

## CHAPTER IV: ANALYSIS of the ENVIRONMENTAL IMPACTS

### A. Introduction and assumptions

This section of the document describes the Department's assessment of the anticipated impacts of the proposed management and public use of SPRA. The purpose of this analysis is to inform decision-makers and the public of the anticipated effects on the quality of the human environment of the proposed management and public use of SPRA. The next chapter describes the alternatives that were considered but not included and their potential impacts. The assessment of impacts is an informational tool that does not compel a particular decision by the Department or the Natural Resources Board or prevent either from concluding that other values outweigh the environmental consequences of a proposed action or project.

This assessment has been prepared consistent with National Environmental Policy Act (NEPA) and Wisconsin Environmental Policy Act (WEPA) requirements for environmental review. Although there are no federal permits or approvals required for the DNR to manage and operate the SPRA property, the Department's intent is that this assessment of potential impacts enables the National Park Service to understand how the proposed management of SPRA meets the DNR's application to the Federal Lands to Parks program.

This analysis only addresses the impacts that are believed likely to occur if this master plan is implemented, not impacts that have resulted from previous actions or land uses at the property. NR 44, Wis. Adm. Code requires that property master plans are evaluated every 15 years and revised as needed. As such, this section only addresses those impacts, positive and negative, that are expected to occur over the next 15 years. Finally, this assessment is based on the best professional judgment of Department staff. The DNR has a long history and in-depth knowledge of the SPRA property and surrounding BAAP lands. In addition, the Department has extensive experience managing, restoring, and operating conservation and recreation properties. It is from this base of knowledge and experience that this analysis is drawn.

Many of the expected impacts result from visitation and recreational use of the property. The Department expects visitation to the property to be significantly driven by the amount and quality of recreational facilities present. As a result, it is likely that the number of visitors to SPRA may be limited initially and increase over time as a visitor center, trails, picnic shelters, overlooks, education and interpretation kiosks, and other features are built.

On July 30, 2012 at a public open house meeting, the public was asked to identify issues to include in the planning and review process. The results of that meeting were summarized in a document prepared in September, 2012 and are incorporated into this analysis.

Federal approvals, if any, consistent with the Department's application to the Federal Lands to Parks program and associated Program of Utilization, will be sought as needed.

All necessary state and federal permits will be acquired before the Department proceeds with the development of a project within SPRA. Examples may include complying with state and federal wetland laws in the form of Water Quality Certification(s) to allow work or limited fill in wetlands for the purposes of overall wetland enhancement or restoration.

## B. Anticipated impacts to the human environment

### 1. POTENTIAL IMPACTS TO THE PHYSICAL ENVIRONMENT

#### a. Land use

Given the demand for opportunities to participate in outdoor recreation activities in reasonably close proximity to cities and villages, combined with improvements to USH 12, implementation of this master plan may result in more people moving to the area than is currently projected by the US Census Bureau. This could also increase demand for housing greater than is currently projected. In addition, the number of visitors to the area is expected to increase if the plan is implemented, which could increase the number of retail and service enterprises. Both of these impacts could increase the conversion of some undeveloped or under-developed lands into developed properties, potentially in particular along USH 12. Local units of government may need to adjust their land use plans to reflect changing development pressures that result from public use of SPRA.

#### b. Geological and glacial resources

If the proposed master plan is fully or partially implemented, it is anticipated that there would be only minimal impacts to the geological or glacial resources of the SPRA property. The Department proposes to highlight the geological and glacial features at SPRA to visitors. Although facility development (including trails) may result in some site-specific impacts to these resources, they are expected to be minimal, especially relative to previous disturbance at the property.

#### c. Air quality

If the proposed master plan is fully or partially implemented, it is anticipated that air quality may be impacted by a couple of factors. First, the Department proposes to periodically conduct prescribed fires in much of SPRA over time. Most fires would be conducted in the spring with some also being conducted in the fall. Some of these fires may be several hundred acres in size or larger. It is the Department's intent to conduct these prescribed fires when the prevailing wind direction will keep smoke over SPRA until it dissipates. Although it is possible that some smoke may travel over nearby residences and neighboring landowners, the Department expects these impacts to be minor and temporary.

Concern has been raised regarding the potential release of toxic chemicals or materials during the use of prescribed fire at SPRA. All of the land within SPRA has been cleared of all known contaminants to a depth of four feet. Any contaminants below four feet would be materials that are unlikely to be taken up by plant roots. As a result, the Department believes that the use of prescribed fire at SPRA will result in the release of materials similar to prescribed fires at other properties around the state. It is likely that the existing and future road and trail networks will provide adequate fire breaks. If additional fire breaks are needed, the Department will evaluate potential soil disturbance areas to ensure that no known contaminants would be released.

A second source of impacts to air quality is likely to be vehicle traffic on the gravel roads. Many of the roads open for vehicle use on SPRA will, at least initially, remain surfaced with gravel and, depending on the amount of traffic, may generate localized dust conditions. The Department expects these impacts to be similar in scope to those that result from traffic on nearby gravel roads.

