are two rare plants, broad beech-fern and loose sedge, and one uncommon species, glade fern. Loose sedge (*Carex laxiculmis*), a grass-like plant of shaded moist woods, is rare (S2S3) in Vermont. It is known from the southern Champlain Valley, as well as the lower slopes of the western Green Mountains and the Taconic Mountains. Clayplain forest, however, is the only natural community type in which it occurs in any abundance or frequency. The sedge is at the northern edge of its range in Vermont; it is considered rare in adjacent Quebec. The population in Wright Park was seen along a trail and it should be monitored closely to assess impacts of trail use on the plants. Broad beech fern (*Thelypteris*...
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*hexagonoptera* grows in shaded moist woods in the east and midwest of the United States. Its range extends into southern Ontario, and Vermont is thus near the northern periphery of its range. The fern is considered rare (S2) in Vermont, where it is known only from the counties bordering Lake Champlain. The population in Wright Park’s clayplain forest is one of several that have been found in that natural community type. Glade fern (*Diplazium pycnocarpon*) is a fern that in Vermont is most often seen in nutrient-rich, moist, fern-dominated glades within woods; it is often associated with small streams, groundwater seepage zones, or the foot of steep slopes where soil and moisture accumulate. Vermont, where the plant is uncommon (S3) and New Hampshire (status rare (S1) and endangered) are the northeastern periphery of the range. The Wright Park population is very small and is the only one known from clayplain forest; one can only conjecture whether the fern was more frequent in clayplain forest prior to the clearing of most of it for agriculture.

The south end of the unit appears to have been lightly to moderately wooded pasture. An old bur oak measuring 31.8” dbh (diameter at breast height) is representative of an older generation of trees that one frequently sees in the formerly grazed woodlots of the clay plain. The forest has succeeded nicely, for one sees that beneath the big bur oak a grove of 18-20” dbh white and red oak, sugar maple and hemlock has grown up. A swale on the east side of Unit 2 is a narrow herbaceous wetland with a stream (either perennial or intermittent). Sedges, grasses, other herbs, and sparse shrubs form a diverse mix of vegetation.

*This high-quality patch of clayplain forest rounds out the three large ecologically intact portions of the park, and one can see on the management unit map that together they comprise the northern third of Wright Park. As with Units 1.1 and 1.2, this unit should receive the highest level of conservation protection that the Town can confer. Extractive harvest of trees is not recommended, and tree-cutting should be limited in the same manner as described above for Unit 1.1. The population of loose sedge should be monitored every two years to assess impacts of trail use on the plants. Trail relocation should be considered if the population is being adversely impacted. The forest offers a valuable educational opportunity.*
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for local groups to learn about one of the principal natural communities of the Champlain Valley.

Unit 3.1 is a relatively narrow (maximum 500’ wide), steeply sloping patch of woods adjacent to Otter Creek. The area is mostly transition hardwood limestone forest, but it does include also a strip of Otter Creek floodplain. While the transition hardwood forest varies in condition and vegetation, none of it appears to be as ecologically intact as the forest to the north in Units 1.1 and 1.2, nor is it generally quite as degraded as in Unit 3.2 (discussed below). The bulk of Unit 3.1 is moderately mature forest composed of the later successional transition hardwood species (i.e., sugar maple, bitternut and shagbark hickories, red oak and hemlock). Some sections have a substantial component of white pine.

The floodplain area is very narrow along this portion of the creek and was not investigated during the preparation of the draft management plan. It would be worthwhile exploring the woods, and herbaceous wetlands, on the creekside flats. Trails have been established both along the creek (in the northern part of the unit only, perhaps) and higher up the slope.

This strip of woods serves important functions of water-quality protection and forest connectivity in the riparian corridor. Most of the unit has not been much invaded by exotic invasive plants, and it should be an ecological management priority to keep invasive plant populations from spreading in the unit. The most efficient and economical way to do that is to maintain the forest intact; due to the abundant local seed sources of buckthorn, honeysuckle and barberries, even small openings in the canopy can lead to substantial establishment of those shrubs. Therefore, it is recommended that no tree-cutting take place in the unit. If natural canopy gaps form, any seedlings of invasive exotic plants that may establish in the openings should be removed annually until the gap closes over. Volunteer groups of local youth or adults could be trained to do such work.

Unlike the above-described Unit 3.1, this area has been heavily infested with exotic invasive shrubs, including honeysuckle, buckthorn and Japanese and common barberries. Other than that, it is ecologically similar to the unit to the north. A rather obvious line was noted perpendicular to the “blue” trail that
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demarcates the southern, exotics-infested area from the northern area.

Since the forest here is closed canopy and has the typical canopy trees of the transition hardwood limestone forest, it may be worthwhile to attempt removal and control of the invasive shrubs. Removal can be done in several ways. Hand-pulling smaller plants in the spring when the soil is moist and before fruit are set is a good approach. Larger plants may not yield to such uprooting, and they may need to be cut. Cutting promotes shoot sprouts, however. Two approaches to managing this are possible—one is to continue cutting sprouts for several years in the hope that root systems will die from lack of food, and the other is to treat the cut “stumps” with herbicide. The Nature Conservancy has the most experience of any group in the state with exotic plant control and they should be consulted regarding the chemical treatment alternative. Maintaining the closed canopy is importance for both exotics control and water-quality protection.

Old-field white pine forest is the cover-type of Unit 4; the soil series is Vergennes clay. Some stands in the unit have dense growth of young, 3-8”-dbh pines with scattered 20”-dbh “bull” pines, while other stands have an older pine canopy and an understory of sugar maple and white ash with heavy infestation of buckthorn. Within the unit, two large, old sugar maples were noted. These trees were likely old pasture trees that provided shade for grazing livestock; the white pines grew in later after field abandonment. The larger tree, 47” dbh, had a large (60” 6-foot diameter) crown that appeared to be very healthy. Nearby a grove of 20-25”-dbh sugar maples was noted.

The old-field pine stands should be allowed to mature, which will permit and allow for natural succession to hardwood or mixed hardwood-pine-hemlock forest to occur. One would expect that eventually, perhaps 60-100 years, the buckthorn understory would die out, unless canopy openings, artificially or naturally created, allowed for continued persistence of the exotic shrubs. Given time, perhaps one to two centuries, the forest vegetation is expected become a more typical mix of clayplain forest species. Forest ecosystems operate on time-scales different, and much longer, than that more characteristic of most human activities; allowing succession to proceed requires patience and a long-term view.
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Unit 5.1 is the largest open area in the park. It has not been mowed for several years and is rapidly succeeding into a shrubby old field. The northeastern part of the field is the height of land in the parcel and provides some nice views of Otter Creek and the Weybridge landscape to the southwest and Chipman Hill to the southeast. The effluent pipe for the town’s sewage treatment facility runs east-west across the field and empties into Otter Creek.

The old-field vegetation was not documented during the preparation of the draft management plan. Shrub and tree species succeeding into the field include red cedar, white pine, gray dogwood, prickly-ash, buckthorn, barberries and honeysuckle.

