

Finding of No Significant Impact

Fire Management Plan St. Croix National Scenic Riverway, Minnesota/Wisconsin March 2005

Background

The St. Croix National Scenic Riverway (Riverway) was established as one of the eight original rivers under the Wild and Scenic Rivers Act in 1968 and is administered by the National Park Service (NPS). The General Management Plan (GMP) for the Riverway indicates that the Riverway is significant because, as they travel the river, visitors can observe the convergence of three terrestrial biological communities; prairie, hardwood forest, and coniferous forest. A primary management goal is to protect, restore, and maintain natural and cultural resources in good condition and manage them within their broader ecosystem and cultural contexts.

The NPS Director's Order 18, *Wildland Fire Management*, requires that any unit of the National Park System with vegetation capable of supporting a fire develop a Fire Management Plan (FMP). The NPS has prepared a FMP and environmental assessment (EA) that provides an analysis of several alternatives for fire management at the Riverway. They include the no action alternative and alternatives that would use prescribed fire and/or mechanical treatment to achieve desired natural resource conditions and reducing hazard fuels to protect park resources and surrounding property from the effects of wildfire.

Internal and agency scoping was conducted before the formal analysis began. Concerns identified during scoping and addressed in the EA, FMP, and *Long-term Prescribed Fire and Hazard Reduction Plan* include which areas would be burned, the resource objectives for using prescribed fire, and the types of resources that would be available for safety and control.

Selected Alternative

The fire management alternative selected for implementation at the Riverway is Alternative 4 (Preferred): Integrated Program, which is described in detail in the EA. This alternative will use an integrated program of prescribed fire and mechanical treatment to meet resource management objectives and reduce hazard fire accumulations at the Riverway. The integrated program will allow the maximum opportunity and flexibility to restore fire-adapted communities, control exotic plants, and reduce the build up of hazard fuels.

The NPS and cooperators will continue to suppress all unplanned fire at the Riverway as soon as possible, regardless of whether the fire is caused by lightning or human activities. All prescribed fires will be carefully planned and implemented in accordance with a written prescribed fire plan. Prescribed fires will be conducted under the direction and operational control of a fully qualified Prescribed Fire Burn Boss. All other positions needed to conduct and hold the prescribed fire will be filled with fully qualified resources. All resources listed in any project prescribed fire plan will be available for the duration of the fire. If any resource identified in the prescribed fire plan cannot be available for the duration of the fire, that fire will be postponed.

Operational guidelines, range of acceptable fire behavior and favorable weather conditions to implement the prescribed fire will be specified in each prescribed fire plan. Each project will include monitoring and evaluation criteria as an integral component of the plan and will be implemented continuously during the prescribed fire operation to ensure that fire behavior and weather conditions remain within the prescribed fire plan parameters.

Current and expected weather conditions, fuel loading and fuel moisture and their associated fire dangers will be monitored closely to determine if and when prescription criteria are met. A current spot weather forecast will be obtained on the planned day of ignition, and all prescription elements will be verified to ensure all conditions and parameters were within desired ranges. If all criteria are met, and the "go-no go" checklist indicates that the prescribed fire is acceptable and within prescribed parameters, a test fire will be ignited to determine on site fire behavior. If the test burn indicates fire activity and resource benefits consistent with the plan, the project will continue. If not, the test burn will be suppressed and the project postponed until more favorable conditions are present.

All application of fire will be through hand ignition techniques, usually by drip torch. Light hand ignition methods and sequences will be used to encourage low intensity fire behavior appropriate to the vegetation to be burned and the resource benefit objectives to be met. The NPS will ensure that sufficient fire-fighting resources are available should the weather change and fire behavior exceed expectations. Resources will include personnel, water, and support from other entities. Equipment will be brought in by boat, on existing paved or unpaved roadways, or on foot. Hand tools and chainsaws will be used for cutting vegetation and scraping fire lines.

Mechanical treatments and prescribed fires will often be used in the same prescribed fire unit. Mechanical treatments will be used to reduce fuel loading in and around structures or trees that should be protected from fire, to establish fire lines, to remove encroaching woody plants that do not easily burn, to perform selective clearing, to cut and control exotic plants, and, if necessary, to cut forest understory to minimize fuel ladders. Chain saws, chippers, mowers, pruning shears and rakes will be used to trim and remove trees, thin and remove brush, and mow herbaceous vegetation. Debris associated with mechanical treatment will be hauled off-site to an approved landfill or piled and burned. Topical herbicides will be used on a limited basis to prevent sprouting of exotic species such as buckthorn and honeysuckle. Herbicides will be used in strict adherence to label requirements.