Increased vehicle traffic resulting from visitors is expected to be only a small incremental increase to the existing traffic loads in the general area. Thus, the Department does not expect there to be a significant impact to air quality from visitors driving to and around SPRA.

The re-purposing of trails and roads for dual-sport motorcycles up to six days a year will result in emissions from these vehicles. If 100 riders participate using bikes that average 60 mpg and each goes 60 miles while at SPRA, then each of these six days will result in emissions associated with using 100 gallons of gas. In addition, dust is likely to be created during these events, although the magnitude is not expected to be significant.

#### **d. Water resources**

If the proposed master plan is fully or partially implemented, it is anticipated that impacts to water resources would be beneficial. The most significant positive impact could be the collaborative efforts of the DNR and HCN to restore the hydrology of the streams emanating along the south bluff of the Baraboo Hills. The master plan proposes that these creeks will be restored to flow out onto the flat outwash plain and drain into the sandy soils on HCN lands. This in turn will help to replenish groundwater.

Implementation of the master plan is not expected to impact the quality of groundwater or waters in Lake Wisconsin.

## **2. POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES**

### **a. Terrestrial habitats and species**

The proposed restoration and management of terrestrial habitats are anticipated to result in increases to populations of native plants and animals, particularly rare and declining species associated with grasslands and savannas. However, implementation of the plan is not likely, by itself, to increase populations of any Species of Greatest Conservation Need to the extent that they would be removed from this status. The quality of the grassland, savanna, and forest habitats at SPRA are expected to improve, resulting in increased diversity in both species composition and structure.

The proposed plan should also have a noted positive impact on populations of game species, although not all game species would be affected equally. Species that respond directly to the availability of restored grasslands and savannas (such as pheasants and, to a lesser extent, small game animals such as rabbits) should increase with restoration and management of additional habitat. Species that are more flexible and adaptable in their habitat needs (such as deer, turkey, raccoon and fox) are expected to show population increases as habitat is restored. Overall, it is expected that game populations will significantly benefit from implementation of the proposed plan, although population responses will vary depending on the species and applied habitat management practices.

The construction and use of recreational facilities is expected to result in impacts to terrestrial resources. The development and operation of trails, day use areas, educational and interpretive facilities, parking lots, and a visitor center may adversely impact terrestrial habitats and species. However, impacts are expected to be localized and minimal.

The hiking, biking, and equestrian trails may impact the habitats through which they are located. Trails can provide easier access into habitats by predators. Although invasive species are prevalent throughout SPRA, the development and operation of trails may also result in the spread of some invasive plants into areas where they do not exist. However, the property is currently heavily fragmented with roads and former rail lines and their removal, combined with the restoration of large blocks of habitats, will result in an overall net decrease in fragmentation.

Depending on the level of participation, trail use by hikers, recreational and mountain bikers, snowshoers and skiers, horseback riders and horse cart drivers, and other non-motorized users may inadvertently disturb

animals at sensitive times in their life cycles (e.g., nesting birds). Auto traffic on designated roads may affect terrestrial wildlife, but the impacts are not expected to be significant.

The proposed re-purposing of biking and equestrian trails and roads for dual-sport motorcycles for six days may disturb the daily routines of animals to some degree. By limiting the number of special events and their timing, the duration and magnitude of the impacts to wildlife are not expected to significantly affect these animals or their use of SPRA.

Rocket launching at the Bong State Recreation Area appears not to have a significant impact on wildlife use of the surrounding area. Indeed, one of the largest populations of Henslow's Sparrow (a State-Threatened bird) on state park lands occurs in close proximity to the rocket launch area at Bong. The launching of sport rockets for up to 10 days a year is likely to disturb animals in the immediate area during these days, however the duration and magnitude of this impact is not expected to significantly affect these animals or their use of SPRA.

The proposed management plan seeks to minimize impacts to night light pollution and as a result is expected to benefit wildlife. Combined with DLSP, this block of conservation land will represent a large "dark sky" opportunity.

#### **b. Aquatic and wetland habitats and species**

Only a small amount of open water and wetland occur on SPRA and less than 10 acres of scattered wetlands are proposed to be restored. Despite this limited acreage, these wetlands may be significant for amphibians, which could concentrate in them during breeding seasons. Along with terrestrial habitat improvements, these small wetlands could lead to increases in local amphibian populations. As such, a small but positive impact to these habitats is expected from implementation of the plan. Restoration of the streams flowing off the South Bluff is expected to improve conditions for invertebrates and several non-game fish in these systems.

### **3. POTENTIAL IMPACTS TO CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES**

None of the proposed developments or actions in the master plan are expected to adversely impact known occurrences of cultural, historical, and archaeological resources on SPRA. In the course of implementing this master plan, some actions will require the disturbance to soil. Prior to any surface disturbance, the Department will review the most up-to-date information on the known locations of cultural, historical, and archaeological resources and take measures to avoid impacts to them. Thus, impacts to occurrences of cultural, historical, and archaeological resources from the development of facilities at SPRA are expected to be minimal.