There are numerous ecologically appropriate management options for the field. One is to allow it, or part(s) of it to succeed naturally to forest. Another is to initiate a mowing schedule that retains open field habitat, which would allow for completion of breeding and fledging cycles of native bird and small mammal species. That could entail brush-hogging on a several year interval or annual mowing in early to mid Fall. A third option is to plan and implement an active forest restoration project in part of the field.

If an option that calls for reforesting part of the field were chosen, reforestation of the western half (or whatever proportion is chosen) of the field would be ecologically preferable. That would allow for expansion of the narrow forest of Unit 3.1. Maintaining some field in the area of the old homestead might be considered to highlight the historic foundation(s). Another section of the field where regrowth of forest would be ecologically advantageous is the far northeastern end of Unit 5.1, which would allow for expansion of the southern buffer to the significant forest communities of Units 1.2 and 2.

These areas are parts of the field, Unit 5.1, that have already succeeded to rather dense shrub patches. They have not been explored in any detail, but Units 5.2 and 5.3 are predominantly red cedar and white pine; northern white cedar is also present, particularly on the slope of the latter area. Unit 5.4 features white pine with gray birch, hophornbeam and musclewood.
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Succession in these areas, which is already advanced relative to the rest of the field, should be permitted to continue. It is particularly important for Units 5.3 and 5.4. The former is mostly a steep slope that was formerly heavily eroded by livestock; and the trees diminish further erosion and thus protect water-quality in the adjacent stream. The latter Unit 5.4 serves as a forest/shrub buffer for the clayplain forest of Unit 2.

Units 6.1 & 6.2 – Wet graminoid meadow and Beaver Complex

These areas comprise a wetland complex that runs the width of the park. The bulk of the wetland is a somewhat deeply incised, flat-bottomed stream valley with a permanent stream and a wet graminoid meadow. The stream arises east of the railroad tracks in land that is now part of the town industrial park; the source has been engineered into a retention pond in the industrial park. Beaver are active towards the mouth of the stream, and there is currently a beaver pond covering nearly an acre. Algal bloom in the pond in early May appears to be indicative of poor water-quality, probably in both Otter Creek (which floods into the pond at higher water levels) and the small stream that is dammed. Cultural eutrophication, (elevated nutrient levels due to human activities on the land), appears to be the primary contributor to the poor water-quality.

A northwestern finger of Unit 6.1 is part of the Otter Creek floodplain that has not been beaver-dammed. The floodplain forest here is quite open and there is a wealth of herb species in the groundcover, including the uncommon grass, stout wood reed-grass, which is discussed more specifically in the section on Unit 11.1. Also apparent are numerous sedges (Carex spp.), and more familiar wetland plants such as cardinal flower, wild iris, turtleheads and spotted joe-pye-weed. Although a small area, it is a high quality patch of floodplain forest.

Trails cross the wetland complex in several places and these are the areas with management needs. Aside from the boardwalk that has been constructed to view and cross the wet meadow near the beaver pond, the other crossings have not been properly designed to mitigate against detrimental impacts. Of most concern is the Trail Around Middlebury crossing in the center of the wetland. That trail receives substantial bicycle use and needs a more permanent structure so that foot and bicycle traffic do
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not create de-vegetated “muck holes” and instigate a process of “trail drift,” which happens when travelers go around impassable spots and broaden the trail corridor. Another crossing upstream near the eastern boundary of the park has no structure at all and a muddy mess has already been created; that area requires placement of an appropriate structure also. No additional trails should be developed in the floodplain forest section of Unit 6.1, as floodplains are very prone to establishment of invasive exotic plants, and unnatural disturbances are often related to initial invasion of those species.

The area is a strip of Otter Creek floodplain terrace along which a foot trail travels. The land would naturally support floodplain forest; it is currently a shrub and herb community. The shrubs are both native species, such as prickly-ash, nanny-berry and highbush-cranberry, and the aforementioned exotic invasive species. Among the herbs are reed canary-grass, blue-joint grass, and tall and late goldenrods; vines include virgin’s-bower and poison-ivy. This unit represents the most degraded portion of the Otter Creek floodplain and riparian zone in the park.

The only particular management recommendations offered for this area are to allow natural processes to occur to the extent that they can, given the currently degraded condition. Control of exotic shrubs would be very labor- or chemical-intensive due to their abundance, and the use of herbicide, even if spot-applied, is not suggested so close to the creek. Unit 7 provides a scenic walk along the creek, and that might just be its highest value.

Old-field white pine forest is the vegetation type in Unit 8. The patch consists of stands with varying species composition and tree size and density. Bird-dispersed species occur in the understory; most of these are the exotics buckthorn and honeysuckle, but the native choke cherry is also present. White ash has sparsely established in the understory as well. Some areas have no sapling or shrub layer. Similarly, some areas have little or no herb component in the forest, some have the exotic herb moneywort, and some support an assemblage of native herbs such as herb-robert, intermediate wood-fern, Canada mayflower and blue cohosh. A good portion of the land is steeply sloping, and several intermittent (seasonal) streams are present..
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Two legacy white pines (31.5" and 26.3" dbh) occur among the younger old-field pine stand. These trees were likely allowed to grow as shade for livestock and produced seed that gave rise to many of the smaller trees that now comprise the woods.

Natural succession of the unit should be permitted to continue. Any tree harvest is likely to lead to increases in exotic shrub infestations and could result in undue erosion of the sloping soils. Therefore, trees should be cut only when necessary for clearing trails. Leaving cut trees and other dead wood in the forest will benefit organisms that utilize coarse woody debris. Intermittent streams on the slope have been eroded by flow from heavy rainstorms; evaluation of appropriate water-control and trail-crossing structures is necessary.

Unit 9.1 – Old-field

Unit 9.1 is the southern field of the park. The northern half or third of the field is very wet and supports a population of pendulous bulrush (Scirpus pendulus), a grass-like plant uncommon (S3) in Vermont, but apparently frequent in wet, nutrient-rich meadows in the southern Champlain and Vermont valleys. Like the larger field to the north, this field has not been mowed for several years and is rapidly succeeding to a mix of native and exotic shrubs, with scattered saplings of coniferous and deciduous species.

Management options for Unit 9.1 echo those elaborated on for Unit 5.1. As it does not buffer the high-quality natural communities at the northern end of the park, reforestation of this field should be considered less of a priority than for the northern field. Nevertheless, one should not construe that to mean that there is not ecological advantage to re-growing forest in this field. Creating larger forest patches in a naturally forested landscape such as Vermont always brings ecological benefit to the native plant and animal species, as well as the fungi and microbiota we know little about. The amount of forest on the landscape is also positively related to quality of aquatic ecosystems, such as Otter Creek.

Unit 9.2 – Old-field

Unit 9.2 is a patch of old-field shrubland in a part of the southern field that has not been mowed for a decade or perhaps longer. It was not explored in any great depth during the development of the draft management plan. The shrub vegetation includes natives, such as gray dogwood, red cedar and green ash, as well as the ubiquitous exotic shrubs.
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Regardless of the management of the more open field, Unit 9.2 should be either allowed to continue succession to forest or, if wildlife or aesthetic considerations warrant it, be maintained as a shrub field.

These two areas are old-field white pine forest, separated by a narrow part of the herbaceous wetland of Unit 6.1. As with the other old-field areas, exotic invasive shrubs occur frequently in some parts of the pine stands.