The selected alternative **will apply only** to NPS fee-owned lands within the federally administered portion of the Riverway, upstream of Stillwater, Minnesota. It **will not apply** to private property, property where the NPS has purchased only a scenic easement, or other public lands within the boundary unless the private landowner or public land manager wishes to conduct cooperative prescribed fires.

Mitigation Measures

Mitigation and avoidance measures have been developed and will be fully implemented as part of the fire program at the Riverway. These mandatory provisions are detailed in the table attached to this document.

Other Alternatives Considered

The no-action alternative and two other action alternatives were examined in the EA.

Alternative 1: No Action would have continued the status quo at the Riverway. No prescribed fire program would be implemented. The No Action Alternative was not selected because it would not help to reduce hazard fuels or restore and maintain fire-adapted natural communities at the Riverway. Under this alternative, fire-adapted communities would slowly disappear and hazard fuels would continue to build up. The scenic and biological diversity provided by the convergence of prairie, hardwood forest, and coniferous forest along the Riverway, which is identified as significant in the GMP, would diminish.

Alternative 2: Prescribed Fire would use only prescribed fire to reduce hazard fuels and restore and maintain fire-adapted communities. Alternative 2 was not selected because it would not allow for the use of mechanical treatment either in conjunction with or on sites where it might be more appropriate than prescribed fire in attaining management goals.

Alternative 3: Mechanical Treatment would use mechanical treatment only to reduce hazard fuels and restore and maintain fire-adapted communities. This alternative was not selected because it would be very labor intensive and only small areas could be restored.

In addition, the alternative of allowing naturally occurring fires to burn under certain specific conditions (Wildland Fire Use) to meet resource objectives was considered, but not analyzed further. Wildland Fire Use is not acceptable at the Riverway because numerous private lands and homes lie within and just outside the narrow corridor of the Riverway. Wildland Fires Use would significantly increase the potential to negatively impact public safety, property, and park resources.

Environmentally Preferred Alternative

The alternative selected for implementation Alternative 4 (Preferred): Integrated Program is also the “environmentally preferred alternative” when measured against the six criteria listed in Section 101 of NEPA.

Criterion 1 (Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations) is best met by the Integrated Program which emphasizes:

- Maximum flexibility to choose prescribed fire, mechanical treatment, or a combination depending on the needs of the site.

- Maximum restoration and maintenance of fire-adapted communities.

- Maximum control of exotic plants.

- Improved habitat for some plants and animals, including Federally-listed species.

Minimal negative impacts to natural resources, cultural resources and recreational use by adoption of all avoidance and mitigation measures.

Criterion 2 (Assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings) is best met by the Integrated Program which emphasizes:

Maximum reduction of hazard fuels.

Low intensity prescribed fires to increase nitrogen and soil productivity.

Helps maintain aesthetic quality of the Riverway by restoring and maintaining fire-adapted communities thereby maintaining scenic and biological diversity.

Criterion 3 (Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences) is best met by the Integrated Program, which emphasizes:

Safety measures fully incorporated and implemented on each prescribed fire to protect fire personnel, the public, park facilities, and private property.

Minimum Impact Suppression Tactics used at all times to protect natural and cultural resources.

Minimal negative impacts to natural resources, cultural resources and recreational use by adoption of all avoidance and mitigation measures.

Criterion 4 (Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice) is best met by the Integrated Program which emphasizes:

Measures to avoid or minimize impacts to archeological sites and historic structures.

Restoration and maintenance of fire-adapted communities, a part of our national heritage that is disappearing due to fire suppression.

Protection of the scenic and biological diversity by restoring and maintaining fire-adapted communities along the Riverway.

Criterion 5 (Achieve a balance between population and resource use that will permit high standards of living and wide sharing of life's amenities) is best met by the Integrated Program which emphasizes:

Reducing hazard fuels and the risk of intense wildfire which could threaten private property.

Protection of the scenic and biological diversity by restoring and maintaining fire-adapted communities along the Riverway.

Criterion 6 (Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources) is best met by the Integrated Program which emphasizes:

Hand ignition techniques.

Use of handtools and chainsaws rather than heavy equipment for cutting vegetation.

Use of natural barriers, wetlines, or blacklines to contain prescribed fire.