The proposed master plan seeks to protect, restore, and manage the many cultural, historic, and archaeological resources at SPRA. The DNR intends to integrate some of these resources into visitor experiences and to educate the public regarding their significance and value. A potential outcome is that the public will have a greater understanding and appreciation of the cultural, historical, and archaeological resources of the property as well as southern Wisconsin. Another potential outcome is that some resources may be vandalized or inadvertently damaged by the public.

Discoveries of new archaeological or historical sites in the course of implementing the plan would be reported to the State Historical Society. If any sites of archaeological or historical significance could be affected by development or management activities, the Department would comply as applicable state law (Sec. 44.40 State Stats.) or federal law (Section 106 of the National Historic Preservation Act) by submitting specific site information and any relevant management plans to the State Historical Society.

The Department anticipates that the overall impact to cultural, historic, and archaeological resources at SPRA will be positive.

#### 4. POTENTIAL IMPACTS TO FARMLAND AND FARMING

If the proposed master plan is fully or partially implemented, it is anticipated that the approximately 150 acres on SPRA that are currently farmed in row crops by the DFRC will be converted over time to native habitats (primarily grasslands and oak openings). As a consequence, DFRC may seek to replace this acreage by renting additional farmlands from nearby landowners, by cropping some of their lands in the BAAP that are currently uncultivated, or some other approach. The conversion of cropland at SPRA to native habitats is expected to have a minimal impact on farming and farmland in the area.

The master plan also calls for incorporating grazing on lands as a means to restore and manage habitats. The Department would contract with local farmers or DFRC for this grazing. This is likely to result in increased opportunities for local goat or cattle graziers. In addition, the master plan authorizes the conversion of degraded lands to crop use for several years as part of the process to restore habitats. This conversion of lands to crop use, typically for five to ten years, is expected to have a minimal but positive impact on farming in the area.

The inclusion of research on grazing systems and conservation farming as habitat management techniques (particularly their use to reduce invasive shrubs) may substantially benefit not only the habitats at SPRA but also other lands affected by invasive plants in other parts of the state as knowledge gained here is applied elsewhere.

#### 5. POTENTIAL IMPACTS TO RECREATIONAL PARTICIPATION

If the proposed master plan is fully or partially implemented, there would be an increase in opportunities for the public to engage in outdoor recreation activities. Popular activities at SPRA are likely to be bird watching, biking, horseback riding, hunting, and learning about the history and cultural and ecological features of the property. Although there are several places in the general area that provide biking and horseback riding opportunities, it is possible that SPRA will be an especially popular destination for these outdoor activities.

Estimating the number of future visitors to SPRA is difficult. Although there are properties in southern Wisconsin that share some similarities to SPRA, this property is unique in many ways. Further, the Department has only limited data on visitation patterns of nearby properties. As a result the Department is able to only roughly estimate the number of visitors that may come to the property if the master plan is implemented.

The Department estimates that total annual visitor-days<sup>30</sup> at SPRA may be in the ranges listed in Table 4. These estimates are based on the recreation facilities that are proposed, the anticipated initial interest in visiting the property, and the visitation at nearby park and recreation properties,

The development and operation of SPRA may increase participation in outdoor recreation by local residents, either through an increase in the number of people participating or an increase in the frequency of their participation. Although SPRA will draw visitors from elsewhere in the state and Midwest, it is not expected to significantly increase participation in outdoor recreation in these broader populations. Instead, the property is likely to draw visitors that would have visited other properties.

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<sup>30</sup> Visitor-days are the total number of people that visit the property in a day, regardless of the length of their stay or the number of recreation activities in which they participate.

The proposed re-purposing of the biking and equestrian trails for dual-sport motorcycle use will result in a broader range of visitors to the property and may result in a minimal overall increase in total visitor-days. However, it will displace other visitors from using these trails during the proposed six days. In addition, this motorized use may adversely affect other visitors’ use and enjoyment of other portions of SPRA that remain open. The Department believes the planned motorized use is unlikely to significantly impact other visitors’ overall use of and satisfaction with SPRA and thus is unlikely to significantly affect overall visitation patterns.

**6. POTENTIAL IMPACTS TO SOCIAL AND HEALTH CONDITIONS**

There is considerable research indicating that participation in outdoor recreation can lead to improved health outcomes. If the development and operation of SPRA increases participation in outdoor recreation, people engaged in these activities are expected to realize improvements in their overall health.

The prescribed fires conducted at SPRA will be conducted so that the smoke will not travel over nearby residences. Smoke may affect people visiting SPRA or DLSP, however these events would be of limited duration and scope and thus any impacts are expected to be minimal.

During the days that dual-sport motorcycles are permitted on SPRA, an increase in noise will be generated. This motorized use may adversely affect other visitors’ use and enjoyment of other portions of SPRA that remain open. The noise may also affect neighboring landowners. However given the distance that most neighbors are from SPRA, and that on average over 10,000 cars and trucks a day travel the adjacent stretch of USH 12, this impact is not expected to be significant.