The units serve water-quality and erosion protection purposes. Allowing natural vegetation succession to occur is the recommended management action.

This small area is a patch of high-quality riverine floodplain forest. The tree canopy features green ash and box-elder, with silver maple lining the creek’s bank. On a raised terrace grows ostrich fern, along with sensitive fern and groundnut, while a lower terrace has sensitive fern, fowl manna-grass and uncommon stout wood reed-grass, along with numerous other floodplain herbs and shrubs. A wet depression dominated by robust sedges has a population of uncommon Gray’s sedge.

Stout wood-reed (Cinna arundinacea), is a grass that predominantly grows in floodplain forests and a few other moist, fertile natural communities in the state. In Vermont, this uncommon (S3) species is near its northern range limit; it is rare in neighboring Quebec. The floodplain forests of the Champlain Valley appear to be one of the most favorable habitats for the species in the state. Floodplain forests, however, are very prone to invasion from exotic herb species that can disrupt establishment and regeneration of native herbs. Gray’s sedge, (Carex grayi), is a Champlain Valley specialty. It is uncommon (S3) in Vermont, and like numerous species, such as broad beech fern, is known only from the counties bordering Lake Champlain. Also at the northeastern edge of its range in Vermont, the sedge occurs almost exclusively on river- and lake-floodplain deposits and in clayplain forest. The abundance of potential habitat that formerly occurred in the Champlain Valley has been greatly diminished by forest clearing.

Whereas most floodplain forest fragments are heavily infested with exotic invasive species, in this unit only a few small popu-
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lations of purple loosestrife and moneywort were seen. This
The short strip of floodplain forest is remarkably intact, as
evidenced by its diversity of herb species and the relative lack
of exotic invasive species.

The floodplain forest should be conserved by 1) prohibiting development
of trails or other recreation amenities in or adjacent to it, 2) maintaining
the adjacent forest of Unit 12 in an intact condition, and 3) containing
all “stump dump activity” to the top flat of that area. Regarding item
three, there should be no pushing any materials over the edge and onto
the slope. If any fires are used in management of the dump, caution
should be taken to control the fire to brush in the dump itself only, and
plant succession should be permitted to occur on the slopes bounding the
dump. Town personnel who operate equipment in the dump will need to
be informed of the sensitivity of the adjacent natural community frag-
ment.

South of the high-quality floodplain forest, and somewhat
larger, is an area of degraded floodplain forest. The Middle-
bury, VT USGS topographic quadrangle (photoinspected
1972) shows this area as not-forested, while the area deline-
ated as Unit 11.1 is shown as forested at that time. It is thus
apparent that the degraded floodplain forest on Unit 11.2 is
an old-field successional stand. The abundance of buckthorn
and honeysuckle is the main factor that indicates the de-
graded status of the natural community. Beneath closed for-
est canopies, those species have been observed to die out
over long periods of time; floodplain forests, however, natu-
really have rather open canopies and the high light levels are
likely to favor persistence and continued establishment of the
invasive exotic shrubs.

Although the site is not of great importance for its natural community
characteristics, it serves important functions of water-quality protection
and riparian corridor connectivity. Therefore, maintaining forest cover
should be the management objective for the unit. Attempting control of
exotic invasive shrubs in an area that is both very heavily infested with
them and adjacent to surface waters is not recommended. Allowing eco-
logical processes to occur naturally is therefore suggested.

Unit 11.2 – Degraded floodplain forest
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Upslope and adjacent to the high-quality floodplain forest in Unit 11.1, this area is also an older patch of forest that was not cleared for agricultural purposes. It is a small patch of transition hardwood limestone forest that is in relatively natural condition and is quite characteristic of that natural community type. The unit harbors many of the “rich-woods” herbs one would expect to see, has the typical tree diversity of sugar maple, hickories, oaks, and hophornbeam, among others, and also features a small permanent stream. The openness of the understory and sapling layer indicates a history of either livestock grazing or very heavy browsing by white-tailed deer. The easternmost edge of the unit, next to the park’s access road and parking area, has a forest cover that differs from the rest; rather than being composed of the transition hardwood species, that band of forest is a stand of old-field white pine with trembling aspen. It has been included in Unit 12 rather than Unit 13 for convenience of management boundaries.

Natural dynamics should be permitted to operate in this stand. Any large openings, either naturally wrought or created by tree cutting would be prone to invasion by buckthorn and honeysuckle. Therefore, maintaining a closed canopy by refraining from tree harvest is recommended; this is also of importance for protecting the stream ecosystem, controlling soil erosion on the steep slope, and buffering the strip of floodplain forest downslope. Although there are no trails in this unit, the area could serve as a teaching place for elementary or middle school students. Access is easy from the field to the north, and construction of trails in Unit 12 is not recommended, unless use becomes so heavy as to warrant its consideration as a protection for the natural community.

The patch of pine woods east of the access road and parking area comprises this unit. It was not visited during the management planning fieldwork related to developing the draft management plan, but it is presumed to be one or several stands of old-field white pine forest, similar to Units 4, 8, 10.1 and 10.2.

No particular ecological recommendations are offered for this unit. An aesthetic recommendation is to maintain the unit as a forest buffer between the park entrance and the railroad tracks.
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### Unit 14 – Transition Hardwood Limestone Forest

The area was not visited during the fieldwork related to developing the draft management plan. The USGS topographic quadrangle shows that the area was forested in 1972. Because it is in a similar landscape position to Unit 12, it is presumed that Unit 14 is, at least in part, transition hardwood limestone forest.  

*Since it is apparently a patch of older forest and it serves to buffer the stump dump from the creek as well as to control erosion into Otter Creek, it is important to maintain the unit in its natural forest cover.*

### Unit 15 – Community Gardens

The open area east of the access road and across from the stump dump has been used as a community gardens space. It appears to have not been used for that purpose for at least a few years. The vegetation, although it was not observed in any detail for this project, could apparently best be described as an herbaceous old-field.  

*No ecological recommendations are offered. If needed or desirable, the area should continue to serve as community gardens space; alternatively, allowing it to succeed naturally is a reasonable option. The area could also be planted with native species if there is a desire to reforest it more rapidly than might occur naturally. Initiating an annual fall mowing would keep the area open for resuming use as garden space, while allowing animals to complete breeding cycles prior to mowing.*

### Unit 15.1 & 15.2—Hemlock Northern Hardwood Forest

Between Otter Creek and narrow wetlands at the base of the Park’s ledgy, limestone terrain, hemlock-northern hardwood forest occurs on sandy, deep soils. The influence of the nutrients moving downslope can be seen in the presence of species such as lopseed, wild ginger and plantain-leaved sedge, but in general, the deep shade beneath the hemlock does not permit growth of as dense an herb layer as in the transition hardwood limestone forest upslope. A small amount of forest management activity is apparent in the woods, but there has been no recent tree-cutting and these units are thus relatively intact, albeit small, examples of the natural community type. The areas are adjacent to the high-quality examples of forest natural communities that form the northern part of the park. One uncommon species, Gray’s sedge, grows in the area.
As part of the northern forest reserve, these areas should be given the highest level of protection like their neighboring forest units (see recommendations for Unit 1.1, 1.2 & 2). They are important as intact forest natural communities in and of themselves, as well as for their functions of riparian corridors and water-quality protection.

