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Forest  
Service

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# Final Environmental Impact Statement

## Hoffman-Sailor West

Medford-Park Falls Ranger District, Chequamegon-Nicolet National Forest  
Price County, Wisconsin



Typical aspen stand in the project area (project ID 006014a).

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# Cover Sheet

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## HOFFMAN-SAILOR WEST PROJECT Final Environmental Impact Statement

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**Abstract:** The Medford-Park Falls Ranger District on the Chequamegon-Nicolet National Forest proposes to implement a number of forest management activities. The area affected by the proposal is located on National Forest System land beginning about 4 miles east of Fifield, Wisconsin. The project area is bounded on the north by State Highway 70, on the east by Forest Road (FR) 139 (Sailor Lake Road), on the south by the Forest Proclamation Boundary, and on the west by the Forest Proclamation Boundary. These management activities are needed to improve forest composition and age structure, to provide an even flow of forest wood products, to provide and improve wildlife and fish habitat, and to provide the appropriate transportation system needed for management and use of the project area. Four alternatives, including a No Action (Alternative A) and a Proposed Action (Alternative B), were developed to address these needs. Alternative B is the preferred alternative and includes timber harvest on approximately 3,290 acres. This harvest would yield an estimated 23 million board feet (MMbf) of timber volume, primarily pulpwood. About 5 miles of new roads (2 miles permanent, 3 miles temporary) would be constructed. About 28 miles of existing roads would be decommissioned. About 8 additional miles of road would be closed to general year round use. About 70 acres of upland wildlife openings would be restored and maintained. About 190 acres of tree planting would occur. Upper Squaw Creek Impoundment would be maintained with drawdowns of water levels, and wild rice planting would occur in two locations. Duck nesting boxes would be placed on the Upper Squaw Creek Impoundment. Alternatives C and D were developed to specifically address biodiversity issues pertaining to the amount and distribution of edge and interior forest habitat. Alternative D also placed an increased emphasis on the forest age class imbalance in the project area by harvesting more of the older aspen and paper birch. In order to address forested edge habitat, both Alternatives C and D have clearcut timber harvest that would result in temporary forest openings larger than 40 acres in size. Alternative C has about the same amount of vegetation treatments as Alternative B, but less road construction and decommissioning. Alternative D has more vegetation treatments than Alternative B, and less road construction and decommissioning.

## Summary

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The Hoffman-Sailor West project area is located about 4 miles east of Fifield, Price County, Wisconsin.

### Proposal

A variety of timber harvest and regeneration activities are being proposed with connected road construction and decommissioning proposals. In addition, existing waterfowl impoundments and some permanent wildlife openings are proposed for maintenance and some other roads are being proposed for closure or decommissioning.

- Types of timber harvest being proposed include clearcut harvest, shelterwood harvest, overstory removal harvest, selection harvest and thinning harvest. The proposed action (Alternative B) includes about 3300 acres of timber harvest.
- Some tree seedling planting will occur in areas prescribed for clearcut harvest, shelterwood harvest, and selection harvest. The proposed action includes about 200 acres of tree planting.
- Types of opening maintenance projects include treating vegetation with mechanical and prescribed burning methods. The proposed action includes about 70 acres of wildlife opening maintenance.
- Waterfowl habitat projects include wild rice planting, water impoundment drawdowns, and duck nesting box placement.
- Proposed road projects include construction, closure and road decommissioning. The proposed action includes about 4 miles of road construction, about 8 miles of road closures, and about 28 miles of road decommissioning.

### Need for the Proposal

These projects were proposed due to differences between the existing condition of the project area and the desired condition of the project area. The Record of Decision for the 1986 Chequamegon National Forest Land and Resource Management Plan assigned the project area a Management Prescription 1 designation. The primary vegetation management emphasis for this management prescription is: to produce aspen pulpwood through even-aged management and to emphasize habitat for wildlife species associated with pioneer vegetation.

The most notable differences between the existing condition and the desired condition are in forest age and composition. The percentage of pioneer vegetation types in this area are at the lower range of the desired level and most of the pioneer vegetation has reached maturity. There is not enough vegetation in the younger age classes needed for the desired habitat conditions required for many of the wildlife species associated with pioneer forest types (aspen, balsam fir, and paper birch).

In total, there were seven specific elements identified as needed in the project area. These included:

- Maintain Aspen Pulpwood Production.
- Enhance Forest Vegetation Composition and Structure.
- Enhance and Maintain Early Successional Habitat for Wildlife Species.
- Enhance Watershed and Fisheries Conditions.
- Maintain and Enhance Habitat for Federally Threatened and Endangered Species.
- Utilize Marketable Wood Products.
- Maintain a Transportation System Suitable for Use and Resource Protection.