Why the Preferred Alternative Will Not Have a Significant Effect on the Human Environment

The intensity or severity of impacts resulting from implementation of the selected alternative was evaluated using the ten (10) criteria listed in 40 CFR 1508.27. The results are as follows:

Criterion 1: Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

The selected alternative will result in minor, short-term adverse impacts to air quality and water-quality. Impacts to soils, wetlands, vegetation, wildlife, and threatened and endangered species will be minor to moderate and, on the whole, beneficial. Negligible adverse impacts will occur to prehistoric archeological resources, and minor to historic archeological resources. No impact will occur to historic structures. Ethnographic resources may experience moderate, beneficial impacts by restoring ecosystem processes. Moderate, beneficial impacts will occur to scenic resources, and have moderate, beneficial impacts to recreation/visitor use. Minor, short-term impacts will occur to recreation/visitor use. However, the selected alternative will not have a significant impact on the scenic, recreation, fish, wildlife, or cultural values of the St. Croix National Scenic Riverway.

Criterion 2: The degree to which the proposed action affects public health or safety.

Extensive safety measures will be incorporated into every prescribed fire. Therefore, the impacts of the selected alternative to public health or safety will be minimal.

Criterion 3: Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The St. Croix National Scenic Riverway is a component of the National Park System and the National Wild and Scenic Rivers System. It is a protected corridor that preserves riparian wetlands and serves as a refuge for large populations of diverse flora and fauna, including federally and state-listed threatened and endangered species. The Riverway retains numerous archeological and historic resources that reflect centuries of human use of a riverine environment. As described in Criterion 1, impacts to Riverway resources will range from negligible to moderate. The selected alternative will have no impact to the free-flowing quality of the Riverway and moderate beneficial impacts to scenic resources. There will be no impact to prime farmlands.

Criterion 4: The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.

The selected alternative is not highly controversial as evidenced from public input and agency coordination. One letter of comment was received during the public review period from the U.S. Fish and Wildlife Service providing consultation under Section 7 of the Endangered Species Act.

Criterion 5: The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The selected alternative does not carry highly uncertain effects on the human environment or involve unique or unknown risks. The effects of prescribed fire and mechanical treatment on fire-adapted communities are well-documented. Risks to property will be reduced by reducing hazard fuel accumulation at the Riverway. The risk of prescribed fire will be minimized by incorporation of extensive safety measures.

Criterion 6: The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The selected alternative will not establish a precedent for future actions with significant effects. Implementing Alternative 4 (Preferred): Integrated Program is well within the guidelines set by the GMP for the Riverway. It will help restore and maintain scenic and biological diversity and help meet the resource management objectives outlines in the General Management Plan.

Criterion 7: Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The analysis identified plant communities whose long-term health and existence are dependent upon periodic fire or other treatment. Implementing Alternative 4: Integrated Program over the course of many years and in conjunction with prescribed fire used by other land managers on adjacent lands could have positive cumulative impacts by restoring fire-adapted communities and reducing hazard fuels in the area. This is the only cumulative effect anticipated under the adoption of the Alternative 4: Integrated Program. However, these cumulative impacts would not be considered to be significant, particularly in comparison to the extensive loss of fire-adapted communities due to years of fire suppression.

Criterion 8: The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The Wisconsin Historical Society, State Historic Preservation Office (SHPO) and the Minnesota Historical Society, SHPO concurred that there would be no adverse affects on cultural resources as long as the mandatory avoidance/mitigation measures identified in the EA (and attached to this document) are followed. The Wisconsin SHPO concurred by letter of November 1, 2004 and the Minnesota SHPO concurred by letter of November 12, 2004. The Minnesota SHPO cited the value of the archeological surveys that will follow all prescribed burns. A tribal representative from the Prairie Island Indian Community raised a concern during consultation on an early draft EA that the NPS assure the protection of burial sites, specifically burial mounds. This concern caused the NPS to revise the EA and is now adequately addressed by the mandatory avoidance/mitigation measures. This satisfies the requirements of Section 106 of the National Historic Preservation Act, as amended (16 U.S.C. 470).

Criterion 9: The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The NPS entered into informal consultation with the U.S. Fish and Wildlife Service on October 1, 2004. By memorandum of February 10, 2005 the U.S. Fish and Wildlife Service concurred with the NPS determination that implementation of the FMP will not adversely affect the bald eagle, gray wolf, Kirtland's warbler, Canada lynx, Karner blue butterfly, Higgins' eye pearly mussel, or result in the adverse modification of critical habitat **provided** that the mandatory avoidance/mitigation measures identified in the plan and attached to this document are fully implemented. In the event these measures are modified in some way, consultation should be reinitiated with the U.S. Fish and Wildlife Service. This satisfies the requirements of the Endangered Species Act, as amended (16 U.S.C. 1531-1543).

Criterion 10: Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

The selected alternative will not violate any environmental protection law or regulation.