The far northwestern corner of the park features a portion of the Otter Creek floodplain that is an herbaceous meadow. The area is low enough to be inundated annually for a period of time long enough to preclude succession to trees. In a dense growth, robust, wetland grasses, sedges and rushes such as bluejoint and reed canary grasses, mix with herbs such as Joe-pye-weed, white boneset, and spotted touch-me-not, nettles and arrowhead. Scattered shrub clumps of alder, silky dogwood, buttonbush and meadowsweet add complexity to the low vegetation. One rare (S2) species, rough avens (*Geum laciniatum*) was seen in the floodplain meadow; this member of the rose family has “stick-tight” seeds that are dispersed by animals; it has most frequently been seen on river floodplains on the west side of Vermont. The area was only very casually reviewed.

The herbaceous floodplain natural communities are somewhat ecologically sensitive, if only due to its the often-saturated soils and the potential for much soil disturbance and vegetation trampling in the meadow. Nevertheless, small groups are likely to enjoy the views of the creek and the open feeling in the park’s largest patch of naturally open vegetation. If it is found that many people are wandering into the meadow, it may be necessary to construct a small boardwalk. Natural flooding, however, is likely to require that the walkway be brought off the floodplain late each fall, so that spring floods do not wash it downstream.

Management of Wright Park will affect the pattern of the park’s land cover which will, in turn, affect the birdlife of the park. Natural community descriptions and recommendations provide the basis for avian habitats (Map 2-7), which is of particular concern to the donor. The following Avian Inventory & Analysis provides comments on the current use of the park by birds and recommends actions to enhance bird species diversity and abundance.
Section 2: Environmental Inventory & Analysis

The park’s diversity of natural communities and cover types promotes broad diversity of bird species. Such diversity enhances the value of the park for interpretive bird walks and casual birdwatching and should be encouraged by management practices.

Some of the park’s units, notably the shrublands, are in an active state of succession. If left unmanaged they will re-grow to forest in just a few decades. Other areas, like the transition hardwood limestone forest, are generally stable, giving little evidence of change from one decade to the next. At one end of this dynamic spectrum are forested lands of units 1,2,3,11,12 and 14 in the northern third of the park and along the wooded portions near the east shore of Otter Creek, and extending, interrupted only by the narrow swath of Otter Creek, to the west and north into the forested portions of the Otter Creek Gorge Preserve in New Haven and Weybridge. Among the bird species in these forests are Wood Pewee, Blue-headed Vireo, Red-eyed Vireo, Wood Thrush, Veery, Hermit Thrush, Brown Creeper, Golden-crowned Kinglet, Black-throated Blue Warbler, Black-throated Green Warbler, American Redstart, Blackburnian Warbler, Black-and-white Warbler, Ovenbird, Scarlet Tanager and Rose-breasted Grosbeak. Some of these species, for example Black-throated Blue Warbler, Ovenbird and Scarlet Tanager, require unfragmented forest (with large interior portions and little edge habitat) to achieve full reproductive potential. Studies show that they suffer reduced reproductive success when nesting within 100 meters of a forest edge. The elongated shape of Wright Park works against these species. Little of the forested area is more than 400 meters wide. Fully half of it lies within the edge zone, which is easily and regularly accessible to predators like raccoons and American Crows, brood parasites like Brown-headed Cowbirds. Edge habitat also suffers from lowered leaf litter arthropod abundance due to the drying effects of wind and sunlight, which penetrate in from the forest edge.

To maximize populations of these species management should avoid disturbance of the forest cover, especially at the margins, where access by predators, parasites and desiccating factors is highest.
Section 2: Environmental Inventory & Analysis

White pine is the dominant tree within Units 4, 8, 10.1, 10.2 and 13. These areas are relatively poor in bird life. Only the Pine Warbler, a pine specialist, is likely to be attracted to these areas. That species is not currently present.

It is not worthwhile to maintain five white pine stands in the park in the hope of attracting Pine Warbler. Unit 4, adjacent to the mature forests of units 1.1 and 1.2, provides a buffer against exotic plant invasion of the significant natural communities of these units. If left unmanaged, Unit 4 will eventually become more like the forests to its north, but with a larger component of white pine. Units 10.1 and 10.2 provide a partial visual screen between visitors to the park and the Exchange Street industrial park. If the decision were made to cut these pines, the area might beneficially be managed as a connector between the shrublands of Units 5 and 9. The eastern half of Unit 8 could also be committed to shrubland, providing additional connectivity between Units 5 and 9, while Unit 8’s western half might be retained as forested buffer for the narrow floodplain forest along the eastern bank of Otter Creek (Unit 7). A broad forested corridor along Otter Creek will encourage wildlife movement through the park. Although the area south of the park along Otter Creek is already given over mainly to residential use, which discourages wildlife movement in that direction, north of the park there is much more forest along the creek. Unit 13’s contribution to bird and wildlife diversity and abundance is uncertain. Perhaps its most valued function presently is as a visual buffer.

The shrublands of Units 5 and 9 offer an opportunity to manage for shrubland bird species. As a group these birds are in decline in Vermont and the Northeast, where there has been a general diminution of shrubland acreage over the last 75 years. Shrubland bird species include Alder Flycatcher, Great Crested Flycatcher, Eastern Kingbird, Grey Catbird, Northern Mockingbird, Brown Thrasher, Cedar Waxwing, Blue-winged Warbler, Golden-winged Warbler, Nashville Warbler, Yellow Warbler, Chestnut-sided Warbler, Prairie Warbler, Common Yellowthroat, Northern Cardinal, Indigo Bunting, Rufous-sided Towhee, Field Sparrow and Song Sparrow. The conservation status of all of these species remains relatively secure, but if Wright Park were devoted to shrubland management it would become the only area managed for shrubland in Addison County.
Section 2: Environmental Inventory & Analysis

Management would be accomplished by restarting the successional clock on a segment of the shrubland every year, so that after 7-10 years all the shrubland would have been treated by brush-hogging or other mechanical removal of successional trees. The shrubland would become a rotational mosaic of early to mid-successional sites, each with its characteristic bird community. The larger the area committed to this management the more likely it will be to attract the full range of shrubland species.

One consequence of this management would be to encourage invasive exotic shrub species, which are already present in considerable abundance in the park. Shrubland bird species are more concerned about vegetation structure than which shrub species are present. The integrity of the park’s natural communities would benefit from encouragement of native shrubs like gray dogwood and nannyberry, but it seems unlikely to make a difference to shrubland birds.

Grassland Units

It is assumed that the grasslands near the parking area and extending down to the river shore would be maintained as a grassy field to accommodate the type of recreational use this area is likely to attract.

Grassy fields in the unit 9.1 would probably be too small to attract members of the grassland bird community regularly, yet they would not detract materially from the rotational treatment of adjacent shrublands.

Unit 16 with its poorly drained, low vegetation has not been inventoried for birds but may well provide additional acreage for shrubland species in its current state.

