

Chapter 5 Analysis and Alternatives

Park Classification

There are two primary sources of reference for the classification of park land under the Office of Parks, Recreation and Historic Preservation (OPRHP) jurisdiction: Article 20 of Parks, Recreation and Historic Preservation Law provides for the designation of Park Preserves and Park Preservation Areas. The OPRHP Parkland Classification provides the ability to further define the park units within the 23 classifications for characterizing the park.

During the 1970's, OPRHP undertook studies and gathered data on a variety of environmental and management factors for each park. This information was the basis for the development of a classification system for land in the State Park System (OPRHP, 1980). Under the classification system, Minnewaska State Park Preserve has been classified as a Scenic-Preserve Park (1980) and a Park Preserve (1993). The master planning process presents the opportunity to reevaluate a park's current classification and modify it if necessary, based on the most recent natural, cultural and recreational resource inventories.

The current Park Classification System has six major classification categories: Park and Land Resources, Water Access, Historic Resources, Linear Systems, Underwater Sites, and Environmental Education. Minnewaska State Park Preserve falls in the "Parks and Land Resources" category. Minnewaska falls within the Park Preserve subcategory classification according to the Classification System outlined in the 2009 SCORP. SCORP defines the focus of a Park Preserve to be its natural attributes and its environmental research and educational opportunities, but may also provide for limited recreational use based upon the carrying capacities of the resource base and other program considerations. These may include large tracts of barely disturbed woodland or habitat important for wildlife and areas that present development and land use constraints such as unusually steep topography. Because of the sensitivity of the ecosystem, human use must be limited. Recreation activities are generally passive in nature. Activities may include, but are not limited to, nature interpretation, hiking, canoeing, snowshoeing, cross-country skiing, hunting and fishing. Where such use is compatible with the environment, bicycle riding, horseback riding, primitive camping, picnicking and similar forms of activities may be permitted. Highly developed facilities are kept at a minimum. Alteration of the natural setting is greatly discouraged and great care is taken to minimize visual intrusion.

Article 20 of the Parks, Recreation and Historic Preservation Law outlines the process for designation of entire parks as part of a statewide park preserve system. Portions of parks, called Park Preservation Areas, can also be included as part of the park preserve system. Article 20 calls for scientific studies to determine what areas should be designated as part of the system. The law also provides guidance for protection and interpretation within Park Preserves and Park Preservation Areas.

Minnewaska State Park Preserve as a whole is primarily forested. The most heavily used area within the Preserve is concentrated and centered on the 36 acre Lake Minnewaska. The remainder of the Preserve provides carriage road and trail opportunities, swimming, climbing, non-motorized boating and scuba diving. Some areas contain steep talus slopes which would preclude most recreational activities and development of support facilities.

Soil within the Preserve is relatively shallow and considered well to excessively drained with the exception of those associated with water bodies and wetlands. There are several naturally occurring wetlands and many smaller wetlands within the Preserve. There are 32 distinct ecological

community types with 14 recognized as significant. The Shawangunk Ridge includes a wide variety of plant communities including Chestnut Oak forests, Hemlock-Northern Hardwood Forests, Dwarf Pine Ridges and Pitch Pine/Oak/Heath Forest. Each of these communities is considered significant because of a limited number of occurrences. The Ridge provides many spectacular views of the Catskill Mountains, the Rondout and the Wallkill River Valleys.

It is recommended that Minnewaska State Park Preserve remain classified as a Park Preserve and all acquisitions since the 1993 Master Plan be included in the Park Preserve classification, as defined by Article 20 of the Park, Recreation and Historic Preservation Law.

Natural Resource Assessment

The natural resources of the Preserve have long been recognized as having state, national and even global significance and there is a vast amount of information available on these resources. The 1993 Master Plan is a base for this Plan and the information and recommendations from that plan are used here as a starting point. The overall goal from the 1993 Master Plan “To preserve and protect the natural, cultural and physical resources of Minnewaska State Park Preserve while making available to the public compatible recreational and educational opportunities” continues to be the main goal of the 2009 Master Plan and supports the agency’s commitment to natural resource stewardship.

The 1993 Master Plan compiled a significant amount of information on the natural resources in the Preserve. It also included a set of major management policies and implementation guidelines for managing the Preserve. Many of the policies, such as recommendations for use of native plants and allowing for natural succession, are still valid. Some, such as the creation of an inventory of rare plants and animals, have been implemented. Others, including control of invasive species and study of the potential beneficial and adverse impacts of controlled and managed burns, are underway and ongoing.

PIPC and OPRHP are members of the Shawangunk Ridge Biodiversity Partnership (SRBP), which is composed of non-profit and public agencies dedicated to the protection of the natural resources and biodiversity of the Ridge. In 2003, the SRBP completed a set of Protection and Management Guidelines which serve as a framework for coordinated protection and management by the members. Using scientific field studies as a basis, the partners of the SRBP work collaboratively to manage the ridge wide resources and develop strategies for tackling major resource protection issues including deer management, fire management and invasive species control.

Protection and stewardship continues to be the focus of the analysis of the significant natural resources in the Preserve in this Plan.

Plants, Animals and Ecological Communities

As described in Chapter 3, the NY Natural Heritage Program (NHP) surveyed the Preserve in 2008 to identify rare species and significant natural communities, expanding and updating surveys conducted in 2002. The results of these inventories were compiled in a report “Rare Species and Ecological Communities of Minnewaska State Park Preserve” (Smith and Lundgren, 2009). This report concluded that “the excellent condition of Minnewaska’s significant natural communities, populations of rare species and their habitats make it an exceptionally significant site in terms of biodiversity conservation in New York State.” It noted that the common species and communities also contribute to the Preserve’s biodiversity and that the Preserve is an important core of the unfragmented landscape of the Shawangunk Ridge.

Rare Species and Significant Natural Communities

As noted above, the NHP report focused on rare species and significant natural communities. It identified threats to these resources and provided management recommendations for consideration in protecting the biodiversity of the Preserve.

One of the greatest threats identified in the NHP report is recreational overuse. Many of the most significant communities are also some of the most popular visitor destinations. For example, the pitch pine-oak-heath rocky summit communities provide many open, scenic viewing areas. These communities are also susceptible to erosion. Rare plants in these areas and along trails are vulnerable to trampling. There is a need for continued monitoring of conditions. Hikers need to stay on trails. Additional education programs and materials on the importance and fragility of the Preserve's resources may help visitors become more aware of the need to protect the Preserve's resources.

Climbing is currently allowed by permit in the Peter's Kill area of the Preserve. Climbing is growing in popularity and the Shawangunk Ridge is one of the most popular destinations for this activity. The cliff communities in the Preserve are known to be inhabited by rare plants, including state threatened mountain spleenwort. However, surveying the cliffs for plants and communities is limited by the difficulty in accessing the cliff face. Additional surveys are needed, including of the many lichens, to determine the extent of populations. In addition, birds such as ravens and peregrine falcons are known to nest on the cliffs. Talus areas at the base of the cliffs may provide habitat for rattlesnakes. Any expansion of climbing needs to take these resources into consideration. The NHP report recommends that climbing be limited to the existing designated area. If expansion of climbing is considered, a full inventory of the plants and animals above, below and on and around the cliff area is needed.

Some trails and carriageways pass through rare plant populations, habitat areas and/or significant communities. Continued monitoring is needed to assess and evaluate their condition. New trails need careful assessment. When warranted, trail reroutes and even possible closure should be considered. This should be done in consultation with volunteers and users. Training for Preserve staff and volunteers in identification and characteristics of the rare species and communities would provide additional protection.

Rare Plants

The NHP report documents that the Preserve contains many significant rare plant populations. The NHP surveys found new populations of rare plants, including sedges and rhodora, which further confirm the importance of the natural resources in the Preserve and on the Ridge. Protection of these resources requires monitoring and careful planning of the public use of the Preserve. Visitors to the Preserve need to be educated on the importance of staying on designated trails and climbing in designated areas. Areas proposed for new trails, trail reroutes and expanded access for climbing need to be surveyed for rare plants so that appropriate adjustments can be made that will avoid impacts. Currently, access to the old growth forest areas of the Preserve is limited. This should continue as a means of protecting these areas. Both invasive plants and animals pose a significant threat to the rare plant populations. Resource protection and management programs, including invasive species control, deer management and fire management planning, are also important to the long term protection of the rare plants in the Preserve and on the Ridge.

Rare Animals

The Preserve provides habitat for a number of rare animals. Similar to rare plants, protection of the rare animals requires monitoring and careful planning of public use. For example, the Preserve

provides habitat for timber rattlesnakes which currently face a number of threats including habitat loss and damaging interaction with people. The Preserve provides an important expanse of protected land needed by the snakes to travel the extensive distances between their dens and foraging habitat. Interactions with people can be further limited by assuring trails are located as far as possible and reasonable from den sites. Education of the public is also important so that people know how to react if they encounter snakes.

Past ecological surveys of amphibians and reptiles within the Preserve identified the marbled salamander (*Ambystoma opacum*) and spotted turtle (*Clemmys guttata*). A survey of bat populations was conducted in 2003 which documented the capture and release of a total of 70 bats of four species. The research of all rare and threatened animal species will continue to be an important part of the Preserve's programs.