## Scoping

Scoping is the process used to determine the bounds of the project. More specifically, scoping is the process by which issues and effects of a proposal are identified. This information is then used to modify a proposal, develop alternatives, or develop mitigation measures for the project that reduce or eliminate adverse impacts.

## Major Issues

Four major issues were identified for this analysis.

- **Federally Threatened and Endangered Species (Bald Eagle):** Within the Hoffman-Sailor West area, one federally listed species is known to occur (bald eagle). Bald eagles can be impacted by activities near their nest sites and by a change in habitat (removal of nest or perch trees) that could occur as a result of timber harvest.
- **Landscape Pattern:** The structure of the existing forested upland landscape is predominantly a pattern of dispersed age and size classes with small patch sizes. The upland forest has a wide range of vertical structure and many areas of forest are less than 30 years old. Soft edges of this type do have some effect on the overall functioning of the area for some wildlife species. Edge effects and effects on landscape pattern (amount of interior forest habitat) could potentially be increased or decreased by the pattern and size of the temporary openings created with clearcut and shelterwood harvest.
- **Visual Quality:** Visual quality (primarily within recreation areas and along traveled corridors including lake shore) is an important aspect of managing the Chequamegon-Nicolet National Forest. Some areas of the Forest are classed as more visually sensitive than others. The location, type, and size of timber harvest activities could result in more or less effect on the visual resource (visually sensitive areas) by alternative.
- **Economics:** The Forest Service and the public are concerned that timber harvest projects can be done in a cost effective manner and that the alternatives considered clearly identify the direct implementation costs and revenues associated with them.

## Minor Issues

In addition to the major issues identified above, there were 12 minor issues which were used to develop project design criteria and mitigation measures for each of the alternatives. These issues include:

- *Regional Forester Sensitive Species:* Without project design and mitigation measures, five Regional Forester Sensitive Species (sensitive species) had the potential to be impacted by the types of project activities being conducted. These include northern goshawk, red-shouldered hawk, trumpeter swan, black tern, and American elm.
- *Reptiles and Amphibians:* Without project design and mitigation measures, overwinter drawdowns and more extended drawdowns of the Squaw Creek Impoundment have the potential to strand fish, cause decline in invertebrate populations, and freeze out amphibians and reptiles that may be hibernating in the mud bottoms of the impoundments.
- *Non-Native, Invasive Species:* Without project design and mitigation measures, site restoration activities (seeding) could result in the spread of non-native, invasive species.
- *Within Stand Vegetation Structure and Species Diversity:* There are several overall biodiversity concerns related to management of pioneer types of tree species such as aspen. Because of prolific root sprouting following clearcutting, aspen can become the dominating tree species within an area. This type of even-aged management can lead to stands that are less complex in structural diversity as well as tree species type diversity. Natural regeneration of hemlock (a conifer) in portions of Wisconsin has been increasingly rare. Harvesting hemlock where it is a minor stand component could eliminate it as part of any future stand due to reduction in the amount of trees left as a seed source. Both live and dead snags provide habitat for a number of plant, animal, and insect species and add structural diversity to the vegetation within an area. Cutting practices in mature stands can eliminate this component. Cutting practices in mature stands can also reduce the amount of mast (nut) and fruit producing trees in an area. Another important component of the forest ecosystem is large, rotting wood. This component is particularly important as habitat for fungi, insects, reptiles, and amphibians. Harvest activity, particularly

clearcuts in mature timber areas, could eliminate the potential for having trees available to fall to the forest floor and decay. Project design and mitigation measures were identified to address these elements of within stand diversity.