As noted in the grazing section on page 43, soil contamination issues and the potential for bioaccumulation of toxins in animals on SPRA have been evaluated by the Wisconsin Department of Health Services. The DHS report concluded that regular consumption of wild game from SPRA would not pose a human health risk. The report, incorporating conservative risk estimates, also indicated that:

- Regular consumption of agricultural grazing animals with a high percent fat content (e.g., cattle and sheep) from SPRA may pose a human health risk to both children and adults.
- Regular consumption of agricultural grazers with a lower percent fat content (e.g., bison and goat) from SPRA is unlikely to pose a human health risk to either children or adults.

The report noted that the elevated risks calculated for cattle and sheep are likely improbable given the difference between the assumptions and actual conditions on the property and people’s eating habits. As a further precautionary measure, the Department proposes to require that cattle (or other grazing animals with similar fat content) spend no more than two months a year in the Settling Ponds area (MA 5). In addition, the Department will provide educational information to graziers on the soil contaminants of concern present at SPRA and their potential for bioaccumulation in animals that graze on the land.

Eating edible plants (including fruits) and mushrooms from SPRA does not present a human health risk.

Table 4: Estimated range of visitors to the SPRA.

Year	Estimated annual visitor-days
2015	20,000 to 40,000
2016	10,000 to 20,000
2017	10,000 to 20,000
2018	10,000 to 20,000
2019	10,000 to 20,000
2020	20,000 to 40,000
2021	20,000 to 40,000
2022	20,000 to 40,000
2023	30,000 to 50,000
2024	30,000 to 50,000
2025	30,000 to 50,000
2026	40,000 to 60,000
2027	40,000 to 60,000
2028	40,000 to 60,000
2029	50,000 to 75,000

The level of contaminants remaining in the soil is below the established clean-up standards for visitors or staff that work continually at the property (which assumes incidental ingestion of soil, inhalation of particulates emitted from soil, and dermal exposure).

## 7. POTENTIAL IMPACTS TO THE LOCAL AND STATE ECONOMY

### a. Financial costs of implementation

Estimating the costs of the proposed facilities and anticipated habitat management and restoration is difficult for several reasons. From the perspective of the proposed facilities, actual Department costs will be affected by the amount of assistance received from partners, a potential friends group, volunteers, and donations from local businesses. In addition, the Wisconsin Army National Guard has expressed interest in potentially using the construction and deconstruction needs at SPRA as part of their training exercises. From a habitat perspective, actual costs will vary based on the responses to previous treatments (particularly grazing), changing costs of materials, ability to offset management costs through the sale of timber or biomass, assistance received from volunteers, and other factors.

SPRA is projected to attract tens of thousands of visitors a year. These visitors may encourage the development of new businesses or may lead some existing businesses to expand. In addition, SPRA may result in additional housing demand in the area. Together, these changes may require local government to fund improvements or expansions to roads, schools, water and sewer services and other types of infrastructure.

#### Estimated costs of removing or remediating existing structures and facilities

Based on industry standard costs associated with construction and demolition, the Department developed the following general estimates of addressing the existing structures:

- Removing roads. There are approximately 50 miles of roads that could be removed and the ground restored. This material may have value to area contractors and the Department expects that some or all of this material could be traded to local construction businesses for the cost of removing the material.
- Cracking, draining, and filling the reservoirs with sand/gravel. In 2013, the Department estimated this work would cost approximately \$2.3 million, including the repair work that would be needed on the road leading up the reservoirs following the trucking of approximately 70,000 yds<sup>3</sup> of fill material up to the site.
- Converting the remaining structure at the former pump house to a fishing platform or pier. Contaminants at the site have already been addressed. In 2007, the Department estimated that addressing the underwater portion, removing the upper structures and developing an ADA compliant fishing platform or pier will cost approximately \$606,000.
- Building 207. The estimated cost to upgrade the utilities, convert the entrance and bathrooms to ADA standards and address structural problems is \$100,000.

The total cost to address existing structures and facilities is just over three million dollars.

#### Estimated costs of establishing the proposed facilities

As with any property, there are often unanticipated costs that arise over time. The summary presented here includes some of the estimated construction costs. Some additional costs are not included (such as fencing,

installation of water pipes) are not included here because the amount or type are not currently known. More details of estimated costs of the proposed facilities are described in Appendix 2.

The estimated costs of establishing proposed facilities are as follows:

Trails .....	\$1,075,000
Roads and parking lots .....	\$1,636,000
Visitor Center .....	\$575,000
Entrance and interpretive signs .....	\$24,000
Open-sided shelters .....	\$140,000
Viewing deck (Bluff Vista).....	\$45,000
Amphitheater (Bluff Vista) .....	\$150,000
Vault toilets .....	\$325,000
Other facilities (corral, picnic tables, grills, gates) .....	\$75,000
 TOTAL .....	 \$4,045,000

**Estimated costs of operating the existing and proposed facilities**

The Department’s operating expenses will be directly driven by the number of visitors and the degree to which the property requires ongoing oversight. Initially, the Department intends to hire limited seasonal staff, based out of Devil’s Lake State Park, to provide visitor management services and property management at SPRA. In addition, full time staff stationed at Devil’s Lake State Park will also be assigned to property management at SPRA when needed. The estimated staffing cost is approximately \$15,000/year.