Minnewaska State Park Preserve has at least twenty-eight populations of two rare moths. The findings support and promote existing data and support the ongoing preservation and natural resource protection within the Preserve. In 2008, a moth survey was conducted. Of the four rare moth species historically known to be in the Preserve, only two were identified in this survey. Continuation of current Preserve practices of very limited overnight lighting or use of pesticides is important for the protection of these moth species, as well as the bats found in the Preserve.

Fish

As mentioned in Chapter 3, fish are rare within the Preserve due to the acidic nature of the lakes. The resort era led to the stocking of several species of fish in both Lake Minnewaska and Lake Awosting for sport fishing. Shortly after each introduction, the great majority would die.

In recent years, golden shiners have been seen in Lake Minnewaska. The introduction of the Golden Shiner is most likely the result of bait fish discarded into the lakes. With the introduction of fish in Lake Minnewaska comes the potential for aquatic habitat disruption including the sensitive habitat of three species of salamander, the two lined salamander, the northern red salamander and the marbled salamander. This lake habitat disruption needs to be further analyzed and addressed. The Golden Shiner population needs to be assessed and solutions to their removal or reduction considered. Additionally, within the Coxing Kill, the outlet of Lake Minnewaska, natural reproducing brook trout have been documented.

Tillson Lake, a man made water body contained by an earthen dam on the Palmaghatt Kill provides an ecosystem for bottom dwelling fish. It is fished by the local community and provides primarily Bullhead. Tillson Lake is not part of a statewide stocking program and may have been stocked by a previous owner of the property.

Birds

Bird inventories have been conducted within the Preserve for many years. The intact forested landscape at Minnewaska provides outstanding habitat for a variety of bird species that are sensitive to habitat fragmentation. Many of the bird species supported by the forests of Minnewaska have been listed as Species of Greatest Conservation Need, including Red-shouldered Hawk, Whip-poor-will, Wood Thrush, and Canada Warbler. This unique bird community has been recognized by designation as an Important Bird Area by the New York Audubon, and as a Bird Conservation Area (BCA).

A significant majority of the Preserve land is classified as a BCA. Acquisitions since 2006 represent similar habitat to that found within the existing BCA. Chestnut oak forest, classified as a significant

natural community, comprises the majority of the proposed land added to the BCA. These parcels provide high-quality habitat for forest-interior bird species for both breeding and migration.

Generally, the recent acquisitions that are adjacent to existing state park and BCA land represent similar habitat. Two exceptions exist. First, the beach area along the southern edge of Lake Awosting was excluded from the previous designation, presumably due to the toilet facilities at the site. After reviewing this site, it has been determined that the development at the site is minimally intrusive and does not detract significantly from the goal of bird conservation. It is recommended by OPRHP that this area be included within the BCA. Second, there is a disjunct acquisition near the northern edge of the Preserve. Although there is light development adjoining some of this parcel, it is still continuous with a larger forest tract, and should provide suitable habitat for forest-dependent birds. See Appendix C – Birds of Minnewaska State Park Preserve.

Water Resources

Lakes and Streams

The three high elevation lakes in the Preserve, Lake Minnewaska, Lake Awosting, and Mud Pond, are all highly acidic, resulting in water with extreme clarity and little aquatic life and giving rise to very specialized and rare aquatic ecosystems. Of these lakes, Lake Minnewaska is the least acidic and presently is supporting fish. The NHP report recognized that all of the lakes in the Preserve are uncommon as they appear to be dominated by native species and support unusual flora and fauna. Efforts are needed to maintain water quality by controlling runoff from carriage roads, and other facilities; and preventing introduction of non-native species into the lakes. Water quality monitoring should continue as well as monitoring and research on the lakes' ecology. Particular effort should be made to determine the effects of the golden shiners found in Lake Minnewaska in 2008 (Smith and Lundgren, 2009). Tillson Lake, acquired as part of the Awosting Reserve, is a warm water lake created by damming the Palmaghatt Kill below the southeastern side of the Ridge. The lake supports fish and is used by local residents for fishing. It is recommended that the water quality of this lake be monitored over time to determine if its overall quality is changing in any way. The dam impounding the lake water should also be maintained in order to retain current lake levels. Four major streams flow northward down the ridge and into the Rondout Creek: Peter's Kill, Stony Kill, Sanders Kill, and Coxing Kill. The Palmaghatt Kill flows southward down the ridge and then eastward into Tillson Lake and the Shawangunk Kill. The Verkeerder Kill also flows southward down the ridge, receiving water from the outlet of Lake Maratanza. It is also important that the water quality of these streams be monitored to assure that the good quality of these streams is maintained.

Wetlands

The thin soils and the impermeable nature of conglomerate rock of the Ridge only allow for poor drainage where the surface is not pitched, resulting in many bogs, vernal pools, and other wetlands throughout the Preserve. Several freshwater wetlands mapped by DEC and the National Wetland Inventory (NWI) are protected under the NYS Freshwater Wetlands Act. All wetland bogs and vernal pools are in a natural state with little or no impacts. Protection of the wetlands is important to the biodiversity of the Preserve. Monitoring should continue, particularly of those wetlands near trails or carriageways. Invasive species should be identified and removed quickly to avoid spread and impairment of habitat. The Lower Awosting causeway wetland was created as a result of the causeway construction in the 1950's. Poor drainage caused by a collapsed culvert within the causeway causes extreme flooding during heavy rain. The culvert elevations will remain consistent with the existing elevation, water levels will not change and the wetlands should remain unchanged.

A sizeable wetland is located on the north side of Mud Pond (Lake Haseco) along The Long Path route located on Scenic Trail. Consideration should be given to rerouting this trail to its historic location along the south side of Mud Pond.

Resource Analysis and Alternatives

The resource assessment and alternatives options were conducted to determine the appropriate and preferred uses within the Preserve. The analysis and assessment of the alternatives for the key components is presented below in tabular form. Each designation, activity, improvement or proposed facility was assessed for both its function and its compatibility with the Goals and Vision stated in Chapter 4. Alternative 1 is the Status Quo alternative and consists of current facilities, programs and practices as described in the Environmental Setting chapter. Components from the adopted 1993 Master Plan are also identified in this alternative and identified as complete or incomplete. Additional alternatives that are compatible with the preserve status have been analyzed and recorded below for consideration, with the preferred option(s) chosen.

Designations

| <i>Park Preserve Designation</i> | |
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| <p>Background for Analysis: As described earlier in the Classification section of this chapter, the Preserve has seen significant expansion since the 1993 Master Plan. Land acquired after 1993 has not received official designation as Park Preserve; however, the land has been managed in a way that is consistent with Preserve designation. Acquisitions after 1993 possess rare and threatened species of flora and fauna as well as several significant ecological communities, several of which are rare within the State of New York or globally.</p> | |
| Alternatives | Considerations |
| 1. Status Quo | <ul style="list-style-type: none"> • Over 12,000 acres of Minnewaska designated a Preserve and protected as part of the 1993 Master Plan. • Over 8,000 acres of land acquired after 1993 are not designated as Park Preserve under the State Park Law. • The undesignated land is not afforded protection from more intensive uses/development provided by designation as a Park Preserve. • The land will continue to be managed consistent with the lands designated as Preserve. • The land will continue to include passive recreational opportunities. |
| 2. Designate all new land purchased after 1993 as a Park Preserve | <ul style="list-style-type: none"> • Over 8,000 acres of land acquired after 1993 is designated a Park Preserve under State Park Law. |

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| | <ul style="list-style-type: none"> • All land associated with the Preserve will be managed consistent with the guidance provided within the law. • Important resource areas would be protected from pressure for more intensive uses/development. |
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Preferred Option: Option 2

Option 2 is preferred because it supports the vision and goals of the Preserve set forth in Chapter 4. All land within the Preserve will be protected by the Park Preservation Law. Resource management, research, education and passive recreation opportunities will continue.

Bird Conservation Area

Background for Analysis: The Preserve was designated a Bird Conservation Area (BCA) in 2006 to protect bird habitat and the sensitive breeding areas along the Shawangunk Ridge. In 2006, the Preserve consisted of 20,000 acres. Since 2006, land acquisitions have been made comprising over 1,000 acres. These areas have been assessed for their significance by OPRHP staff and most acquisitions meet the criteria for designation as a BCA. A Management Guidance Summary, prepared for the BCA in 2006, identifies the criteria for designation, operation and management, education, outreach and research considerations for the BCA.

| Alternatives | Considerations |
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| 1. Status Quo | <ul style="list-style-type: none"> • The acquisitions made after 2006, consisting of over 1,000 acres, are not included in the existing BCA. • The acquisitions made after 2006 will remain forested and undeveloped. |
| 2. Designate undeveloped land purchased after 2006 as a BCA | <ul style="list-style-type: none"> • The acquisitions made after 2006 which meet BCA criteria are included within the existing BCA. • Passive recreation opportunities remain. • Potential future development will be supportive of BCA designation. |

Preferred Option: Option 2

Option 2 is preferred as it supports the protection, preservation and biodiversity of the Preserve. The acquisitions made after 2006 have been evaluated for their significance, many of which are deemed suitable as a BCA. See Figure 5 – Bird Conservation Area.