Small Rodent Analysis

It is worth noting that the presence of the meadow voles in the old fields indicates that these areas are acting ecologically like meadows and therefore there might be an argument for retaining them. Also, no house mice were caught, a human commensal, which means that the closeness of the park to homes has not seriously impacted the spread of those exotic species into the area. One caveat on this, though, is that traps were not set right around the community gardens or the stump dump, so it still could be that commensals like house mice and rats are present but not as far north in the park as we trapped.
Section 2: Environmental Inventory & Analysis

Wright Park contains other special features that are noted on Map 2-8. These include legacy trees points of interest and rare plants.

There are several legacy trees, which remained throughout the land's use as pasture. The previously mentioned old bur oak measuring 31.8" dbh (diameter at breast height) within the clayplain forest is representative of an older generation of trees that one frequently sees in the formerly grazed woodlots of the clay plain. In addition, there are two legacy sugar maple trees within the northern old-field white pine section of the forest. Along the yellow trail two old white pines (31.5" and 26.3" dbh) stand east of the trail amidst the younger pinewoods. These trees were likely allowed to grow as shade for livestock and helped seed the young forest around it.

The beaver meadow is located along the Otter Creek. During spring months, the creek flows into the meadow to form a bay, which the beaver population takes full advantage of, until the creek level recedes to reveal a grassland. The nearby beaver dam is of particular interest to wildlife enthusiasts, and beavers can often be seen swimming in the creek. Many signs of beaver activity (chewed down trees) are visible along the stream and creek banks. It is near the safe refuge of water that beaver will venture to harvest sapling for storage in their lodges for winter. While the felling of larger trees also provides food the removal of large species allows more light in to produce young wood of high value close to the river banks where the beaver is safe from predation.

Geologic features include the stream formation over a limestone ledge near the railroad tracks. This disappearing water flow is an example of Karst topography, where the underlying limestone bedrock solubility allows water to erode, resulting in geologic formations such as sink holes and disappearing streams like this one present in Wright Park.

The cliff system in the northern part of the park and the old homestead site in the old field section are representative of historic cultural features in the park. While there is no archeologi-
Section 3: Community Goals

cal survey of the park available, it is speculated that Native Americans used the limestone cliffs for shelter.

Colonel Sumner Homestead

The relic barn foundation or homestead site is mentioned in the previous History section as the Colonel Sumner homestead, and reflects the area’s historic land use as a farm.

Community Goals—Description of Process

The Town of Middlebury supported Middlebury Area Land Trust’s (MALT) application for funding to create a management plan for Wright Park. This enabled the Town to achieve one of the goals in the Parks and Recreation Plan without expending any additional funds from the Town. MALT contracted the services of Marc Lapin to perform an natural communities inventory and analysis. In addition MALT was able to find a professional volunteer to create an avian resource assessment of the park.

Two public forums were held. The first, a small group of town stakeholders and government officials, assessed current use of the park and requested information regarding management and safety issues. The second forum was announced via a front page article in the Addison Independent and personal letters of invitation were sent to 68 individuals. Invitees ranged from Town officials, representatives from local organizations and businesses, MALT members and various individuals who expressed an interest in the process from responding to an earlier article in the MALT newsletter.

Gathering information from these sources along with creating natural resource maps and analyses, and historical information gathering done by a MALT intern and staff provided a basis on which the following compilation and recommendations were made.

Recreation Plan Citing

The Town of Middlebury Comprehensive Parks & Recreation Plan for 2000-2010 cites several specific broad goals that are pertinent to this plan:

- Increase public awareness of parks and recreation facilities in Middlebury
- Upgrade access road and parking area at Wright Park
- Develop hiking trails along the banks of Otter Creek
Section 3: Community Goals

Complete management plans for several parcels of natural area owned by the Town (pg 2)

Specifically this plan and a resulting pamphlet from this project will address Goal #8 of the plan (pg 13).

Develop a program to increase public awareness of all parks and recreation facilities in Middlebury by
1) Developing a brochure/map identifying and describing Wright Park
2) Develop trail descriptions to post at entrance
3) Having an article published in the local newspaper about Wright Park

Also there were three specific recommendations for Wright Park:
   Goal #1 Develop a Management Plan (September 2004)
   Goal #2 Transfer management to the Middlebury Area Land Trust (September 2005)
   Goal #3 Upgrade access road and parking area (October 2005)

The following resource protection needs have been identified. However, protections of some resource elements are dependent upon the treatment of others.

Protection and amelioration of water quality running through and by the park is important in light of the potential sediments and pollutants that are present in area surface waters. There are several needs to be met to reduce sediment and phosphorus loading in the water:
   Separate park users and drainage routes (which also benefits user experiences)
   Maintain wide vegetated buffer zones to increase infiltration, slow velocity, and reduce volume of flowing water thus reducing erosion in drainage channels

Terrain

Soil and slopes of the park are naturally subject to erosion. Protection against their deterioration from heavy trail use, and along steep slopes and zones susceptible to changing water level and flow should be assessed for trail closing, relocation, and maintenance by keeping the following principles in mind:
Section 3: Community Goals

Protect areas with highly erodible soils by disturbing minimally
Address use of trails in areas with slopes greater than 6%
Consider trail proximity to stream channels and river-banks

Viewsheds

The topography and location of the park allow for views of the Green Mountains, Chipman Hill, and the Adirondacks. This feature enhances user experiences in Wright Park. Preservation of these views is also important to the donor. Controlling vegetation height at certain areas of higher elevation in the park will:
   Provide for protection and/or expansion of specific broad views.

Natural Communities

The present diversity in Wright Park presents various examples and levels of natural community integrity. The needs of maintaining and increasing the ecological integrity of all areas, especially the high quality forest units in Wright Park can be met:
   Keep an ecologically significant core zone in the northern third of the park intact and disallow harvesting of any vegetation
   Prioritize protecting the high quality floodplain forest (Unit 11.1) from degradation from stump dump operations pushing waste over the banks and potential groundwater seepage from the old dump site
   Establish where and how meaningful control of invasive exotics can occur in the park
   Correct degradation and “trail drift” problems along the main drainage crossings by trails in the park (especially in Unit 6.1)

Wildlife

The location of Wright Park, contiguous to other protected lands creates greater core habitat for land and water species. Protection of this habitat is important to the donor and many park users, with particular focus placed on protection of songbird nesting habitats, especially in the shrubland areas which are home to abundant and potentially declining bird species. To meet the needs of maintaining not only an abundance of
Section 3: Community Goals

forage but a diversity of forage which is reflected in populations of all wildlife it will be important to:

- Maintain a core area of forest in the northern third of the park and protect its edges with a successional forest buffer
- Maintain the large current shrubland area, which would make this park unique
- Connect shrubland areas to make a larger core (non-fragmented) area for shrubland species
- Reduce area in park devoted to White pine (most likely in Units, 8, 5.2, 5.3, and 10.1)

Habitat fragmentation usually results in a decrease in healthy populations of wildlife. Protecting Wright Park’s history as a connected wildlife corridor for small and large animals (not only to the north and west) would alter the present park from becoming a “dead end,” corridor and contribute to the greater area’s environmental health by making a true corridor connected to conserved areas to the south and east.