As facilities and trails are built in years to come, more visitors are expected. In turn, the expected operating costs and staff time will increase to approximately \$95,000/year that would include a full time property manager, part time law enforcement and maintenance staff.

**Estimated costs of restoring and managing habitats**

The anticipated costs for habitat management are difficult to determine due to the range of potential management techniques that may be used as well as the increasingly large challenge posed by invasive shrubs. In addition, many portions of the property need to be intensively restored in order to re-create native habitats. In some areas, the costs associated with this type of intensive restoration are likely to be driven by the degree to which conventional row cropping in a corn-soybean rotation can be used prior to planting of native seeds.

The Department has extensive experience managing habitats using many of the techniques proposed here (e.g., prescribed fire, brushing, cutting) and less experience in other techniques (e.g., rotational grazing). The following rough estimates of costs were developed applying some of the unique conditions at SPRA with staff experiences at other properties. Factors considered included the large number of former roads that can be used as fire breaks and access routes, the lack of vegetation that can support a self-sustaining fire in some areas, the density of shrubs in some areas, and existing soil conditions.

Estimates are provided for the three major habitat types that are planned for SPRA: grasslands, oak openings, and oak woodlands.

Estimated annual management costs:

- Native grassland = \$40/acre, treatments about every 4 or 5 years
- Surrogate/degraded grasslands = \$75/acre, treatments about every other year

Native oak opening = \$80/acre, treatments about every 4 or 5 years  
Surrogate/degraded oak opening = \$80/acre, treatments about every 4 or 5 years  
Native oak woodlands = \$80/acre, treatments about every 4 or 5 years  
Surrogate/degraded oak opening = \$80/acre, treatments about every 4 or 5 years

Estimated costs to convert surrogate or degraded habitats to native condition:

Conversion to native grassland = \$1,000/acre  
Conversion to native oak opening = \$700/acre  
Conversion to oak woodland = \$500/acre

Estimated acres to convert from surrogate or degraded habitats to native condition:

Grasslands – 664 acres over 15 years  
Oak openings – 85 acres over 15 years  
Oak woodlands – 80 acres over 15 years

Combining these scenarios and factoring in costs for the management and restoration of minor habitats (e.g., wetlands and streams), the Department estimates that direct habitat management costs will be in the range of \$75,000 to \$125,000 annually over the next 15 years.

## **b. Financial benefits of implementation**

### Estimated direct spending by visitors

If implemented, it is expected that SPRA would help diversify the local economy and provide financial benefits on several fronts. One of the most obvious ways would be the direct spending by visitors engaged in different outdoor recreation activities. Research has shown that most people engaged in outdoor trips spend between \$10 to \$40 per person per day on travel-related items, regardless of whether they are biking, hunting, bird watching, hiking, or participating in other nature-based activities.<sup>31</sup> People who engage in overnight trips, horseback riding, and motorized activities typically spend more than this amount (often double or more). The \$10 to \$40/person/day figure includes trip-related expenses (primarily food purchased both in restaurants and grocery stores, gasoline, and other items including bait, ammunition, fees, and a variety of supplies). It does not include equipment purchases (e.g., bikes, guns, cross county skis, saddles, etc.), which are typically considerably more.

Another type of spending is shopping that occurs at local stores on items not directly related to the participation in outdoor recreation activities. That is, someone might visit an area to go bird watching or biking and stop at an antique store and buy a lamp. The person didn't buy the lamp because of the trip, but the purchase took place in the local area (as opposed to in a different area) because the trip was taken. It is unknown how much of this type of spending the establishment of SPRA would create or the resulting sales tax revenue it would generate.

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<sup>31</sup> See: (a) Southwick Associates. State-Level Economic Contributions of Active Outdoor Recreation – Technical Report on Methods and Findings. Prepared for the Outdoor Industry Foundation, 2007. (b) Bicycling Federation of Wisconsin and the WI Department of Transportation. The Economic Impact of Bicycling in Wisconsin, 2005. (c) International Association of Fish and Wildlife Agencies. The Economic Contributions of Hunting, 2001. Washington, D.C. (d) U.S. Fish and Wildlife Service. The 2001 National and State Economic Impacts of Wildlife Viewing. Arlington, VA.

For purposes of demonstrating what the economic benefit to local communities might be if this master plan is implemented, this assessment uses the preceding estimates of yearly visitors and assumes one-quarter would be residents from the local area that spend on average \$5/visit and three-quarters would be from further away and spend on average \$25/visit. Using these assumptions, it is estimated that visitation to SPRA could generate in the range of \$7.5 to nearly \$13 million in direct travel-related spending over the next 15 years.

In addition to the jobs this direct spending could help support (and the associated income taxes), these travel-related expenditures would also result in approximately \$380,000 to \$645,000 and \$38,000 to \$64,500 in state and county sales tax revenue, respectively.