Natural Heritage Area

Background for Analysis: The Preserve has many ecological communities that are significant on a statewide and, in some cases, global level. These significant communities are located throughout the Preserve. Rare, threatened and endangered species of both flora and fauna are also present throughout the Preserve. The designation of the Preserve as a Natural Heritage Area would recognize and promote the Preserve as an area with significant natural resources.

| Alternatives | Considerations |
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| 1. Status Quo | <ul style="list-style-type: none"> • The Preserve is not designated as a Natural Heritage Area. • The Preserve remains a significant natural resource protected under State Park Law. |
| 2. Designate Minnewaska State Park Preserve as a Natural Heritage Area | <ul style="list-style-type: none"> • The Preserve is designated as a Natural Heritage Area and is further recognized as a significant natural area worthy of protection. • Passive recreation opportunities remain. • Development proposed in the Plan will be compatible with Natural Heritage Area designation. |
| <p>Preferred Option: Option 2 Option 2 is preferred as it supports the protection, preservation and biodiversity of the Preserve. The Preserve possesses ecological attributes worthy of designation. The many significant communities and rare, threatened and endangered species will have an extra level of protection and recognition as a significant natural resource.</p> | |

Natural Resource Protection Strategies/Management

Natural resource protection and management strategies are in place throughout the Preserve to protect the ecological communities and enhance biodiversity. Strategies to manage deer, to manage the forest through the controlled use of fire, and to address invasive species are being developed. As noted earlier, these issues are also an important focus of the SRBP. Other habitat concerns such as lake habitat impacts from the golden shiners require further research and resource planning. Management strategies need to be put in place for potential future impacts to the Preserve, such as the possible introduction of the Emerald Ash Borer.

Deer Management

It has been recognized that deer over-browsing is impacting the natural resources of the Ridge, including the Preserve. Deer impacts are mainly the result of preferential browsing of individual plants. Over time, preferred plant species are eliminated or greatly reduced in abundance and non-preferred species become increasingly dominant. These changes in species abundance and composition can have serious effects at the ecosystem level. Deer suppress, and are suppressing in the Preserve, the regeneration of over story tree species, those species will not be represented in the next iteration of the forest, thus changing the forest type. In addition, the loss of a tree species from a forest community greatly affects other organisms that depend on that species. Through the loss of species, deer can also impact forest ecosystems through the alteration of forest structure, including a rise in the number of and abundance of invasive species. (Chapin, Gabe 2008)

Recent NY Natural Heritage Program surveys confirmed the Preserve’s contribution to regional biodiversity and identified several threats to those same resources, one of which is overpopulation of deer, resulting in excessive browsing (Smith and Lundgren, 2009). The SRBP Guidelines also recognize that deer overabundance is a significant threat to the ability of many plant species, including some that are dominant within Shawangunk natural communities, to grow and reproduce (SRBP, 2003). OPRHP/PIPC, as members of the SRBP Research and Management Subcommittee, have been working on this issue for some time. A recent State Wildlife grant has provided funding to the SRBP through the Mohonk Preserve to assist in research and identification of management strategies, including hunting. Hunting for recreation is permitted in designated areas of the Preserve

and this will continue. Findings from this grant and the collaborative efforts of the SRBP partners will lead to informed decisions regarding additional control strategies. OPRHP/PIPC will continue to participate in strategy development and implementation with the understanding that such actions must be done in accordance with the agency's recreation and resource protection mission.

Fire Management

Historically, fire is a natural part of the ecology of the Shawangunk Ridge. In April of 2008, a wildfire affected more than 3,000 acres of the Preserve. Overall, the affected areas are recovering naturally. Several biological surveys were conducted in the burn zone at Minnewaska during the summer of 2008. These include vegetation and bird surveys that were specifically designed to examine the effects of the fire on plant and bird communities, as well as previously planned surveys of rare plant and moth species. The results from the 2008 surveys represent the first step in what will be a series of ongoing, long-term studies. In general, during the first growing season following the burn, there was an impressive amount of new growth and/or re-growth of vegetation throughout the burn zone, with species such as bracken fern and sassafras being particularly abundant in some places. It also appears that some rare plants, such as Appalachian sandwort, benefited from the fire. Initial results from bird surveys suggest some changes in the composition of the bird communities in the burn zone, as would be expected, but no significant difference in the overall abundance of individual birds.

In order to control the wildfire, firefighters created firebreaks in the Preserve by both widening existing carriageways and bulldozing previously undisturbed areas. These newly-created firebreaks pose some challenges, but also represent potential new tools in future fire management efforts. Some of the firebreaks were necessarily created on steep terrain in areas where erosion of the shallow soil is a concern. The locations of the new firebreaks have been evaluated to determine their appropriateness for future fire management control. In some cases, the new breaks are well-suited for use in the future, while in other cases, firebreaks created during the wildfire should be "retired" and allowed to regenerate.

The 2008 wildfire provided a strong reminder of the value of developing a fire management plan for Minnewaska as part of a larger ridge-wide fire management plan. Fire is an important ecological component in the Shawangunks, and the 2008 wildfire should serve to ecologically rejuvenate the area that it affected. However, it is only because of the well-coordinated efforts of countless firefighters that the fire, which was likely started by a discarded cigarette, did not also destroy homes and other private property. It is highly desirable that any future fires at Minnewaska be prescribed burns conducted in pre-defined areas, with ideal environmental conditions, under the watchful eye of prepared, pre-positioned firefighters and staff. Such prescribed burns will provide important ecological diversity benefits to Minnewaska, while at the same time reducing the risk of future wildfires.

The preferred Master Plan alternative recommends that the Preserve coordinate with the SRBP to develop a fire management plan for the Ridge. This fire management plan will be implemented to support and promote the biodiversity on the Ridge and within the Preserve and help reduce the threat of significant and destructive wildfires. The Preserve will also continue to assist other partners on the Ridge with ongoing fire management opportunities.

Invasive Species Management

Invasive species have been recognized as a major threat to the rare species and communities in the Preserve. The Minnewaska Invasive Species Management Plan, approved in 2008, identifies the

invasive species that pose significant risks to the natural ecological communities of the Preserve. The Invasive Species Plan also identifies a planning process to follow to manage and control invasive species in the Preserve. This process also serves as a model and template for management and control of invasive species in other state parks. The goal is to keep the Preserve free of invasive species and in particular identify a core area that is an invasive free zone (OPRHP 2008). Continued implementation of this plan is the most effective tool in efforts to control invasive species. In addition, continued monitoring of trails and carriageways will provide opportunities for early detection and early eradication of new populations of invasives. Continued work with partners on the Ridge, including DEC, TNC, Mohonk Preserve and the SRBP will assure a coordinated approach to control.

Recreation Resource Development/Management

An analysis of recreation options was conducted to determine the appropriate and preferred uses for the Preserve. The analysis of recreation options which are consistent with the vision and goals for the Preserve are presented below. Recreation options with minimal or no change, or those that are considered inconsistent with the vision and goals, are discussed in paragraph form. The alternatives are grouped according to activity. The public input process and resource analyses were used to determine uses/activities appropriate for the Preserve. The activities analyzed within the Preserve were selected based upon the resource issues and how each activity met the mission of the Preserve.

| <i>Climbing</i> | |
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| Background For Analysis: The Preserve operates all climbing opportunities from the Peter’s Kill office. Climbers park at the Peter’s Kill office, obtain a permit and walk to the nearby cliffs and boulders. On busy weekends the gravel parking lot, sized for 100 cars, is filled to capacity with climbers and hikers. | |
| Alternatives | Considerations |
| 1. Status Quo | <ul style="list-style-type: none"> • The Peter’s Kill climbing area remains on the existing cliffs and boulders with no expansion. • The parking lot retains its current size and gravel material. |
| 2. Expand climbing opportunities to the Dickie Barre area | <ul style="list-style-type: none"> • Expansion to the Dickie Barre area would keep the operational constraints, permitting and rescue operations related to climbing situated in one area. • Access into this area would use an existing footpath. • Initial natural and cultural surveys indicate this area to be suitable. Some surveys are still ongoing. • Due to the potential increased use of this area, twenty additional parking spaces could be constructed if needed. • Draft of new climbing management plan to be done by December, 2010 to include Dickie Barre. |

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| <p>3. Develop a climbing management plan for the Preserve.</p> | <ul style="list-style-type: none"> • Will identify areas suitable and unsuitable for climbing. • Would identify and protect key resources. • May expand climbing opportunities beyond Peter’s Kill and Dickie Barre. • Will consider safety, operational issues and the patron experience. • The development of the plan will include representatives from the climbing community and other partners. • As per the 1993 master plan the following areas will not be considered for expansion of climbing opportunities as they are sensitive habitats and of potentially high cultural sensitivity: the cliffs surrounding Lake Minnewaska, the Palmaghatt Ravine and Spruce Glen. • Based upon additional information and ecological studies, additional areas for exclusion may be identified. |
| <p>4. Allow climbing throughout the Preserve</p> | <ul style="list-style-type: none"> • Operational constraints pertaining to the permitting process. • Greater potential impact to rare species and communities. • Safety and rescue operations significantly broadened. |
| <p>Preferred Option: Option 2 and 3</p> <p>Option 2 and 3 are preferred. Option 2 will expand climbing to the Dickie Barre area allowing for the activity to be safely managed and monitored from the Peter’s Kill office. Potential impacts to the Preserve will be controlled through a limited access system, limited by the parking capacity of the Peter’s Kill parking lot. Upon an increase in demand, an additional 20-car parking lot may be constructed in the Peter’s Kill area. See Figure 23 - Peter’s Kill Area map.</p> | |
| <p><i>Swimming</i></p> | |
| <p>Background For Analysis: The Preserve operates two swimming beaches from approximately the third weekend in June to Labor Day. One beach is on Lake Minnewaska and the other is on Lake Awosting. The Department of Health regulations dictate the size of the beach, the quantity of users and how many lifeguards are provided at each beach. In addition, the Minnewaska Distance Swimmers Association (MDSA) offers a long distance swimming area at the south end of Lake Minnewaska.</p> | |
| <p>Alternatives</p> | <p>Considerations</p> |
| <p>1. Status Quo</p> | <ul style="list-style-type: none"> • Swimming remains at the Lake Minnewaska and Lake Awosting beach areas with no expansion. • MDSA continues to operate members-only |

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| | <ul style="list-style-type: none"> long distance swimming area Consistent with the 1993 Master Plan. |
| 2. Allow unguarded public swimming at Lake Awosting and Lake Minnewaska | <ul style="list-style-type: none"> During high peak usage, the Preserve experiences a considerable volume of swimmers. Swimming within the lakes would impact the current view and experience of other park users wishing to see the lakes in their current condition. Rescue operations and patron safety may be impacted. |

Preferred Option: Status Quo

Option 1-Status Quo is preferred. No changes are recommended to either beach or the MDSA swimming area. The beaches and swim areas will remain in their current conditions.