- Pursue dedicating a wildlife (potentially human travel) corridor across the railroad tracks to the Industrial Park and Chipman Hill

The park is a valuable recreation resource for the Middlebury area. Active management for low intensity recreational opportunities will benefit expressed community desire to use and learn from Wright Park. Park enjoyment is the primary community need identified with the following aspects:

- Maintain wild and natural atmosphere of park
- Maintain hiking, biking and dog access to the park
- Maintain or increase levels (different trails) of maintenance on trails
- Maintain buffers from noise and visual pollution from industrial park
- Provide areas for outdoor classrooms
- Protect archaeological, cultural and natural history of park
- Educate potential and current users about the park
- Increase signs and print comprehensive map on trails for safety
Section 3: Community Goals

Management Needs

Limit altering trails from printed map locations increasing public safety for access by emergency personnel
Adding recreational use to southern area in park in form of Frisbee Golf course
Alter present use and practices of stump dump
Limit incompatible uses for natural resource protection

Wright Park needs a more active management regime to better serve the public. The Town should consider the following:

Approve a master plan with management zones
Delegate responsibility for the management of the park
Increase coordination and communication with current trail management volunteers
Create a volunteer corps or employ a maintenance team to undertake some of the management recommendations
Create a budget for a committee or organization to manage the park
Monitor need for ongoing management of the park
Create a budget for a committee or organization to manage the park

Access Needs

The park is currently accessible via foot or bike on the TAM from the Otter Creek Gorge Preserve to the north and downtown Middlebury from the south. Parking is sufficient for current level of use and appropriately surfaced (gravel), however formalizing current access points would benefit user experience. Currently the park is not handicapped accessible. To benefit more Middlebury taxpayers the following could be implemented:

Improve primary access area/parking lot
Create additional access route from industrial park area

Safety Needs

Access into the park in the event of an emergency is difficult for motorized vehicles. Other safety issues include the use of firearms within the park despite the no firearms ordinance designated by the Police Department for the Wright Park area. Rock climbing along the limestone cliff system in the northern part of the park is also of concern.
Section 4: Recommendations

Create (with police department) emergency access information for emergency personnel to familiarize themselves with the park.

Explore if improvements are necessary for emergency access vehicles

Eliminate bolts in cliffs to discourage rock climbing

Communicate with college groups to discourage rock climbing activities

The needs identified are limited in some ways by constraints (Map 4-1), while existing features in the park also lend themselves to additional opportunities. Analysis of park reveals several critical factors to consider in future management of the park.

Natural and manmade features create constraints for park use and development.

Slopes in excess of 8% prevent development of buildings and some trails. Slope constraints in combination with soil quality identifies areas of high erosion susceptibility.

The mostly clay soils in the park are subject to erosion and poor drainage. In particular, the Vergennes clay types C, D and E, and Livingston Clay limit where park development should occur.

Otter Creek and its tributary that bisects the park create hazards for humans and restrictions and difficulties for construction within the high water line, and wetland zones.

The industrial park produces potential water degradation and noise from outside Wright Park which constrain the enjoyment of park users. Stump dump activity encroaching on the park is of particular concern and constraint to the ability to protect water quality and the high quality floodplain forest in the park (Unit 1.1). This activity and its appearance is detrimental to the entry experience for parkgoers.

Constraints

Natural Constraints

Slope

Soil

Flood Plain/Stream dynamics

Man Made Constraints

Contextual intrusion

Isolation
Section 4: Recommendations

The location of the railroad tracks along the eastern boundary present limitations for easy pedestrian access to the east, where there are industrial businesses, fitness centers, and other recreational areas. In addition, the absence of a wildlife corridor to connect Wright Park with nearby Chipman Hill is also constricted by the railroad, the industrial park, and Route 7.

Despite these constraints, the park is at its core an area of open space available for user enjoyment. The park’s diversity makes it an area of ecological significance with several educational, recreational, and municipal opportunities. Certain natural communities offer opportunities for managed protection.

The northern part of the park is high quality, transition hardwood limestone forest and Clayplain forest, which serve as a forest core reserve. The opportunity is augmented by its location next to conserved “wild” lands and potential to increase the core zone by extending the forest edge south by allowing some field edge to re-grow and maintaining the core zone as a “no cutting zone”. This would create a large dedicated “wild forest core area”.

The high quality floodplain forest along the Otter Creek below the stump dump is also an opportunity to safeguard a dwindling resource and area of critical protection.

The large area of river and stream shoreline available to positively affect phosphorus and sediment load reduction in Otter Creek is an enviable one.

The current areas of shrubland provide an opportunity to manage a core habitat for nesting dedicated to potentially declining species of birds, which would greatly contribute to the park’s diversity of species and habitats. Shrublands supporting songbird populations in the park also create a “wild” feeling, because of the dynamic state and vibrancy of the community.
Section 4: Recommendations

Analysis of the above sections led to management recommendations (Map 4-1) for the Town of Middlebury to pursue in relation to Wright Park. Maintaining current attributes of the park and improving upon others is important to overall quality of life and economic development potential in the shire town of Middlebury, and surrounding dependent communities’ economies. Here are the overarching prescriptions:

- To protect resources as they exist and maintain “wild” preserve for local residents and visitors.

- To create natural and cultural history exhibits and educational material on the special features that exist in the park (see map 2-8)

- To retain and augment the large area in the southern most section in the park for picnicking and passive recreation use in conjunction with the continuing potential of the community gardens.

- To expand the community that uses Wright Park by exploring creation of an ADA accessible nature route or expand recreational activities supported in the park such as a Frisbee golf course.

- To assess and utilize the stump dump site for a managed community composting facility, or in the long term plan for the flat area’s use for an auxiliary ballfield, or educational/recreational facility.

- Create zones to define intensity of public use and management regimes for three areas in the park.

Zone 1: The southern third of the park is designated for the greatest intensity and large group recreational use. This would however only include what is termed more
Section 4: Recommendations

“passive recreation.” Amenities like trails, picnic tables, signs, and other forms of recreation that require minimal construction and ground disturbance. Management and use of this area is the most intensive in the park for reasons of access, safety and natural resource management. Large areas currently open will fall into a one-year rotation as maintained open fields, with a mowing schedule not to exceed two times within a season (this does not include trail maintenance). Other forested areas remain with the exception of reducing areas devoted to white pine forest. Removal of any white pine seedlings between 2ft. and 8 ft. will reduce the regeneration of white pine in this is desired in a long term management place. Selected cutting of trees for use in building and other recreational purposes in the park is permitted. Most of the current shrubland areas are maintained for songbird habitat on a 7-8 year rotational mowing schedule.

Zone 2: The areas contained in units 5.1 and portions of 5.2 and 5.3 are maintained as shrubland bird habitat with the creation of a 7-8 year rotational mowing schedule. In this way the panoramic views are maintained in the park. The forested zones along Otter Creek and the streamside areas are maintained as buffer zones and wildlife corridors with a minimum of management needs except for potential elimination of invasive exotics.

Zone 3: The northern third of the park makes up Zone 3 which supports limited human activity to protect the high quality forests which exist there. Management of this area is “wild” management allowing tree cutting only for trail maintenance. Downed trees are left to decay in a natural manner. Invasive exotic vegetation removal is allowed.