Public Involvement

The EA was made available for public review and comment during a 30-day period ending February 25, 2005. A press release announcing its availability was sent to area media outlets. The EA was available at Riverway visitor centers, on the Riverway website, and at area libraries. Copies were also mailed to those involved in consultation. One letter of comment was received from the U.S. Fish and Wildlife Service providing consultation under Section 7 of the Endangered Species Act.

Agency Consultations

The EA, *Long-term Prescribed Fire and Hazard Reduction Plan, and Fire Management Plan* was sent to the U.S. Fish and Wildlife Service, Wisconsin Historical Society, Minnesota Historical Society, Great Lakes Indian Fish and Wildlife Commission, and potentially affected Indian tribes during the public review period. Previous drafts of these documents were also sent to these entities for early input.

As stated in response to Criterion 9 above, the U.S. Fish and Wildlife Service concurred with the NPS determination that implementation of the plan will not adversely affect the bald eagle, gray wolf, Kirtland's warbler, Canada lynx, Karner blue butterfly, Higgins' eye pearly mussel, or result in the adverse modification of critical habitat.

As stated in response to Criterion 8 above, the Wisconsin SHPO and the Minnesota SHPO have concurred that no adverse effects on historic properties will occur as a result of this plan.

The NPS consulted with five potentially affected Indian tribes on the Fire Management Plan and EA. The only concern raised that related to cultural resources was the potential effect on burials,

MITIGATIVE ACTIONS

RESOURCE OR ISSUE AREA	MITIGATION
<i>Air quality</i>	Prescribed fire plans will document the steps to be taken prior to, during, and after a prescribed fire to reduce air emissions. When conditions are unfavorable for smoke dispersion and air quality standards will be threatened, prescribed ignitions would be postponed.
<i>Soils</i>	Fire control lines will be carefully planned, often utilize natural breaks such as waterways, or use wetlines or blacklines. Any constructed line will be rehabilitated.
<i>Water Quality</i>	A mosaic of vegetation will be left immediately adjacent to the St. Croix River, the Namekagon River and their tributaries in prescribed fire units to minimize the potential for erosion from runoff after a fire event. Small areas of unburned islands throughout each prescribed fire unit will be left to help stabilize soil and reduce run-off. In areas with high potential for erosion, such as steep sandy slopes, prescribed fire will not be used. No equipment would be used on steep or unstable slopes. To prevent rutting, tracked or rubber-tired equipment would only be used on dry or frozen ground.
<i>All Rare Species</i>	All prescribed fire units will be assessed prior to treatment to determine the presence of rare species, their occurrence or use of special habitats in the area, and their ability to thrive after prescribed fire.
<i>Rare mussels</i>	The sites proposed for treatment with prescribed fire are all small sites. The mitigation measures described above for protecting water quality will protect rare mussels from the effects of sedimentation. Therefore, prescribed fire will have no effect on rare mussels.
<i>Karner blue butterfly</i>	The Riverway does not currently have suitable habitat for the Federally-listed Karner Blue butterfly because its host plant, wild lupine, does not occur within the boundary. If wild lupine is successfully established at the Riverway and sites containing it are proposed for prescribed fire, the NPS will re-consult with the USFWS to determine the best course of action to avoid adverse effects to Karner blue butterfly.
<i>Kirtland's Warbler</i>	While this Federally-listed species has not been documented at the Riverway, precautions will be taken in potential habitat. Adverse effects of prescribed fire to this ground nesting species will be avoided by scheduling fires in jack pine forest either prior to or after their nesting season.
<i>Bald Eagles</i>	To protect these birds from potential short-term adverse effects, all prescribed fire units will be assessed for nesting bald eagles prior to prescribed fires. If nesting bald eagles are present, all prescribed fire activity will be kept back at least 660 feet from the nest during the most critical and moderately critical nesting periods which run from February 1 to July 31. In the unlikely event that prescribed fire closer than 660 feet during this period is deemed desirable in order to meet other resource management goals, the NPS will reconsult with USFWS to determine the best course of action to avoid adverse effects to bald eagles. In all cases, the risk of fire to trees used for nesting within the past three years or less will be assessed for the risk of damage by fire. If vulnerable, the tree will be protected from the fire.