Cycling/Mountain Biking

Background for Analysis: Cycling is currently allowed on designated carriage roads. The use of mountain bikes is not allowed on footpaths and no opportunities exist for mountain biking. Public input indicated the desire for additional mountain biking opportunities. Suggestions included opening up footpaths to mountain biking and creating new mountain biking opportunities.

| Alternatives | Considerations |
|---|---|
| 1. Status Quo | <ul style="list-style-type: none"> Cycling is allowed on all maintained carriage roads. Mountain biking is not allowed on footpaths. Single track mountain biking opportunities are not allowed in the Preserve. |
| 2. Open all footpaths to mountain biking | <ul style="list-style-type: none"> Cycling is allowed on all maintained carriage roads. Mountain biking is allowed on existing footpaths. A looped mountain bike trail network is constructed in the former Awosting Reserve. |
| 3. Create a single track trail system in the Awosting Reserve area for mountain biking. | <ul style="list-style-type: none"> Cycling is allowed on all maintained carriage roads. Mountain biking is not allowed on existing footpaths. A looped single track mountain bike specific trail network is constructed in the former Awosting Reserve area. |

Preferred Option: Option 3

Option 3 is preferred. A single track mountain bike trail system will be created in the Awosting Reserve area. The current footpath system was not deemed suitable for the majority of mountain bikers at Minnewaska. Significant slopes, rocky terrain and heavy usage of the existing trail system by hikers were considerations. A planned mountain bike specific trail system in the Awosting Reserve area will provide suitable and enjoyable trail opportunities for mountain biking while

reducing potential conflict with hikers and equestrians.

Horseback Riding

Background for Analysis: Horseback riding is currently allowed on designated carriage roads by permit. Horseback riding is not allowed on footpaths. Public input indicated the desire for additional horseback riding opportunities. Suggestions included opening up footpaths to equestrians and creating new horseback riding opportunities.

| Alternatives | Considerations |
|---|--|
| 1. Status Quo | <ul style="list-style-type: none"> • Horseback riding is allowed on all maintained carriage roads • Horseback riding is not allowed on footpaths |
| 2. Open all footpaths to horseback riding | <ul style="list-style-type: none"> • Horseback riding is allowed on all maintained carriage roads. • Horseback riding is allowed on existing footpaths. • The woods roads are enhanced and open to horseback riding in the former Awosting Reserve area. |
| 3. Designate the woods roads in the Awosting Reserve area as equestrian trails. | <ul style="list-style-type: none"> • Horseback riding is allowed on all maintained carriage roads. • Horseback riding is not allowed on existing footpaths. • Horseback riding opportunities are expanded through the designation of the woods roads within the former Awosting Reserve area. |

Preferred Option: Option 3

Option 3 is preferred. The woods roads within the former Awosting Reserve provide an expanded opportunity for horseback riding. The current footpath system was not deemed suitable for equestrian use. Significant slopes, rocky terrain and heavy usage of the existing trail system by hikers were considerations. Due to the difference in user speeds, I was decided not to allow horseback riding on the mountain bike trails. A parking will be constructed and include parking spaces for equestrian trailers.

Hiking

Background For Analysis: Hiking is currently allowed on all designated footpaths and on carriage roads. Suggestions included expansion of the designated footpath system onto recent acquisition properties, a number of reroutes of existing trail segments, designated access into the Palmaghatt Kill Ravine area and additional access routes in high-use areas.

| Alternatives | Considerations |
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| 1. Status Quo | <ul style="list-style-type: none"> • Hiking is allowed on all designated footpaths and on carriage roads. • No additional footpaths designated for use. |

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| <p>2. Upgrade and expansion of the existing trail system</p> | <ul style="list-style-type: none"> • Upgrade and designation of some existing historic trails and wood roads including on recent acquisition properties. • Appropriate sustainable reroutes for certain trail segments. • Designation of sustainable access routes in high-use areas. • The woods roads within the former Awosting Reserve will be designated for hiking and horseback riding. • Does not include general public access to the Palmaghatt Kill Ravine area. • The Fire Break trail is created. |
| <p>Preferred Option: Option 2</p> <p>Option 2 is the preferred alternative. It was deemed appropriate to designate some additional existing trails and wood roads with hiking as a use, including woods roads within the former Awosting Reserve area. Due to potential user conflicts, hiking will not be allowed on the single track mountain bike trail which will be constructed within the former Awosting Reserve. Sustainable reroutes and designation of some additional access routes were also deemed appropriate. Details are provided in Appendix B – Trails Plan.</p> | |

Other recreational activities suggested through the public information gathering process were assessed. Several activities are not supported by the vision and goals as stated in Chapter 4. The following activities were analyzed and determined to be either an incompatible use within the Preserve, or no changes will be provided to the activity.

- Geocaching – Geocaching is allowed within twenty feet from a designated trail and in safe locations. Persons wishing to place a geocache within the Preserve must apply through the OPRHP Geocaching application process. Applications are submitted to the Preserve Manager for approval.
- Cross Country Skiing – Cross Country Skiing is allowed on approximately twenty miles of groomed carriage roads including Beacon Hill, Minnewaska, Millbrook, Castle Point, Upper Awosting, Lower Awosting and Sunset. Operational and budgetary constraints have, at times, impacted the quantity or grooming quality. It has been determined that the current quantity of groomed trail meets the level of usage set by the status quo. Expansion is not recommended for cross country skiing without an increase in demand and additional staffing and grooming equipment.
- Snowshoeing – Snowshoeing opportunities are abundant in their present form and quantity. Snowshoeing is allowed on all footpaths and on ungroomed carriage roads during the winter season with opportunities far outweighing the demand. The preferred alternative is to keep the snowshoeing opportunities in their present form and quantity.
- Distance Swimming – The extension of the distance swimming season was suggested through the public input process. The activity was discussed and it was determined that OPRHP would like to maintain the stipulations as identified in the current agreement. A New York State certified life guard is required to be on duty for all swimming activities. The preferred alternative

recommends that the distance swimming season remain consistent with the recreational swimming/beach season.

- SCUBA Diving – SCUBA diving will remain a permitted activity within Lake Minnewaska as defined by the current use. Access to the lake will continue from Divers Cove.
- All Terrain Vehicles (ATV) – All motorized vehicle use for recreational purposes within the Preserve is deemed incompatible with the vision and goals of the Preserve; under Article 20, the Park Preservation Law, ATVs will continue to be prohibited.
- Snowmobiles – All motorized vehicle use for recreational purposes within the Preserve is deemed incompatible with the vision and goals of the Preserve; under Article 20, the Park Preservation Law, snowmobiles will continue to be prohibited.
- Disk Golf – Disk golf is not a recreational activity consistent with the passive recreational activities of the Preserve.
- Ice Climbing – Ice climbing is a prohibited activity due to the safety and operational concerns. This is particularly the case with regard to the capacity of the park to respond to any potential emergency associated with ice climbing.
- Fishing – Fishing is currently allowed in Lake Minnewaska, Lake Awosting and Tillson Lake. Due to the acidic nature of Lake Minnewaska and Lake Awosting, very few fish live within the lakes. Patrons who have unused bait fish have, in past years, dropped the fish in the lake allowing for a few, non native golden shiners to live within Lake Minnewaska. The golden shiners are impacting the native salamander populations. Research will be conducted into their removal to preserve and protect the native salamander species. To reduce the likelihood of fish entering Lake Minnewaska and Lake Awosting, fishing should only be allowed at Tillson Lake. Analysis indicates that Tillson Lake supports fish and provides more successful fishing opportunities.
- Small Game Hunting/Trapping – Small game hunting and trapping opportunities were suggested through the public input process. This activity was discussed and it was determined that biodiversity impacts shall dictate hunting opportunities. Currently, impacts to the biodiversity of the Preserve are caused by deer over browsing. Small game hunting/trapping will only be considered for specific safety or operational reasons. Small game hunting/trapping will not be allowed within the Preserve.

Cultural Resource Protection Strategies/Management

As identified in Chapter 3, the Preserve hosts prehistoric and historic archaeological resource potential. Areas of known archaeological sensitivity have been identified through a Phase 1A (Literature Review) report that was conducted during the 1993 master planning process. The report was produced for the entire Preserve based on the property owned at the time. Since 1993, over 8,000 acres of land have been added to the Preserve. These new acquisitions have not been thoroughly investigated and a Phase 1A review has not been conducted. It has been determined that due to the complexity of a Phase 1A, the timeframe for the Master Plan process, and the very minimal trail development within these areas, cultural data for these locations will be collected on a case by case basis as part of the design phase for trail projects.