Careful consideration of where and why trails are located should govern any trail construction or modification. Several trails appear to be minimally used, poorly maintained, or traverse sensitive areas; use of these should be discontinued.
Section 4: Recommendations

Other trails duplicate user experience, particularly in the northern forest. Minimizing trails and negative consequences of trails in Zone 3 should be sought wherever possible. The following trails are recommended for modification or elimination (Map 4-3):

- Combine the white circle trail with the blue trail to eliminate sections that are:
  - Dangerous along the upper cliffs
  - Subject to erosion and difficult maintenance along Otter Creek
  - In proximity to the waste water outlet and associated smells
  - Under used and poorly marked along the bottom of the cliff system

- Eliminate the section of red trail running east to west through the clayplain forest unit to
  - Protect fragmentation of an ecologically significant forest
  - Reduce soil compaction and potential erosion

- Eliminate the Orange trail running east west through the park because:
  - It is minimally maintained
  - Erosion has been a problem since its early days as a cow path
  - It passes back and forth over a drainage channel

The addition of trails in the southern part of the park will hopefully decrease intensive use in the northern section and create additional loops and access from other areas to spread out users in the park. Consideration of the addition of trails in proposed locations with accompanying reasoning:

- A trail spur from the main TAM trail for access to view the waterfall and stream passage through limestone bedrock highlights this special feature.
- Adding a small connector section to make a continuous trail from the combination of the white circle and blue trails
- An ADA loop created by connecting the main TAM loop to a trail traveling east and through management
Section 4: Recommendations

unit 9.2 along an area with minimal grade (see slope analysis Map 2-3)

- A trail connecting the Pine Meadow housing complex that runs either from the main entrance through Unit 13 or traversing the community garden area on an old ATV route. This spur will increase use from local residents.

- A short spur starting at the main entrance traveling down to the edge of the high quality flood plain forest will raise awareness of this forest jewel and its need for protection from the stump dump. This area has potential for a convenient outdoor classroom and may not need a dedicated trail. Until such time that use is excessive, a trail is a proposed as an effective way to reduce impact on a broader area.

- Addition of a TAM connector to the Industrial Park would require construction of a bridge across the railroad right of way. This has much merit for increasing park access. One possible location is the junction of the proposed ADA loop and the white triangle trail. Exploring means of an underpass in another location also exists. Adding access from the east will accommodate users from the residential community and workers from the industrial complex as well as establish a travel corridor for other recreational users and wildlife.

Erosion Control

Protection from erosion is paramount when considering development of trails or structures. Creation and maintenance of trail surfaces is important to reduce erosion and benefit user experiences.

- Disturbed soil should be quickly revegetated. Use of weed fabric and crushed stone on surfaces with minimal grade, high traffic, and high water table should be considered. Grades of 6% or greater should have water bars installed.

- Creation of water bars and other water diverting techniques should occur on trails maintained on old paths and logging roads where slow but persistent erosion creates a gully for a trail.

- Additional structures such as boardwalks and bridges should be placed where trails cross drainages.

Current Recreational Use
Section 4: Recommendations

Bike use should be limited to remain on designated trails to prevent excess erosion and damage. The cliff system presents itself as a dangerous situation, and rock climbing in this area should be discouraged in a way that does not increase town liability but prevents harm, such as the removal of bolts from the rock face. The cliff is a resource of aesthetic and ecological importance.

Siting of buildings or large disturbance areas should include creation of retention areas for runoff to reduce erosion. Only two locations in the park should be considered for structures: the stump dump site, and area off of the proposed ADA loop route that lies with in a 0-3% grade area.

A potential future use of the existing trails and field near the park entrance is a Frisbee golf course. This low intensity use would provide a unique opportunity for Middlebury area residents. Orienteering is another potential recreational activity which Wright Park could be used for.

Changing the signs at the beginning of Seymour St. Extension would better introduce the visitors to the park while traveling in the Pulp Mill Bridge Area. In addition, at the entrance to the Stump Dump, signs clarifying Wright Park parking and entrance located further down the street would eliminate park parking at the entrance to the stump dump and perhaps help to minimize the large entrance area at the Stump Dump gate.

The addition of an entrance kiosk and group gathering place at the northern border of the parking area is recommended. Replacement of the existing gate to create a more visually aesthetic entrance experience while accommodating bikers and hikers, yet limiting vehicular access to the park is also proposed. Design of the entrance should also accommodate emergency vehicle access.

Creating and posting a map, separate from the TAM map, showing all open trails in the park, would better distribute users throughout the park while showing the TAM and TAM loops as the main routes. The creation of a kiosk and addi-
Section 4: Recommendations

Emergency Access

Additional signs at the park entrance will help users orient themselves while learning more about the natural landscape, special features and trail characteristics. Creating and posting descriptions of trail routes is recommended. Erecting laminated trail signs at each major trail intersection would benefit users. Educational signs about natural and cultural resources like legacy trees, special features, management areas and natural community types are highly recommended to contribute to the enjoyment of this town park.

Parking

The design of trails to allow light four wheel drive access across most of Zone 1 would allow quicker emergency coverage in the most intensely used area of the park while limiting excessive intrusion. Delivering a revised trail map and trail descriptions to the emergency operations and inviting them to conduct training in the park would support their organizations while increasing visitor safety.

Remedial Zone

It is recommended that the surface of the parking area always remain gravel. If current user rate continues with minimal increases, the availability of spaces is sufficient. However, directing visitors to create pull in parking would allow for best use of the present parking area. Signs posted along the eastern fence line should request visitors to pull in park rather than parallel parking. In this way, parking should accommodate moderate increases in park use. When necessary, parking lot expansion should be accommodated by increasing lot width by an additional 24 feet. This would add another line of 90 degree parked cars with a shared lane for car back up, entrance and egress. Additionally this should provide for a mowed strip of 2 feet in front of each line of cars to allow safe pedestrian access to the park entrance from the parking lot.

The remedial zone defined on the recommendations map is an area of particular concern because of the stump dump activity and high quality floodplain forest which exists within it. This zone should be given special attention in the future. Remediation of dump pressures and slopes, and protection of the high quality floodplain forest is recommended. The stump dump should be considered as a potential site for any future constructed facilities such as a nature center or ball
Section 4: Recommendations

fields because of its minimal slopes. Potential for this area for use as a true composting facility would be far better for the park than its current management practices and also would be a tremendous asset to the community and a potential revenue generating operation for the municipality.

The rare plants found in Wright Park should be protected from human contact by limiting knowledge of their existence and location. Educational signs about species present in the park should cover abundant species, or specimens to big to carry. Unfortunately collectors do harvest rare plants; advertisement of the specific locations of plants, even though most species in the park are not wildly popular with collectors, is not recommended. However general knowledge that rare plants do exist in the park can increase the respect residents have for the natural resources being protected there.