<p><i>Gray Wolves</i></p>	<p>Wolves will be protected from the effects of prescribed fire by protecting den sites during the spring. Each year, the sites to be treated with prescribed fire the following spring will be identified and compared with the most recent information available from WiDNR on the location of wolf pack territories. Dens tend to be found near the center of a pack's territory. If a site near the center of a territory is scheduled for prescribed fire the following spring, the NPS will consult with the USFWS and the WiDNR to determine the best methods for determining if a den site could occur. Possibilities could include checking the area in late winter before a scheduled spring burn for signs of denning activity and/or increasing the intensity of track surveys in the area. If denning activity is discovered in or near an area schedule for prescribed fire, the NPS will continue to consult with USFWS and WiDNR to determine the best course of action to avoid adverse effects to gray wolves. Rendezvous sites are also generally found near the center of a packs territory. These are sites where adult wolves leave their pups during mid-to-late summer while they go off to hunt and return with food. Prescribed fire will not be used at the Riverway during mid-to-late summer in a typical year because vegetation will be too green to carry a fire. Therefore, rendezvous sites will not be affected by prescribed fire. In the unlikely event that a prescribed fire would be scheduled for mid-to -late summer and the area corresponds with the center of a packs territory, the NPS will consult with the USFWS and WiDNR to determine the best course of action to detect and protect rendezvous sites.</p>
<p><i>All Cultural Resources</i></p>	<p>All prescribed fire units will be assessed prior to the burn to determine the presence of known cultural resources and the likelihood that unidentified resources may exist. An assessment will also occur on the potential effects of fire and erosion and the impact they could have on any cultural resources. No ground disturbance will occur in areas known to be mound sites or likely to include human burial sites. No heavy equipment will be allowed to drive on known mounds or burial sites. Extra caution will be used near archeological sites to prevent ground disturbance. Staging areas will be located in developed areas, rather than undeveloped, to avoid impacts to cultural resources. In most cases, wetlines and blacklines will be used to contain prescribed fire. No fire lines will be built in an area with known archeological sites or a high potential for archeological sites.</p>
<p><i>Prehistoric Archeological Resources</i></p>	<p>All known archeological sites will be evaluated for vulnerability to fire. Surface sites will be excluded from the prescribed fire units. Threats to buried sites will be reviewed against the prescription for the fire, including the hazards of burning roots and large fuel masses. No heavy equipment or ground disturbance will be allowed on burial mounds or known grave sites. If stumps exist on burial mounds they will be cut flush with the ground and covered with soil so fire is not carried through the roots. No petroleum or chemical based sources of ignition will be used on the surface of any known archeological sites. Appropriate equipment including hand tools will be used as necessary to avoid impacts. A qualified archeologist or a staff member who has completed the NPS, Midwest Region paraprofessional archeologist training will walk the site after the prescribed fire to see if any artifacts from known or unknown sites were exposed on the ground surface and assess the potential for erosion on or near the archeological site.</p>

<i>Historic Archeological Resources</i>	The same measures as described for <i>Prehistoric Archeological Resources</i> will also apply to historic archeological resources. Historic archeological resources are often nearer the surface than prehistoric and may not have been exposed to fire in the past. Therefore, the NPS will also consider excluding historic archeological resources from prescribed fire, or will reduce the heat of the fire through the archeological site by wetting the area or reducing the fuels present before the prescribed fire is set.
<i>Historic Structures</i>	There are currently 3 National Register eligible properties identified on NPS-owned lands at the Riverway, involving 11 structures. National Register eligible properties will be excluded from prescribed fire. Those currently identified at the Riverway include the Gibson cabin, the Lessner cabin, and the Platter/Schaeffer cabin. Any additional structures that may be identified in the future as historic will also be excluded from prescribed fire.
<i>Cultural Landscapes</i>	Currently, there are no cultural landscapes identified at the Riverway. If cultural landscapes are identified, they will be reviewed to see whether fire would help to maintain or damage the landscape. Prescribed fire will be excluded from significant cultural landscapes.
<i>Ethnographic Sites</i>	Currently, no ethnographic areas have been identified at the Riverway. If sites are identified, the park will work with the tribes to determine the best methods for protecting them, which might include the use of prescribed fire.
<i>Scenic Resources</i>	All prescribed fire units will be assessed prior to prescribed fires to determine the potential effect of opening views. If fire would open views to intrusive structures, vegetative screening will be maintained between the primary viewing area and the structure. Control lines will be rehabilitated post-fire where visible to the public to leave them as naturally appearing as possible. Obvious large accumulations of cut limbs, seedlings and saplings will be scattered. Brush and limbs will be scattered on the control lines. If tree cutting occurs near campsites, trails, adjacent to the river, or other areas readily visible to the public, stumps will be cut flush with the ground or at a slant cut.
<i>Recreation</i>	Areas will be burned during times of low recreation use (early spring and late fall) and scheduled (year to be burned) in relation to other treatment areas to have the least impact on recreation use. Notice will be provided to visitors about timing of potential prescribed fire activities, what they should expect, and safety measures. Where necessary, trails and landings may be temporarily closed to ensure visitor safety. Visitor facilities such as backcountry footbridges and steps will be protected from the effects of fire.