The analysis of cultural data for the 2009 Minnewaska State Park Preserve Master Plan incorporates the 1993 Phase 1A guidance with respect to locations for development. While the resort era hotel

sites have cultural significance, their existence and history is practically unseen at each site. These areas have seen significant disturbance during the resort era and upon the demise of the structures themselves. As per the recommendations of the initial Phase 1A, development in these significantly disturbed areas shall be monitored for cultural signs upon development.

The stable, carriage road network, and power house are considered by OPRHP's Historic Preservation Field Services Bureau (FSB) to be National Register Eligible and will be maintained, preserved and protected as such. Other structures acquired with the more recent acquisitions have been initially assessed by FSB. They will require further investigation upon modification or removal. A complete list of structures and recommendations for each can be found in Figure 18 - Building Inventory map. Culturally significant structures are identified in Figure 13 – Sensitive Archeological Areas and Cultural Resources map.

A cultural assessment of the Peter's Kill and the Dickie Barre areas has been conducted by the FSB. Recommendations have been provided by FSB to record and limit cultural impact in these and other areas upon the development of the climbing area.

The inactive landfill from the resort era could contain artifacts which provide a glimpse into the past history of the land and its use as a resort. To allow for the retrieval of artifacts it is recommended that FSB be involved in pre-closure exploratory efforts to determine if artifacts may exist.

The Wildmere resort site is located adjacent to Lake Minnewaska and the Wildmere parking lot. This area has been assessed as part of the 1993 Master Plan and deemed to have had significant disturbance from the resort era with no significant cultural concerns. This area currently is grass and asphalt covered. The preferred Master Plan alternative recommends the removal of the parking lot and the expansion of picnicking opportunities on the site. No structural development will occur on this site. A small restroom facility will be constructed adjacent to the site. Due to the significant disturbance to the area, there are no cultural concerns with the construction of this restroom.

The Cliffhouse resort site is also located adjacent to Lake Minnewaska on the east side of the lake. The area is currently a grass picnic area. No changes are recommended for this area.

The Music House is a small structure approximately 10' x 10' in a wooded area in the Lake Minnewaska area. FSB has assessed this structure and determined that it has no context in the area and is not culturally significant.

The Lake House in the Awosting Reserve has been preliminarily assessed by FSB staff and determined to be a culturally significant structure and should be kept for potential future use. The Preserve does not have a use for this structure so it is recommended to "mothball" this structure to include stabilization and protection. Changes in use patterns, funding or operational requirements could allow for an adaptive reuse for this structure. There is no planned use for this structure; however, it may be a suitable "Resident Curator Program" candidate. This option should be considered by the OPRHP.

The Aumick Farmstead is located in the Awosting Reserve area. The farmstead includes a farm house, an English threshing barn, several stone walls and three outbuildings. These structures have been assessed by FSB and deemed to be culturally significant. The Preserve currently has no operational use for these structures. Until a suitable use can be identified for these structures, it is recommended they be mothballed to stabilize, preserve and protect them. These structures are a suitable "Resident Curator Program" candidate. This option should be considered by OPRHP. The Club House, a structure which was once part of a remnant golf course, is located along Tillson Lake. The structure was constructed in the 1950's and until purchase by OPRHP was used as a private

residence. Future plans for the Club House include the possible renovation/restoration into an invasive species office and possible Student Conservation Association (SCA) staff seasonal living space.

The former Preserve office and the white residence adjacent to Lake Minnewaska have been preliminarily assessed by FSB. The two structures will need to be removed for the construction of the Preserve office and visitor center parking lot. These structures were not initially deemed a significant cultural resource however, before their removal; FSB should be contacted for potential photo documentation procedures as necessary.

Several structures have been identified for removal upon finding or constructing a new structure that serves the existing needs. These structures are not culturally significant and include the yurt, a vinyl tent structure, which is currently being used as an education center and winter warming hut. Upon the construction of a new visitor center, the yurt would be removed and this area would become part of the picnic area. The Lake Minnewaska contact station, a small wood frame structure constructed by OPRHP staff and located at the entrance to the Lake Minnewaska area, would be removed upon the construction of a new contact station at the proposed location at the main entrance. The Lake Awosting contact station, located at the entrance to the Awosting parking lot, is a small wood frame structure constructed by OPRHP staff which would be removed upon the construction of the new contact station at the main entrance. For more information see the Existing Main Entrance and Awosting Parking Lot and the Main Entrance and Awosting Lot Design maps – Figures 16 and 22.

Scenic Resource Protection

Scenic inventories have been well documented through the years at Minnewaska. Trails and carriage roads were constructed during the resort era to provide access to the many scenic escarpments, vistas, waterfalls, forested views, lakes, streams and wetlands. Many of these scenic resource locations are identified on Figure 14 - Scenic Resources Map.

The predominant escarpments and sky lakes provide stunning panoramic views to the expansive landscape, while the smaller, more intimate ponds, waterfalls, wetlands and other forest communities provide both contrast and complement to the surrounding panoramic views.

Other scenic resources exist on the Mine Hole Area and the Awosting Reserve acquisitions. A scenic resource analysis will be conducted on these properties in 2009 to determine possible scenic trail location opportunities.

Scenic Vistas

OPRHP staff has analyzed various scenic vistas throughout the Preserve. Several historic vistas have been unmanaged through the years and have since become overgrown. There is a desire to enhance historic vistas by moderate clearing and pruning of vegetation.

| <i>Scenic Vistas</i> | |
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| Background for Analysis: The vegetative management of several historic vistas was considered and would reintroduce certain historic scenic vantage points and thus enhance the experience of visitors. | |
| Alternatives | Considerations |
| 1. Status Quo – Vegetation is unmanaged, views are limited to what is existing. | <ul style="list-style-type: none"> Visitors will not have views historically known at Minnewaska. |

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| | <ul style="list-style-type: none"> • Open escarpment vistas will remain. • Vegetation/habitats will not be impacted in any way. • Vegetation will continue to grow and block vistas. |
| <p>2. Historic vistas are selectively opened to provide scenic views</p> | <ul style="list-style-type: none"> • The selective opening and pruning of trees will take place on a case by case basis with a review of the surrounding habitat to determine impacts. • The public will be provided known historic views. • The selective clearing will take place over a series of years to reduce the visual impact to the visitors. • 1993 Master Plan recommends the selective clearing of historic scenic vistas. |
| <p>Preferred Option: Option 2 Option 2 is preferred due to the consideration of visitor experience and the preservation of a significant historic feature known to Minnewaska. A clearing plan will be developed to, over time, open up scenic vistas. An impact assessment will be conducted in advance of any clearing to determine if clearing will impact sensitive habitat or species. This option is consistent with previous planning efforts.</p> | |

Infrastructure Development

An analysis of the infrastructure options was conducted to determine the needs of the Preserve. Through the years, infrastructure improvements at Minnewaska have been minimal. The asphalt road to Lake Minnewaska is in fair condition, however the asphalt is deteriorating and erosion issues need to be addressed. The roadway will need repair in the future. All roadways and parking lots with gravel surfacing require considerable maintenance, particularly after the winter season and heavy rains. Due to the heavy usage of the Preserve, main roads and parking areas should be paved, with particular attention to storm water run off and water filtration through sustainable site design. Lake Road near Tilson Lake is a residential roadway that PIPC owns and maintains. The roadway recently has had significant maintenance and reconstruction by OPRHP/PIPC staff. There is one vehicular bridge within the Preserve which is part of the main entrance road to Lake Minnewaska and crosses the Peter’s Kill. It was rehabilitated in 2005 and does not need maintenance. A small bridge on the Upper Awosting carriage road crossing the Polly Mills Stream is in need of repair. A wooden pedestrian bridge was reconstructed in 2008 over the Lake Minnewaska carriage road and does not need repair.

An interim assessment of structures was conducted by OPRHP’s Historic Preservation Field Services Bureau (FSB) to determine eligibility for listing on the State and National Registers of Historic Places. Several structures were deemed beyond repair; others were deemed historically significant and should be “mothballed” (set into a safe, secure state of preservation) and researched further. These structures could be adapted for reuse or, with the assistance of FSB staff, documented and removed. A building inventory map has been produced identifying the name and location of the structures as well as the recommendations for each. See Figure 18 – Building Inventory.

The maintenance facility and the former Phillips house have been assessed both structurally and operationally by OPRHP staff. It has been determined that it is cost effective, operationally beneficial, and a sustainable practice to reuse these structures.

New development in the Lake Minnewaska area will require new infrastructure. This includes roadways, sidewalks, parking lots, water, sewer and telephone lines. Electricity is currently available at both the maintenance facility and the former Phillips residence. The electric lines will need to be assessed and possibly upgraded upon the construction of any improved facilities. An area east of the maintenance building was assessed for suitability for an underground sewer treatment field to service the Preserve office and visitor center, a restroom in the picnic area and the maintenance building. Potable water will be provided through the exploration of wells. If wells do not provide adequate water, the exploration of treating lake water from Lake Minnewaska will be explored for use in the Lake Minnewaska area. Approvals from DEC and the Department of Health will be required for any plans which include water or waster water. Telephone lines will be assessed for any needed upgrades upon demand.