These recommendations try to balance Wright Park resources available with the uses preferred by area residents for the park. Most proposals emphasize user experiences and ensuring an excellent trail system in the park. Increased user enjoyment and understanding of the environment, augmented with additional signs in the park, will benefit individuals and potentially the region’s economy. As noted, some uses are incompatible with others. For instance, site-based, large group recreation and ecological restoration or natural community conservation are not compatible in the same part of the park. Another example is the conflict between conservation of the temperate calcareous cliff and rock-climbing. It is necessary to carefully consider management of the park, to consider which management objectives have priority and where, and to consider which uses may not be appropriate for this piece of land.

Wright Park is a special piece of land; the community will continue to benefit from its public use and active stewardship. Natural features and characteristics of the park are an integral part of user experience and should be protected and managed in such a way that maximizes this local opportunity to enjoy a “wild” land. Town ownership combined with active manage-
Section 4: Recommendations

Goals and Objectives

ment will allow future generations to enjoy Wright Park’s diverse landscape as we do today.

Goal 1
Active management of Wright Park protecting resources and maintaining systems
- Implement policy to ensure active management and maintenance of park (Summer 2005)
  1. Adopt this recreation management plan (June 2004)
  2. Establish committee or consider an organization to oversee management, write grants and administer projects (Fall 2004)
  3. Formalize MOU between town and organization/committee June (2005)
- Create caretaker/volunteer corps and management system (Summer 2004)
  1. Maintain trail systems
  2. Post organization name and contact number for citizens to approach with questions, suggestions and concerns
  3. Manage zones of park appropriately
  4. Create outreach to assess potential users of park
- Create systems to assess proposals for recreation use in southern section of park (zone 1) (Summer 2006)
  1. Set up meetings with interested parties
  2. Pursue options to develop low impact, alternative recreational uses
  3. Create long term plan
  4. Create outreach to assess potential users of park
- Seek funding sources for projects (ongoing)
  1. Define list of improvements matched with potential public & private funding sources
  2. Define budget for park maintenance
  3. Prioritize improvements/maintenance efforts
  4. Write grants
  5. Oversee disbursements
Section 4: Recommendations

Goal 2
Improve recreation facilities in Wright Park

- Formally adopt trail closings/ assess trail additions (Summer 2005)
  1. Take down trail markers from closed trails
  2. Tag potential future trails for further assessment

- Provide signs and parking to improve access, safety and user experience (2005-2010)
  1. Create list of items for posting on bulletin area 2004
  2. Design and create kiosk 2005
  3. Assess and improve present trail markings (2005)
  4. Design create and install signs for trail intersection locations (2006)
  5. Design, create and install signs for parking area (2008)
  6. Assess signs at Seymour St extension and Stump Dump entrance to improve visitor experience, consider replacement (2009)
  7. Redo gate and entry area 2010

- Assess trails system in comprehensive, detailed manner (Summer 2007)
  1. Hire consultant to assess and categorize trail improvements for immediate maintenance needs, short term and long term improvements
  2. Review, prioritize and adopt timelines for trail improvements

- Create trail management plan (Summer 2008)
  1. Using assessment create annual work schedule and long term work plan

- Create/maintain safe trail system for shared use and singular use for bikers and hikers
  1. Distribute pamphlet, map and information to local emergency forces (Summer 2004)
  2. Communicate with local emergency forces to make park available for training sessions (Summer 2004)
  3. Consider maintaining full width of main trail system

- Assess Zone 1 for amenity additions
  1. Consider type and addition to current picnic tables in the park
Section 4: Recommendations

2. Consider development of Frisbee Golf course
3. Consider creating an ADA accessible trail
   • Create survey for users for trail assessment
     1. Arrange for student/group to create survey for distribution
     2. Establish system for distribution, collection and utilization of data

• Assess grant opportunities
  1. Define timeline for application and implementation of grants

Goal 3
Protect Wright Park’s natural resources
• Create policies regarding management zones in the park (Fall 2005)
  1. Adopt maintenance policies for each zone in park reflecting recommendations of this plan

• Create maintenance plan for each zone (Summer 2005)
  1. Commit to management as suggested in Recommendations “zoning” section (p.49)
  2. Seek contractors to maintain rotation of bird nesting/shrubland areas
  3. Arrange for brush hogging to be done to achieve synchronization of proposed yearly mowing regime

• Assess Cliff Area use (Fall 2004)
  1. Meet with Middlebury College officials to discuss concerns of use by students (Fall 2004)
  2. Address website and promotion of cliffs as a recreation area with Middlebury College’s Mountain Club (Fall 2004)
  3. Prohibit rock climbing to prevent damage to fragile ecosystem
  4. Explore informal methods for enforcement and education regarding the prohibition.
  5. Emphasize inaccessibility for emergency services

• Integrate with access plans (2006)
  1. Meet with DPW and create long term plan for protection of resources, access and parking for the site

• Educate citizens (ongoing)
  1. Create pamphlet (Summer 2004)
  2. Ensure distribution
Section 4: Recommendations

3. Ongoing outreach and program development to use Park
   • Discuss with donor transferal of gas and mineral rights to separate non-profit entity such as MALT (Summer 2004)
     1. Meet with donor
     2. Engage legal opinion
     3. Propose drafting of legal document
     4. Oversee transfer

Goal 4
Wright Park is linked to protected areas in the south and east (2010)
• Investigate areas where a corridor could be created (Summer 2005-8)
  1. Assess potential site for corridor
  2. After trail assessment by consultant determine potential, goals, scope and cost of project
  3. Pursue support from individuals, businesses, residents and groups
  4. Define date to commence
• Pursue protection and creation of a corridor
  1. Approach landowners
  2. Request easements
  3. Communicate with railroad
  4. Explore options for pedestrian crossing of railroad
  5. Acquire easements
  6. Formalize RR crossing

Timeline

Items from previous list are used to make up the following timeline. Items without times specified are those which will be undertaken as the need arises or the management of the Park receives funding support to pursue.

2004
• Adopt this recreation management plan
• Establish committee or consider an organization to oversee management, write grants and administer projects
• Create pamphlet for distribution
• Discuss with donor transferal of gas and mineral rights to separate non-profit entity such as MALT
• Assess Cliff Area use
Section 4: Recommendations

- Meet with Middlebury College officials to discuss concerns of use by students
- Address website and promotion of cliffs as a recreation area with Middlebury College’s Mountain Club
- Distribute pamphlet, map and information to local emergency forces
- Create caretaker/volunteer corps and management system
- Create list of items for posting on bulletin area

2005

- Create policies regarding management zones in the park
- Implement policy to ensure active management and maintenance of park
- Create maintenance plan for each zone
- Create/maintain safe trail system for shared use and singular use for bikers and hikers
- Communicate with local emergency forces to make park available for training sessions
- Design and create kiosk
- Formally adopt trail closings/ assess trail additions

2006

- Integrate natural resource protection plans with access plans
- Assess and improve present trail markings

2007

- Assess trails system in comprehensive, detailed manner
- Create systems to assess proposals for recreation use in southern section of park (zone 1)

2008

- Create trail management plan
- Design, create and install signs for parking area

2009

- Assess signs at Seymour St extension and Stump Dump entrance to improve visitor experience, consider replacement

2010
References

8. Town of Middlebury. Town Land Records:
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15. Town of Middlebury. Ordinance Restricting the Discharge of Firearms. 1993