- *Soil Productivity:* Some of the proposed projects are in areas of predominately silt capped soils which are easily rutted and compacted when saturated. Soil movement (erosion) could also occur in some of the project areas with activities such as skid trail construction, road construction, and log landing construction. These activities can expose soil and if this occurs in areas of steep slopes, soil movement could occur and site productivity could be diminished. Project design and mitigation measures were identified to address these elements of soil productivity.
- *Wetlands:* Temporary road construction and use, skidding, and landing construction could alter the hydrology of a wetland. Slash from timber harvest can fill in small wetland pockets. Some of the timber harvest areas being proposed have small wetland pockets within them or are adjacent to larger wetlands. Some temporary road construction areas have to cross wetlands and some existing winter roads may be used to cross wetlands. Project design and mitigation measures prevent loss of wetlands.
- *Water Quality:* The primary potential impact to water quality from the activities normally associated with Forest Plan implementation would be sediment from non point sources such as timber harvest operations (logging road and skid trail construction and use, operation of heavy equipment used for timber harvest). Large fallen logs, other woody material and leaves that fall into streams can benefit streams and aquatic ecosystems by providing nutrients, food for aquatic insects, and cover for fish. Too much organic material being recruited into streams (as is possible with logging slash being left in streams) can reduce dissolved oxygen levels through the decomposition process. Clearcut and shelterwood harvests can remove a shade source adjacent to streams. During mid summer (periods of peak water temperatures) this would result in an increase in the expected peak water temperatures which would affect cold water fish species. Project design and mitigation measures prevent substantial impacts to water quality.
- *Health and Safety (Use of Prescribed Fire):* Some of the alternatives (B and D) include one 16 acre wildlife opening that would be maintained with prescribed fire. Concerns with the use of prescribed fire in this location are impacts to Sailor Lake Campground users and fire escape. For this reason, a site-specific burn plan which identifies parameters for a safe, effective prescribed burn will be developed and implemented.
- *Heritage Resources:* The federal government is required by law to find and protect heritage resource sites that may be eligible for the National Register of Historic Places. Damage could occur from using heavy equipment or by digging. The entire project area has been surveyed, but sites have not yet been evaluated for their historical or archaeological significance. For this reason, all reported heritage resources will be excluded from proposed project activity areas so they will not be directly or indirectly affected.
- *Private Land and Special Forest Uses:* Some of the proposed projects are adjacent to private land. Not all of the boundary lines adjacent to private property have been surveyed and marked to standard. This could lead to potential trespass situations. Some private property owners have permits from the District for road access to their property. Some of those roads are also needed for access to project activity areas. Within the project area, along the southern end of FR 139, there are special use permits for buried telephone and electrical power lines. These lines are buried within the road right of way. Heavy equipment could damage the lines if they do any digging or earth disturbance in the area of the lines. For these reasons, specific mitigation measures have been included to prevent impacts to private resources and property.
- *Trail Use:* There are several motorized and hunter-walking trails in the project area that can be used as roads for access to the proposed project activities. Such use could conflict with the recreation use of these trails. Without mitigation, there is a potential for user conflicts and safety concerns with the dual use that can be expected if the project activity occurs.
- *Other Potential Recreation Use Conflicts:* There are several proposed timber harvest activities adjacent to the Sailor Lake campground. These projects could be helpful in removing hazard trees along the fringes of the campground and allow more air movement or breeze for campers, but without mitigation, the activity could cause some disturbance or safety hazard to recreation visitors in the campground.

## Alternatives

In addition to the purpose and need for the proposal, the major issue driving development of alternatives to the proposed action for this analysis was related to the amount of interior forest habitat that could be maintained within the project area (given the Forest Plan objectives of maintaining early successional habitat). Maintaining interior forest would provide some habitat for birds and animals that utilize older, interior forest and could decrease the potential predation effects on birds related to the amount of edge habitat.

The Forest Service developed four alternatives (A-D) in detail, including the No Action (Alternative A) and Proposed Action (Alternative B).

- **Alternative A, No Action:** This alternative is the No Action alternative as required. In this alternative, no timber harvest, planting, road projects, or nesting box installation would occur.
- **Alternative B, Proposed Action, and Agency Preferred Alternative:** Alternative B, with minor modifications is the alternative that was first proposed to meet the purpose and need. This alternative is also the Agency preferred alternative.
- **Alternative C:** Alternative C was developed to use as a direct comparison to Alternative B for the issue of landscape pattern. Alternative C was developed to increase patch size of vegetation type and age classes over those in Alternative B. As a result, this alternative has clearcuts and shelterwood harvest areas larger than 40 acres.
- **Alternative D:** Alternative D was developed to address the issue of landscape pattern. Alternative D was developed to increase patch size of vegetation type and age classes over those in Alternative B. As a result, this alternative has clearcuts and shelterwood harvest areas larger than 40 acres. In order to increase overall productivity, Alternative D is more aggressive than Alternatives B and C in treating the older age classes of birch and aspen.

Summary Table 1 shows projects by alternative.

Alternative Projects	Alternatives			
	A	B	C	D
<b>Total Timber Harvest (acres)</b>	<b>0</b>	<b>3290</b>	<b>3300</b>	<b>3900</b>
<b>Total Tree Planting (acres)</b>	<b>0</b>	<b>190</b>	<b>200</b>	<b>290</b>
<b>Total Wildlife Opening Maintenance (acres)</b>	<b>78</b>	<b>68</b>	<b>6</b>	<b>44</b>
<b>Total Prescribed Burning (acres)</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>16</b>
<b>Wild Rice Planting</b>	<b>no</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>
<b>Water Impoundment Drawdowns</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>
<b>Duck Nesting Box Installation</b>	<b>no</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>
<b>Classified Road Closure (miles)</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>9</b>
<b>Total Road Construction (miles)</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>3</b>
<b>Road Decommissioning (miles)</b>	<b>0</b>	<b>28</b>	<b>23</b>	<b>25</b>

Several other alternatives to the proposed action were considered, but eliminated from detailed study and comparison.