This visitation and spending would, in turn, generate indirect spending by businesses providing supplies and services to the direct retailers. In addition, the wages and salaries paid by the directly and indirectly involved retailers and industries circulate through the economy. The economic benefits that are beyond the direct effects are known as “multiplier” or “ripple” effects and add a significant additional benefit to local communities. These multiplier effects can be calculated using a modeling system developed at the University of Minnesota, but have not been calculated for SPRA.

#### Estimated direct spending by the Department associated with developing and managing the property

Many of the supplies (fuel, herbicides, rakes, fence posts, etc.) that Department staff use in the management and operation of state properties are purchased from local vendors. Similarly, construction and upkeep of some facilities will likely employ local firms that will source materials locally. In addition, many of the staff that will be involved with management of SPRA live in nearby communities and contribute to these local communities through their spending. The amount of this spending is expected to positively impact the local economy but the level is unknown.

#### Estimated changes in property values near SPRA

Estimating potential changes in the property values near SPRA as a consequence of implementing this master plan is difficult for several reasons. Studies in other parts of the country have examined the changes in the selling prices of properties adjacent and near public conservation and recreation properties.<sup>32</sup> Generally, property values increase next to and near conservation and recreation properties.

It is unknown if the future will follow the pattern seen elsewhere. There are many protected conservation lands in the immediate vicinity and the addition of SPRA may not result in the increases seen at other new public properties. Further, the previous use of the property as a manufacturing plant followed by many years of being idled likely affected surrounding property values. Although it is unknown how the conversion of part of the former BAAP to SPRA may affect the values of nearby properties over time, no negative impact is expected.

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<sup>32</sup> Examples include: (1) Crompton, John L. 2001. Impact of parks on property values: a review of empirical evidence. *Journal of Leisure Research* 33(1):1-31, (2) Nicolls, Sarah and J. Compton. 2005. Impacts of regional parks on property values in Texas. *Journal of Park and Recreation Administration* 23(2):87-108, (3) Kroeger, Tim. 2008. Open space property value premium analysis. National Council for Science and the Environment 2006 Wildlife Habitat Policy Research Program. Defenders of Wildlife, Washington, D.C.

### c. Property taxes

When the Department acquires property, the land is exempted from property taxes. However, for lands acquired after 1992 the Department makes annual payments-in-lieu-of-taxes (PILT) to all taxing jurisdictions (county, town, school district, etc.) in an amount equal to the property taxes that would have been paid had the land remained in private ownership. In 2014, the DNR made PILT payments on 2,224 acres at SPRA (of the 3,385 acres the Department will eventually acquire). For 2014, these payments totaled \$36,223 to the Town of Sumpter and \$16,478 to the Town of Merrimac. The towns distributed these payments to each of the taxing jurisdictions within their boundaries (e.g., school districts, county government) following their established mill rates. Under the current law, these payments will continue and will be adjusted each year to reflect the change in the value of land in the taxation district. In addition, under the current law the Department will make PILT payments on the remaining lands when they are transferred to the state.

Over the next 15 years, if the property values in Sauk County, the Town of Sumpter, and the Town of Merrimac are constant, under the PILT program as it exists now, the Department estimates it will make payments-in-lieu-of-taxes related to SPRA totaling approximately \$950,000.

## 8. POTENTIAL IMPACTS ON ENERGY CONSUMPTION

If the proposed master plan is fully or partially implemented, there may be an impact on energy consumption but the scale and direction is unknown.

Department staff will consume transportation fuel in conducting habitat monitoring and management as will staff patrolling the property. However, nearly all of the expected energy consumption associated with the development and operation of SPRA will be tied to the transportation fuel consumed by visitors travelling to the property.

The Department estimates that over the next 15 years, SPRA will draw an average of approximately 25,000 to 40,000 visitors each year. Although these visitors may consume fuel driving to the property, a more relevant figure is the comparative impact on energy consumption. The net consumption will be a function of what visitors would have done had they not visited SPRA. That is, if visitors to the property would have done something around their home rather than drive to SPRA, then their energy consumption visiting the property will likely be much more. On the other hand, if they would have traveled further from home than SPRA to pursue other interests, then their net energy consumption would be less. Until the Department has a clearer indication of the number of visitors and their travel patterns, it cannot accurately estimate the total net fuel use related to the property.

The proposed re-purposing of bike and equestrian trails for dual-sport motorcycles potentially could result in increased energy use. If dual-sport motorcycles get an average of 60 miles per gallon, riders travel 60 miles a day while at SPRA, and the property hosts 100 riders for each of six days, this recreational use would result in the consumption of approximately 600 gallons of gasoline. As with general visitation, if motorcycle riders would have traveled further than SPRA to participate in a riding event, then the property may result in less overall energy consumption. If, however, riders would have done something that didn't use energy instead of traveling to SPRA and riding their motorcycle, then providing this recreational activity at SPRA will result in increased overall energy consumption.

## C. Issues related to the cumulative effects, risks, and precedent if the proposed plan is implemented.

### 1. SIGNIFICANCE OF CUMULATIVE EFFECTS

The cumulative effects from the proposed management of SPRA are expected to generate a long-term positive effect on the quality of the human environment. The plan's proposed land management would also maintain and expand protection of critical ecological habitats and associated species, including Species of Greatest Conservation Need.