Preserve Office and Visitor Center

Background For Analysis: The Preserve is operated from three undersized facilities. The Preserve office is located in the Peter’s Kill building, which was designed as a support structure for the climbing area, not as an office. In 2003, the Preserve office was moved to this location on a temporary basis (which has lasted seven years), due to a significant power outage at the former Preserve office located by Lake Minnewaska. The location of the Peter’s Kill office is in a valley one -and- one half miles from Lake Minnewaska. The location within the valley creates communication constraints and operational issues because contact with park personnel is not always guaranteed. Potential safety and security concerns exist with this break in communication and visitor contact is hampered by minimal staff presence in the Lake Minnewaska area. The educational facilities consist of a small wood frame structure and a 16’ diameter vinyl yurt (tent-like structure) near Lake Minnewaska. Both of these facilities are undersized for their function.

| Alternatives | Considerations |
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| 1. Status Quo | <ul style="list-style-type: none"> • The Preserve office remains at the Peter’s Kill office. • Inadequate office space for staff. • Inadequate space to provide visitor center amenities. • The Nature Center and yurt remain as the sole, inadequate educational facilities. • Visitor introduction experience to the Preserve minimal. • The former Phillips house overlooking Lake Minnewaska remains vacant. • Communication constraints remain throughout the Preserve. |
| 2. Construct a new structure for a Preserve office in the Lake Minnewaska area | <ul style="list-style-type: none"> • A component of the 1993 Master Plan. • Greater cost of construction. • Not the most sustainable option. • Greater disturbance to the land. |

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| | <ul style="list-style-type: none"> • Suitable locations very limited. |
| <p>3. Renovate the former Phillips house into the new Preserve office and visitor center; construct new parking areas to provide 144 parking spaces near the new Preserve office</p> | <ul style="list-style-type: none"> • Reuse of building is sustainable and less expensive than the cost of new construction. • New structure would not meet operational functions of existing vacant facility. • Provides needed radio communication to the entire Preserve. • Travel reduced for staff between the Preserve office and maintenance facility. • New parking areas constructed in the area of the old office and a former residence. Some trees will be removed. • Staff will provide higher level of service and interaction with visitors through ease of access in the most heavily used area. • The building will be LEED Certified. If certification can not be reached, the structure will showcase “green” technologies and construction practices to the best extent possible. • The Peter’s Kill office becomes a support facility to manage the climbing area and house the Park Police office. |
| <p>Preferred Option: Option 3 Option 3 is the preferred alternative due to the adaptive reuse of an existing structure and location in the high use area of the Preserve. Located in proximity to the Ridge allows for ample communication with staff and visitors throughout the Preserve thus enhancing safety, security, efficiency, and visitor experience. Parking would be increased in the Lake Minnewaska area; however, the parking capacity for the Preserve would remain consistent with the 1993 Master Plan.</p> | |
| <p><i>Maintenance Facility</i></p> | |
| <p>Background for Analysis: Maintenance operations are coordinated from a maintenance facility constructed in the 1950’s. The facility is located on the outskirts of the most heavily used portion of the Preserve in the Lake Minnewaska area and visually detracts from the scenic beauty of the area. The roof leaks, concrete block walls need repair, and the floor is dirt.</p> | |
| <p>Options</p> | <p>Considerations</p> |

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| <p>1. Status Quo</p> | <ul style="list-style-type: none"> • The existing building remains with structural and operational deficiencies. • Avoids new construction costs • Maintenance staff continues to deal with dirt flooring and leaking roof. • The deterioration of the concrete block walls continues. • No break room or plumbing provided for staff. • All equipment and vehicles securely stored inside of the building. |
| <p>2. Construct a new maintenance facility in the Lake Minnewaska area</p> | <ul style="list-style-type: none"> • A component of the 1993 Master Plan. • Greater cost of construction. • Not the most sustainable option. • Greater disturbance to the land. • Suitable locations very limited. • New structure would have size constraints compared to existing structure. |
| <p>3. Keep existing facility with structural rehabilitation and operational improvements including the repair of concrete walls, the replacement of the roof, the concreting of the floor and the addition of a break room for staff. The area is screened from public view through grading and vegetation.</p> | <ul style="list-style-type: none"> • A sustainable option. • Does not disturb new land. • Economically more feasible than constructing a new facility. • The building will remain in the most heavily used area of the Preserve. |
| <p>Preferred Option: Option 3 Option 3 is preferred due to the reuse of an existing structure. The existing structure operationally serves the Preserve well however, it needs rehabilitation and improvement to assist the staff with maintenance and operational needs. The location within the high use area of the Preserve will continue to serve the significant maintenance demands. Its proximity on the Ridge allows for ample communication with staff and throughout the Preserve thus increasing safety, security and efficiency.</p> | |
| <p><i>The Awosting Parking Lot and Entrance Area</i></p> | |
| <p>Background for Analysis: The Awosting Parking Lot and Entrance Area are both a safety concern and operational issue. On high traffic days, traffic backs up as patrons await entrance into the Preserve, which blocks traffic and prevents emergency vehicle access across the highway 44/55 corridor. The Awosting parking lot is currently a large, gravel space with undefined parking spaces. It requires a considerable amount of staff time to direct traffic on busy days to maximize parking capacity. Preserve staff spend considerable time with the upkeep of the gravel surfacing and there are ongoing costs to resurface and repair annually.</p> | |
| <p>Alternatives</p> | <p>Considerations</p> |
| <p>1. Status Quo</p> | <ul style="list-style-type: none"> • The existing parking lot remains gravel and the parking spaces remain undefined. • The gatehouse remains in its current location |

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| | <p>and traffic continues to stack onto highway 44/55</p> <ul style="list-style-type: none"> • Safety concerns remain. • Visitors walk in traffic along the entrance roadway to Awosting Falls and Lake Minnewaska. |
| <p>2. Reconfigure the entrance area is to enhance visitor safety and reconfigure and expand the Awosting parking lot to address operational and aesthetic issues</p> | <ul style="list-style-type: none"> • A component of the 1993 Master Plan. • The entrance roadway is reconfigured and the gatehouse is moved away from the highway to provide adequate stacking room for cars. • A new gatehouse is constructed with two entrance lanes. • The Awosting parking lot is expanded to provide parking capacity identified in the 1993 Master Plan. The lot is reconfigured to assist with the operational demands of directing traffic. • Parking lot visually enhanced with tree lined parking islands. • Parking lot is paved to reduce operational labor and maintenance costs. • A carriage road is constructed to separate pedestrian traffic from vehicular traffic. |

Preferred Option: Option 2

The preferred option is consistent with the 1993 Master Plan as it addresses safety, operational, maintenance and aesthetic concerns. The Entrance Area and Awosting Parking Lot is a heavily used area requiring considerable resources from the Preserve in its current condition. The reconfiguration of the Main Entrance Area will significantly improve the safety of the area during peak demand and minimize or eliminate traffic back up on highway 44/55. See Figure 22 - Entrance Area and Awosting Lot Design.

The Lake Minnewaska Area – Parking Lots and Picnic Area

Background for Analysis: The Lake Minnewaska Area is the most heavily used area within the Preserve, receiving significant vehicular and pedestrian traffic. The area poses significant operational demands during peak usage to park cars and maximize the parking capacity. One parking lot is asphalt; however, the spaces are not defined. The other parking lots are gravel with undefined spaces and require significant maintenance. A small picnic area with twenty tables is provided. Barbeque grills are allowed in this picnic area. The restroom facilities consist of several portable toilets, which do not provide a positive experience.

| Alternatives | Considerations |
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| <p>1. Status Quo</p> | <ul style="list-style-type: none"> • Operational constraints remain and considerable staff time is used to control vehicular traffic during peak demand. • Gravel parking lots require continual |

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| | <p>maintenance and funding.</p> <ul style="list-style-type: none"> • Wildmere parking lot remains near Lake Minnewaska. • Picnic area remains as is. |
| <p>2. Lake Minnewaska Area (Figure 21) Parking lots and picnic area</p> | <ul style="list-style-type: none"> • Lake Minnewaska Area design implemented to include paved and striped parking lots, a new restroom facility, enhanced circulation for both pedestrians and vehicles. • The Wildmere parking lot is removed to eliminate the view of cars from around Lake Minnewaska. • Picnic opportunities are expanded to the area where the Wildmere parking lot is currently located. Landscaping in this area will include native landscaping through natural succession between picnic sites. • The Maintenance facility is screened from view with vegetation. |
| <p>Preferred Option: Option 2</p> <p>Option 2 is preferred due to its consideration of vehicular traffic, pedestrian traffic, operational demands, and visitor experience. The redesign proposes parking in previously disturbed areas and proposes new solutions to the vehicular and pedestrian circulation. See Figure 21 - Lake Minnewaska Area Design.</p> | |
| <p><i>Stony Kill Falls Area</i></p> | |
| <p>Background for Analysis: The Stony Kill Falls is a significant scenic resource within the Preserve. Patrons access the area by car from a four car parking area on the side of Shaft 2A Road or by foot along the Stony Kill Carriage Road approximately six miles from the Awosting parking lot. Patrons typically access the Falls by parking along Shaft 2A Road and walking through a large shale-covered, flat open area and into the woods. They proceed along several undesignated trails approximately 1000 feet to the base of the Falls. To access to the top of the Falls from below, people climb up a near vertical slope to the east of the Falls.</p> | |
| <p>Alternatives</p> | <p>Considerations</p> |
| <p>1. Status Quo</p> | <ul style="list-style-type: none"> • Access points to the Falls remain in their current location. • Current parking capacity on Shaft 2A Road remains. • Erosional and safety issues remain on the undesignated access trails to the Falls and from the bottom to the top of the Falls. • Access to this significant natural feature remains limited. • Designated trails do not exist to provide access to the base of the Falls. |

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| <p>2. The development of the Stony Kill Falls Area</p> | <ul style="list-style-type: none"> • A small 15 car parking lot constructed in the Shaft 2A shale quarry area. • Designated trails provided to the base of the Falls. • A designated trail constructed from the bottom to the top of the waterfall which takes into consideration erosion, safety, plants and animals. • Easier access to the Falls provided for all patrons. |
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Preferred Option: Option 2

The Stony Kill Falls is a significant scenic resource. Providing safe, limited access for patrons is recommended to enhance their experiences within the Preserve. Providing a safe and designated trail from the Shaft 2A area will allow people with varying abilities to have relatively convenient access to a significant natural feature. The construction of a trail connecting the top and bottom of the Falls will minimize the safety and erosion issues from patrons creating their own paths up the slope.