## Impacts

Summary Table 2 compares some of the effects indicators for each of the alternatives.

Summary Table 2: Effects Comparison					
Issue / Resource	Existing Condition	Alternative			
		A	B	C	D
<b>Federally Threatened and Endangered Species</b>					
Bald eagle nest tree impacts	No	No	No	No	No
Acres of new future bald eagle nesting habitat provided	0	0	13	13	13
Findings for all federally threatened, endangered, candidate species	NA	No Effect	No Effect	No Effect	No Effect
<b>Management Indicator Species (white-tailed deer)</b>					
Amount of aspen in the project area (acres)	7600	7600	7860	8090	8170
Average clearcut size in the project area (acres)	20	0	26	53	51
<b>Management Indicator Species (ruffed grouse)</b>					
Amount of aspen in the project area (acres)	7600	7600	7860	8090	8170
Percent of aspen in the project area (% of all federal land)	36	36	37	38	38
Average clearcut size in the project area (acres)	20	0	26	53	51
Aspen 0-20 years old in the project area (percent of the aspen)	13	7	29	29	33
<b>Management Indicator Species (brook trout)</b>					
Habitat improvement along Dalrymple Creek (% of total stream miles)	0	0	6	9	9
<b>Forest Vegetation Composition</b>					
Aspen increase (acres)	0	0	265	494	574
Aspen percent (Forest Plan range = 35-65%)	36	36	37	38	38
<b>Landscape Pattern (see sections 2.2.2, 3.2.5 and 4.2.5)</b>					
Average patch size (acres) of 0-10 year age class	20	0	26	53	51
Average patch size (acres) of all age classes	37	37	32	35	35
Interior to edge habitat ratio (In the existing condition of the project area, the interior to edge ratio is 1/3. This means that for every 1 acre of forest interior habitat, there are 3 acres of forest edge habitat.)	1/3	1 /2.3	1/3	1/3	1/3
<b>Visual Quality</b>					
% of temporary openings in excess of Forest Plan guidelines?	NA	NA	No	No	Yes
<b>Pulpwood Production</b>					
Total volume produced (MMbf, million board feet)	NA	0	23	24	29
Aspen less than 21 years old (percent)	13	7	29	29	33
<b>Transportation System</b>					
Total road density for project area (miles/square mile)	3.1	3.1	2.3	2.5	2.4
Total road density for semi-primitive, motorized area (miles/square miles)	3.1	3.1	2.3	2.5	2.4

In all the action alternatives (B through D), future bald eagle nesting habitat will be improved. There is no provision for future bald eagle nesting habitat in Alternative A.

For white-tailed deer and ruffed grouse, habitat will be improved in all the action alternatives by the availability of food and cover habitat (clearcuts) and an increase in forest types utilized for food (aspen). In Alternative A, there will be no aspen in the younger age classes needed for food and cover within the project area. Of the action alternatives, Alternative B provides clearcuts that are closest to the optimum size for deer and grouse utilization.

For brook trout, habitat will be maintained in all alternatives. There will be an improvement to habitat in Alternatives B through D from converting areas along Dalrymple Creek to tree species less preferred by beaver as a food source. This will result in more streamside shade and help maintain the cooler water temperatures needed for brook trout. Alternatives B through D all result in about 10 percent of the stream being improved in this manner.

The primary difference between alternatives in forest vegetation composition is the amount of aspen that would be maintained in the project area. In Alternative A, aspen types remain at their current level. There is an increase in aspen in Alternatives B through D. Alternative B increases aspen types by about 1 percent. Alternatives C and D increase the aspen types by about 2 percent.

There are limited differences in the overall landscape pattern of the project area by alternative. When looking at the forested areas over 30 years old, interior to edge ratios remain fairly constant across the alternatives. In Alternatives C and D, which were designed to have larger patches (clearcuts) to increase interior forest, the interior to edge ratios remain about the same.

Visual quality in visually sensitive areas will vary by alternative. Overall, management activities will be more noticeable in Alternatives B through D than in Alternative A. The most noticeable differences in Alternatives B through D relate to the amount of the visually sensitive areas that will be impacted by the project activities. In Alternative D, the amount of temporary openings in visually sensitive areas could exceed Forest Plan guidelines. In Alternative C, the amount of temporary openings in visually sensitive areas would not exceed Forest Plan guidelines, but, because of an increased size of individual openings in Alternative C, temporary openings in Alternative C would be more noticeable than the temporary openings in Alternative B.

Alternatives B and C keep the percent of aspen types in the 0-20 year age class closest to the desired 30 percent. Alternatives A and D could lead to a less evenly distributed amount of aspen production over time.

The needs for the transportation system are best met in Alternative B, though all the action alternatives move the road density in the project area closer to the desired road densities.

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