The recreational facility developments proposed here would fill a demonstrated need for additional or improved recreational opportunities in southern Wisconsin. The recreational opportunities that would be created here are designed to complement each other and provide visitors with multiple experiences. In addition, there is the potential for different types of special events occurring on the property. Cumulatively, these opportunities may lead to increased recreational use of the property. In turn, this may impact native species and natural communities that are the focus of restoration and management efforts and may lead to a rise in staffing needs.

Overall, the proposed management of SPRA is likely to have a positive, if modest, long-term impact on the local tourism economy by expansion of recreational facilities. Construction of the Great Sauk Trail (rail-trail) from Sauk City/Prairie du Sac to SPRA and continuing on towards DLSP is expected to significantly contribute to the popularity of SPRA. If the Great Sauk Trail eventually is connected to the 400 State Trail in Reedsburg, this would likely lead to additional visitation in the general region and SPRA.

### 2. SIGNIFICANCE OF RISKS

The management and use of SPRA pose a low overall potential for risk to the human environment. No new, high risk actions are proposed, nor are any actions which involve an irretrievable commitment of resources, or actions that could not be reversed in the future. The proposed facilities are similar in nature to other trails and recreation facilities found elsewhere in Wisconsin. The proposed land management actions would be a continuation of existing approaches to habitat management used by the Department throughout southern Wisconsin.

A proposed action which some people may consider a higher risk activity is the use of fire as a habitat management tool. While the use of prescribed fire potentially increases the risk of a burn turning into a wildfire, by reducing fuel loads over time, periodic prescribed burns also reduce the chances of a wildfire turning into a catastrophic, uncontrolled event. The risks associated with prescribed burns would be mitigated by using experienced staff to conduct the burns, burning only under low risk conditions, having appropriate firebreaks pre-established, and having fire-fighting equipment and personnel present on site during burns.

### 3. SIGNIFICANCE OF PRECEDENTS

To be sure, SPRA has a very distinctive past and portions of the proposed management plan reflect the unusual opportunities and challenges here. However, the Department believes that many aspects of the proposed master plan, for example providing a range of recreation experiences, managing grasslands and savannas, and working with partners, are common to other DNR properties. The one new recreation opportunity proposed here is the re-purposing of trails and roads for use by dual-sport motorcycles. The Department will evaluate the popularity and outcomes of this use and assess the practicality of applying what is learned here to other properties.

## D. Degree and nature of controversy regarding the proposed master plan.

### 1. ISSUES OF PUBLIC CONCERN AND CONTROVERSY THAT WERE RAISED PRIOR TO THE RELEASE OF THIS DRAFT MASTER PLAN.

The following issues were raised as concerns or controversies by the public during the initial phases of developing the draft master plan:

#### **a. Motorized recreation and a shooting range.**

The first phase of the master planning process focused on developing a Regional & Property Analysis, which was released in 2012 and described the attributes and features of the property and the broader context within which it sits. Public comments on this document were extensive and covered a range of topics. As part of this public input, among many other comments, some people noted the demand for motorized recreation in the region and that the SPRA property might be a good fit for a variety of different motorized vehicles. Demand for a shooting range was also expressed.

In the next step of the planning process, the development of a draft property vision, goals, and conceptual alternatives, the Department included motorized uses and a shooting range as potential recreation opportunities in the Magazine Area in one of three alternatives (2013). In the public comments subsequently received on these alternatives, the incorporation of motorized uses and a shooting range was seen by many commenters as a deviation from the DNR's original statements of its intent for the property (which had focused on managing the property to provide conservation outcomes and low-impact recreation), as well as the DNR's application to the NPS to acquire the land for park purposes (again, for conservation and low-impact recreation). Further, many remarked that motorized activities at SPRA were inconsistent with the values and concepts agreed to by the Badger Reuse Committee, of which the DNR was a member (see below).

During the comment period for the draft vision, goals, and conceptual alternatives the potential inclusion of a shooting range and motorized uses at SPRA generated more public comments than all other issues combined. A large majority of comments received were opposed to the inclusion of either a shooting range or motorized uses at SPRA.

#### **b. Badger Oversight Management Commission (BOMC) and public participation in the development of the draft master plan.**

Public input and involvement in the master planning process is critical to the agency's ability to craft well-reasoned, successful plans. The Department fully understands that the support of the general public is imperative for a property to meet its ecological and recreation potential.

To ensure that all citizens have opportunities to inform and guide the outcome, the Department follows a standard approach when developing master plans to ensure adequate public involvement at three critical times – after the release of the regional & property analysis, after the release of the draft master plan, and at the NRB meeting when the plan is considered.

In response to the high level of public interest in the future of SPRA, the Department has gone beyond the standard approach during the development of this master plan. Over the past several years, staff members have spent time soliciting public input in a variety of formats and have attended meetings and made presentations to convey the Department's perspectives and positions. Representatives from the Department

have attended nearly every BOMC meeting over that last several years. The amount of staff time and effort focused on public participation in the development of this master plan exceeds other planning efforts in the Department's recent history.