Tillson Lake Area

Background for Analysis: The Tillson Lake Area has a relatively low level of use. The primary use of the area is for lake access and fishing. The parking lot is gravel and minimally defined. The boat launch is a grassy area for patrons to pull/carry their boats to the water.

| Alternatives | Considerations |
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| <p>1. Status Quo</p> | <ul style="list-style-type: none"> • The area will not have any improvements to the parking lot or boat launch area. • The lake will continue to provide fishing opportunities. • Electric trolling motors and car top boats are allowed. • Gas powered trolling motors not allowed. |
| <p>2. Parking Lot and Boat Launch Improvements</p> | <ul style="list-style-type: none"> • The parking lot and boat launch area be improved. • The lake will continue to provide fishing opportunities. • Electric trolling motors and car top boats will continue to be allowed. • Gas powered trolling motors are not allowed. |

Preferred Option: Option 2

The Tillson Lake Area will see improvements to the parking lot and boat launch area including the construction of a gravel boat launch area and other enhancements to the gravel parking lot. Current fishing and boating opportunities will remain.

Jenny Lane

Background for Analysis: The 1993 Master Plan designated the Jenny Lane area as a camping area for research and educational groups. This area was never developed and remains a combination of

forest and small fields. The current uses of the area are hiking and hunting during the State designated season. Hikers use this area to access the Jenny Lane, High Peter’s Kill and the Old Minnewaska trails. Access to the interior Jenny Lane area is along a dirt road which connects to Highway 44/55 along a curve.

| Alternatives | Considerations |
|---------------------|---|
| 1. Status Quo | <ul style="list-style-type: none"> • Deer hunting and hiking opportunities remain. • Deer hunters are allowed access through gate during State designated deer season. • Camping is not allowed. • Limited parking, approximately six cars, is provided along Highway 44/55. • The area sees no further development. |
| 2. Improved Parking | <ul style="list-style-type: none"> • Deer hunting and hiking opportunities remain. • Deer hunters are allowed access through gate during State designated deer season. • Group camping is not allowed, as no camping is allowed anywhere in the Preserve. • The entrance to Jenny Lane is located along a curve on highway 44/55. This entrance location is not deemed suitable for a main entrance to a group camping area and the higher volume of traffic created. • Parking along highway 44/55 expanded by an additional four parking spaces to assist with the current hiking demands. |

Preferred Option: Option 2

Through the process of analysis, it was determined that group camping is not consistent with the operation of the Preserve. The entrance to Jenny Lane is located on a curve in highway 44/55. The creation of a group camping area would bring significantly more traffic to the area and from a safety standpoint it was determined this was not a suitable location. Additionally, there has been minimal demand for this activity. The future construction of the Shawangunk Gateway Campground may meet the need of small group camping activities. The preferred option is the status quo, with the addition of four spaces to the existing parking to serve the expanded demand for hiking in the Jenny Lane area.

Access and Parking

During the 1993 master planning process, carrying capacity studies were conducted analyzing patron impact to the land. The comparative analysis below identifies the parking areas throughout the Preserve and compares the status quo, the preferred alternative and the 1993 Master Plan. The most heavily used parking lots -- the Lake Minnewaska parking lots and the Awosting parking lot -- remain relatively consistent with the 1993 totals. An additional parking lot will be constructed adjacent to the Preserve office and visitor center which will help meet the demand for parking in this

area. The total quantity of parking spaces in the Awosting lot has been reduced by twenty spaces. The Jenny Lane area was proposed to have a fifty car parking lot for group camping. Group camping is no longer being considered within the Preserve and these parking spaces are no longer needed. Jenny Lane currently has six parking spaces for hiking and hunting access. A maximum of four additional parking spaces will be provided in the Jenny Lane area for a total of ten. The Peter's Kill area currently has one hundred parking spaces. With the addition of climbing opportunities in the Dickie Barre area, a need for additional parking spaces is likely. If demand warrants, an additional twenty parking spaces will be created in the Peter's Kill parking area. A total of seven hundred and forty parking spaces were proposed for the 12,000 acres of land which comprised Minnewaska State Park in 1993. Since 1993, over 8,000 acres of land has been purchased. To serve the needs of the remote areas of the Preserve, an additional sixty parking spaces have been provided at various small parking lots within the recently acquired property. See the Final Trails Plan Map (large format insert) for access points and parking locations.

**Table 8 - Minnewaska State Park Preserve Parking Capacity Analysis
Comparison of the Status Quo, Preferred Alternative and the 1993 Master Plan**

| <i>Parking Lot</i> | <i>Status Quo</i> | <i>Preferred Alternative</i> | <i>1993 Master Plan</i> |
|--|--------------------------------------|--|-------------------------|
| Lake Minnewaska | 200 | 340 | 300 |
| Awosting | 200 | 270 | 290 |
| Peter’s Kill | 100 | 100 with expansion to 120 dependent upon need | 100 |
| Jenny Lane | 6 - Gate opened for hunter access | 10 - Gate opened for hunter access | 50 |
| Parking Capacity Sub Total | 506 | 740 | 740 |
| Fordmore Road | 3 | 6 | N/A |
| Berne Road | 0 | 4 | N/A |
| Awosting Reserve | 6 | 20 | N/A |
| Tillson Lake | 10 | 12 | N/A |
| Minnewaska Trail | 3 | 3 | N/A |
| Stony Kill Falls | 4 | 15 | N/A |
| Parking Capacity Grand Total | 532 | 800 | 740 |

While the Preserve has limited access based on the carrying capacity of the land, other external parking areas provide convenient access to the more remote locations of the Preserve. Access from external parking lots does not significantly impact the carrying capacity of the Preserve due to their geographic location and distance from the most heavily used areas.

Resource Protection and Use Suitability

Management Types

Minnewaska State Park Preserve can be divided into two management types: High Use Areas and Preservation Areas. These distinct management types are defined by the current use of the Preserve.

In general, the Preserve is managed to protect the distinct ecological diversity of the Shawangunk Ridge. Natural succession dictates the form of management practice except where it threatens the existence of specialized species or habitats. Passive recreation is allowed within the Preserve with hiking, cycling, cross country skiing, snowshoeing and equestrian use allowed on the carriage roads and hiking allowed on the footpaths. Hunters are allowed to travel off trail during designated hunting seasons in designated areas. Climbing is allowed in the Peter's Kill climbing area. Research and studies conducted within these areas define the management practices in the Peter's Kill Climbing Management Plan.

High Use areas include the Lake Minnewaska area, the Lake Awosting area, Peter's Kill area, the Main Entrance Area, the Lower Awosting parking lot and the carriage road system and are defined by the level of development and quantity of use. These areas contain the highest volume of visitors and have historically had a higher level of maintenance, management and development associated with them. The management and maintenance of these areas focuses on visitor safety and experience and, while these areas have higher maintenance and greater management than the majority of the Preserve, they are managed to a level cognizant of the Park Preserve designation.

The entire Preserve is managed to preserve and promote the biodiversity of both flora and fauna, protect the rare and threatened species and reduce the impact of invasive or non-native species. The Preserve is primarily one contiguous forested tract of land with minimal recreational development primarily consisting of trails and carriage roads.

The resource assessment for the Preserve is broken down into two overlapping areas: areas suitable for passive recreation and areas suitable for preservation. The designation of the land as preserve dictates the management and mission of the Preserve, which is focused entirely on conservation, research, education and passive recreation. The Park Preserve designation does not include active recreation such as sports fields, athletic complexes or golf courses, nor does it allow for the use of motorized recreational activities such as all terrain vehicles (ATV's), snowmobiles or off-highway motorcycles.

Land Acquisition

OPRHP will evaluate and consider acquisition of fee title or easement of adjacent properties or existing in-holdings as they become available for purchase for purposes of recreation and resource protection.

Master Plan Alternatives

Alternatives have been considered for the Master Plan. The first is the Status Quo alternative. This alternative consists of current facilities, programs and practices as described in the Environmental

Setting – Chapter 3. Under this alternative, the current resource protection, operation, capacity and facility practices will continue. The increasing demands on the Preserve will not be met or mitigated. The preservation and protection strategies would not be expanded.