Developing master plans, particularly for high profile and popular properties, is often marked with controversies over competing recreation uses. And for newly acquired properties, where there is a "blank slate" of existing recreational uses, reaching agreements on future uses can be especially challenging. The Department concluded that, rather than engage in ongoing public discussions and negotiations throughout the development of the plan, the planning process would progress most efficiently if staff completed the draft master plan (based on the extensive comments received during the public input opportunities) and then gathered public input on the entirety of the document. Some members of the Badger Oversight Management Commission and the public expressed concern that this approach did not provide adequate opportunities for input during the plan development process.

### **c. Neotenic salamanders.**

Concerns have been raised over the last several years regarding the fate of the approximately 1,200 Eastern Tiger Salamanders that live in the reservoirs. These salamanders are neotenic, meaning they live their entire lives and breed in a larval, tadpole-like condition, and never leave the water. Although a rare occurrence in this species, it has been recorded elsewhere, generally in waters that are permanent and do not have predator (fish) populations.

The reservoirs present significant public safety issues and need to be razed. The Department intends to drain the reservoirs, crack them so they won't hold water in the future, and then fill them with material. Initially, the DNR proposed moving as many of the salamanders as possible to interested captive or research facilities (mostly schools, universities, museums and zoos) around the country and then releasing the remaining individuals into nearby ponds and wetlands. Unfortunately, the population of salamanders in the east reservoir has contracted a virus and potentially other diseases that are not known to occur in the local tiger salamander population. As such, these individuals cannot be released back into the wild.

The Department is currently in the process of identifying captive facilities interested in receiving animals. Individuals not transferred to captive facilities will be euthanized.

The decision to remove the reservoirs (and thus the salamanders) generated controversy. Some members of the public requested that the salamanders be maintained in the reservoirs as part of a unique opportunity to showcase one of the unintended consequences of the BAAP's operations and as a means to educate the public about an unusual biological event. In June 2015 the Department received a petition with over 1,750 electronic signatures stating that the salamanders and the reservoirs should be saved. Alternatives related to the salamanders are described in Chapter V.

### **d. Adherence to the Badger Reuse Plan.**

On several occasions concerns were raised by members of the public that the Department did not appear to adhere to the 2001 Badger Reuse Plan (BRP) and did not seek to align the development of the master plan to the values and criteria set out in that document. The Department was a signatory to the document and some members of the public felt that the Department had abandoned its earlier commitment to follow the BRP in developing the SPRA master plan.

During the development of the Badger Reuse Plan, many potential future uses were discussed ranging from industrial use to ecological restoration. Although the Reuse Committee reached consensus on the overall

concepts related to recreation (criterion 5.3), consensus was not reached concerning specific recreation activities. To be sure, at that time there was support and a strong preference for low-impact recreational use of the property as a whole; however, that was not the only recreational setting considered.

Throughout the planning process, representatives of the Department have stated on numerous occasions that the BRP was a crucial guiding influence in developing this master plan and was the foundation on which staff began their work. However, as with all Department planning processes, as staff evaluated options and alternatives they also took into account more recent information, changing conditions on the property, and ongoing public perspectives and input.

The Department also received many ideas and perspectives from the public during the first phase of the master planning process about recreation and conservation possibilities and needs. In particular, the Department received input to incorporate opportunities for ATVs and motorbikes, a shooting range, and other uses that went beyond what was included in the Badger Reuse Plan. As such, staff incorporated this input into the planning process.

#### **e. Groundwater contamination.**

Three plumes of contaminated groundwater are known to emanate from the BAAP. The Army is responsible for monitoring and addressing this contamination and has engaged in a number of treatments over the last several decades. The Department is responsible for overseeing and approving groundwater and surface water monitoring and treatment methods.

Local citizens have expressed concerns for many years about contamination associated with activities at the BAAP site and its impact on and off site. A local group, Citizens for Safe Water Around Badger (CSWAB), has been actively engaged with the Army questioning the cleanup of contamination and pressing the Army and the DNR to exceed established standards for environmental cleanups. CSWAB has routinely expressed concerns about the environmental contamination resulting from the BAAP operations as well as the DNR's oversight of clean-up activities.

#### **f. Health impacts to visitors and animals from residual contaminants.**

Concerns have been raised that the health of visitors may be at risk through direct exposure to soils in some places. In addition, concerns have been raised that eating edible plants, berries, apples, mushrooms, and animals (game species as well as goats, cattle, and other grazers) from SPRA may also lead to adverse health impacts.

## **2. ISSUES OF PUBLIC CONCERN AND CONTROVERSY THAT WERE RAISED AFTER THE RELEASE OF THIS DRAFT MASTER PLAN.**

*To be completed after the public review period.*

Figure 17: View looking east of the main entrance gate. The Baraboo Hills are on the left and the Rocket Area is seen on the right. Much of the land in the central part of the photo is now owned by the Ho-Chunk Nation.



*Badger History Group archives*