Other alternatives are identified and a preferred alternative derived from the analysis and assessment of the safety, natural, cultural, recreational, operational issues and suggestions identified through the public input process. The preferred alternative presented here is the one that best meets the goals for the Preserve. Table 9 provides a summary of the Status Quo and Preferred Alternatives.

Table 9 - Comparison of the Status Quo and the Preferred Alternative Summary

| Topic | Status Quo | Preferred Alternative |
|------------------------------------|--|---|
| Lake Minnewaska Area | Existing parking lots and roads used. 200 spaces provided. Porta-johns remain | Parking lots and roads improved, improved circulation, and expanded parking. 340 spaces provided. Picnic area replaces one existing lot, permanent restrooms provided |
| Preserve Office and Visitor Center | Peter’s Kill Office, the yurt and the existing nature center. The old Preserve office and former Phillips residence remain vacant. | Former Phillips house to be retrofitted into a Preserve office and visitor center. Remove old park office building and residence to create parking to support new visitor center. |
| Maintenance Facility | Existing building is used as is with operational constraints and structural deficiencies. | Rehabilitate existing facility while visually screening maintenance area from adjacent public use areas. |
| Main Entrance Area | Existing fee booth and roads remain. Continued congestion, safety concerns and limited sight distances | Revise gate house and roadway configuration to reduce congestion, increase stacking of vehicles, and improve vehicle circulation |
| Awosting Parking Lot | Existing parking lots and roads used. 200 spaces provided. Composting toilets provided. | 270 spaces provided and parking lot improved. Picnicking opportunities and a footpath to the Lake Minnewaska beach provided. New carriageway linkage constructed. |
| Peter’s Kill Area | Picnicking, hiking and climbing continue in the existing Peter’s Kill area. Preserve office remains. | Parking lot improved. Expand climbing to the Dickie Barre area. Consider expanding parking by 20 spaces if demand requires. |
| Stony Kill Falls Area | Remains accessible by undesignated foot paths. Parking is not provided. | Parking lot, trail to falls, and connection to Stony Kill Carriageway constructed. |
| Tillson Lake Area | Area continues to allow lake access for non-gas powered boats and fishing | Parking lot enhanced. Continue fishing and access for non-gas powered boats. |
| Jenny Lane | Hiker and hunter access. A six car parking area is provided. | Hiker and hunter access. Possible parking expansion up to 10 cars upon evaluation of site. |

| Topic | Status Quo | Preferred Alternative |
|-------------------------------------|--|---|
| Shawangunk Gateway Campground | No facilities provided. | Develop as a tent campground and as a separate support facility. |
| Park Preserve Designation | Land acquired after 1993 does not have official designation as a Preserve. It remains managed as a Preserve. | All land acquired after 1993 officially designated Park Preserve under the Park Preservation Law. See State Park Preserve Expansion map. |
| Bird Conservation Area | Preserve designated a BCA in 2006. | Land acquired after 2006 which is suitable for BCA classification is incorporated into the BCA. See Bird Conservation Area map. |
| Natural Heritage Designation | The Preserve is not designated as a Natural Heritage Area. | Due to the ecological significance and high volume of significant species, the Preserve is designated as a Natural Heritage Area. |
| Cultural Resources | Historic structures require stabilization, increased protection and/or interpretation. Structures approved for demolition by FSB can be removed. | Historic structures will be stabilized, preserved, reused and/or interpreted. Structures of lesser historic value or lacking historic context will be removed if no adaptive reuse is found. Structures approved for demolition by FSB can be removed. |
| Interpretive and Education Programs | Interpretation and education programming is coordinated from the Peter’s Kill office, a vinyl yurt and a small wood frame nature center. Interpretation and educational displays remain minimal. | The former Phillips house is rehabilitated and includes interpretive and educational opportunities. Interpretation is enhanced throughout the Preserve with new kiosks and panels. Programming is expanded and includes a variety of topics on natural, cultural and sustainability elements. |
| Invasive Species Management | The Invasive Species Management Plan is implemented throughout the Preserve. | The Invasive Species Management Plan continues to be implemented throughout the Preserve. |
| Fire Management | Wildfires are controlled and fire is not used as an ecological management tool. | A Fire Management Plan will be developed with other Ridge wide partners to allow for fire to be used as a tool for ecological management and biodiversity enhancement. Wildfire threats are reduced through |

| Topic | Status Quo | Preferred Alternative |
|-----------------------------|--|--|
| Deer Management | Deer hunting is allowed in specific, designated locations throughout the Preserve. | the implementation of the Fire Management Plan. Deer hunting will continue to be allowed in the Preserve with expansion within the Awosting Reserve area. Strategies will be developed with Shawangunk Ridge Biodiversity Partnership and DEC to manage the deer impacts to improve biodiversity throughout the Preserve. Deer hunting areas may be expanded in the Preserve upon the development of these strategies. These strategies help define hunting areas that will help manage deer populations in areas with the greatest need. |
| Small Game Hunting/Trapping | Small game hunting/trapping is not allowed. | Impacts to the biodiversity of the Preserve will guide hunting practices. Small game hunting/trapping is not a consideration due to their impacts. Trapping as a recreational activity is not allowed in State Parks. |
| Trails | The current condition and uses remain on trails and carriage roads. | The 2009 Trails Plan is implemented. The Carriage Road Maintenance Plan is implemented. |
| Climbing | Climbing allowed in the Peter’s Kill Climbing Area. | Climbing allowed in the Peter’s Kill Climbing Area and expanded to the Dickie Barre Area. A climbing management plan will be developed indicating suitable and unsuitable climbing locations. |
| Ice Climbing | Ice climbing is not a regulated activity within OPRHP. | Ice climbing is a prohibited activity due to the safety and operational concerns. This is particularly the case with regard to the capacity of the park to respond to any potential emergency associated with ice climbing. |
| Mountain Biking | Mountain Biking allowed on designated carriage roads and not allowed on any | Mountain biking allowed on designated carriage roads and on a new looped mountain bike specific |

| Topic | Status Quo | Preferred Alternative |
|----------------------|---|--|
| Cycling | <p>footpaths.</p> <p>Cycling is allowed on designated carriage roads and not allowed on any footpaths.</p> | <p>trail system in the Awosting Reserve Area. Mountain biking is not allowed on any footpaths. See Appendix B - Trails Plan.</p> <p>Cycling is allowed on designated carriage roads and not allowed on any footpaths.</p> |
| Hiking | <p>Hiking is allowed on all carriage roads and footpaths. Off trail hiking is not allowed.</p> | <p>Hiking is allowed on all carriage roads and footpaths and expanded in the Mine Hole Area, the Awosting Reserve Area, the Stony Kill Falls Area, the Witches Cave trail, the Fire Break trail, the Power House Trail. Off trail hiking is not allowed.</p> |
| Horseback Riding | <p>Horseback riding allowed (by permit only) on designated carriage roads and not allowed on any footpaths.</p> | <p>Horseback riding allowed (by permit only) on designated carriage roads and on the woods roads in the Awosting Reserve area. Appendix B - Trails Plan.</p> |
| Swimming | <p>Swimming is allowed in Lake Minnewaska and Lake Awosting during the standard swim season and hours.</p> | <p>Swimming remains an allowed activity in Lake Minnewaska and Lake Awosting during the standard swim season and hours.</p> |
| Distance Swimming | <p>Distance Swimming is allowed in Lake Minnewaska during the standard beach season and hours.</p> | <p>Distance Swimming remains an activity in Lake Minnewaska during the standard beach season and hours.</p> |
| Cross Country Skiing | <p>Cross Country Skiing is allowed on all groomed carriage roads.</p> | <p>Cross Country Skiing is allowed on all groomed carriage roads.</p> |
| Snow Shoeing | <p>Snowshoeing is allowed on all footpaths and ungroomed carriage roads.</p> | <p>Snowshoeing is allowed on all footpaths, ungroomed carriage roads, woods roads and mountain bike trails.</p> |
| Geocaching | <p>Geocaching is allowed within the Preserve per OPRHP Geocaching Policy and approved application by the Preserve</p> | <p>Geocaching is allowed within the Preserve per OPRHP Geocaching Policy and approved</p> |

| Topic | Status Quo | Preferred Alternative |
|----------------------|---|--|
| All Terrain Vehicles | <p>manager.</p> <p>All Terrain Vehicles (ATV's) are not allowed in State Parks or in the Preserve for recreational use.</p> | <p>application by the Preserve manager.</p> <p>All Terrain Vehicles (ATV's) are not allowed in State Parks or in the Preserve for recreational use.</p> |
| Snowmobiles | <p>Snowmobiles are not allowed in the Preserve for recreational use.</p> | <p>Snowmobiles are not allowed in the Preserve for recreational use.</p> |
| Disk Golf | <p>Disk golf does not exist within the Preserve.</p> | <p>Disk golf is not a recreational activity that is consistent with the passive recreational activities of the Preserve</p> |
| Fishing | <p>Fishing is allowed in Lake Minnewaska, Lake Awosting and Tillson Lake.</p> | <p>Fishing is not allowed in Lake Minnewaska and Lake Awosting due to the lack of fish and to protect the sensitive habitat within the lakes from the addition of bait fish. Fishing opportunities remain at Tillson Lake.</p> |
| Scenic Vistas | <p>Scenic vistas are allowed to re-vegetate. Historic vistas remain blocked by vegetation.</p> | <p>Historic scenic vistas are thinned through a series of years to enhance the patron experience. A habitat analysis will be conducted on all historic vistas recommended for thinning to assess impacts.</p> |