

SUBJECT: Request for Natural Resources Board Approval of Salvage Operations in the Wilderness Area of the Governor Knowles State Forest

FOR: SEPTEMBER 2011 BOARD MEETING

TO BE PRESENTED BY / TITLE: Paul DeLong, Administrator, Division of Forestry

SUMMARY:

The Governor Knowles State Forest is requesting Natural Resources Board approval to conduct salvage operations on 660 acres within the designated Wilderness Area due to the July 1, 2011 wind storm. The GKSF is guided by a master plan approved in 1988 which allows salvage to occur in the Wilderness Area with NRB approval.

On July 1, 2011 high winds affected 3,000 acres of the GKSF, which included approximately 660 acres of significant, stand-altering damage within the designated 7,355 acre Wilderness Area. Salvage operations will reduce the potential for impacts to owned and adjacent forests from insect, disease, and fire, will allow for adequate forest regeneration to meet planned ecological objectives including jack pine restoration, and will capture the remaining value of the timber resource.

Potentially affected parties include: nearby county forests and state wildlife areas, National Park Service (NPS), adjacent private landowners, forest recreators, and local logging operators.

The salvage actions have been reviewed by County Forests, the National Park Service, and DNR's Bureaus of Endangered Resources and Wildlife Management and will meet multiple program and agency objectives.

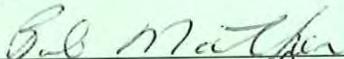
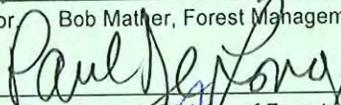
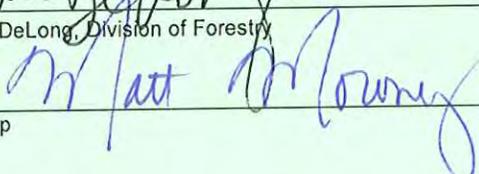
Information about the salvage operations will be made available on the Governor Knowles State Forest website and through direct stakeholder contacts. In addition, an informational public meeting will be held. Any comments received will be evaluated and changes to the salvage operation may be made if appropriate.

RECOMMENDATION: Approve Salvage Operations on 660 acres in the Wilderness Area of the Governor Knowles State Forest

LIST OF ATTACHED MATERIALS:

- | | | | | | |
|----|-------------------------------------|-------------------------------------------------------|-----|-------------------------------------|----------|
| No | <input checked="" type="checkbox"/> | Fiscal Estimate Required | Yes | <input type="checkbox"/> | Attached |
| No | <input checked="" type="checkbox"/> | Environmental Assessment or Impact Statement Required | Yes | <input type="checkbox"/> | Attached |
| No | <input type="checkbox"/> | Background Memo | Yes | <input checked="" type="checkbox"/> | Attached |

APPROVED:

 Bureau Director, Bob Mather, Forest Management	<u>8/29/11</u> Date
 Administrator, Paul DeLong, Division of Forestry	<u>8/29/11</u> Date
 Secretary, Cathy Stepp	<u>8/30/11</u> Date

cc: NRB Liaison
DNR Rules Coordinator

CORRESPONDENCE/MEMORANDUM

DATE: August 29, 2011

TO: Natural Resources Board Members

FROM: Cathy Stepp – Secretary, Department of Natural Resources

SUBJECT: Governor Knowles State Forest Salvage Request

The Department is recommending approval to conduct salvage operations on the Governor Knowles State Forest located in Burnett County. The specific salvage request is to salvage 660 acres within a designated Wilderness Area identified in the 1988 property master plan. The master plan allows salvage to occur in the wilderness area with NRB approval.

I. Background

On July 1, 2011 high winds affected over 100,000 acres of forested lands in northwest Wisconsin including 3,000 acres of forest lands on the Governor Knowles State Forest. Of the 3,000 acres on the State Forest, approximately 2,000 acres were within the designated Wilderness Area.

The Wilderness Area was designated in the 1988 Master Plan and is 7,355 acres consisting of a narrow strip of land between the St. Croix River and the escarpment. The 1988 Master Plan states that “salvage of timber damaged or killed by natural disasters is at the discretion of the Natural Resources Board”.

The State Forest is currently updating the master plan and has draft management objectives for the area. The wilderness area is proposed to be reclassified as a native community that maintains the aesthetic objectives and meets landscape level ecological objectives. The proposed salvage is consistent with and expedites meeting the objectives in the draft master plan.

II. The Clam Dam Salvage Area – 660 acres

The 660 acre salvage area is referred to as the “Clam Dam Area”. It is located approximately 13 miles north of the Village of Granstburg and is one of the few areas on the forest where the boundary of the Wilderness Area extends inland a significant distance beyond the escarpment. In this area, the St. Croix River is buffered by a corridor of lowland hardwoods which is approximately one-half mile wide. East of the lowland hardwoods and still within the Wilderness Area are 660 acres of upland forest on flat to gently rolling terrain with sandy soils.

Assessment of the salvage area was done using photography, aerial reconnaissance, and ground truthing. Those assessments revealed that much of the Clam Dam Area received significant stand-altering wind damage. The forest types impacted include oak (scrub, red), pine (jack, white, red), and aspen. Damage includes trees broken off at various heights, up-rooted trees, and leaning or bent trees. Some areas received nearly 100% damage, while some strips and patches were only minimally damaged.

The primary reasons for salvage in this area are (not in order of importance): 1) ensuring adequate regeneration of the forest, 2) reducing the potential for insect and disease outbreaks and subsequent

impacts to adjacent forest lands, and 3) reducing the fuel load (i.e. downed wood) to reduce the potential for wildland fire.

The recommended approach for the salvage operation is to conduct both complete and partial harvests of stands within the 660 acre area in order to maximize tree regeneration through both natural and artificial methods. This involves treating at the stand level by harvesting, in some cases, both damaged and undamaged trees in order to achieve and implement the silvicultural and ecological objectives being proposed in the draft master plan (see item III). This approach allows for efficient implementation, reduces present and future fuel loads, minimizes insect and disease concerns, offers flexibility for green tree retention levels and locations, is economically attractive and marketable, and maintains the most opportunities that have been discussed in the draft master plan (see item III). Further, the salvage areas are outside of the “viewshed” of the St. Croix River.

The specific management objectives and prescriptions for the salvage can be found in the attached document, “Natural Resources Board Request for Approval for Salvage Operations on the Governor Knowles State Forest, September 2011”.

III. Internal Resource Specialist Consultation

The Governor Knowles State Forest is currently in an active master planning process to update the 1988 Master Plan. The land management sub-team for the master plan revision process consists of a regional ecologist (endangered resources), a wildlife technician, a forest ecologist, a forester, and a fisheries biologist. This team has been discussing the future management opportunities for the GKSF over the past year, and has drafted a set of proposed management objectives and prescriptions for the Clam Dam Area.

Following the wind storm, the team met to discuss what implications the storm damage might have on the proposed objectives in the draft master plan. The team agreed that in order to maintain management opportunities described in the draft master plan, salvage operations are necessary in the Clam Dam Area. The team supports the recommended approach for the salvage operations.

IV. Public Involvement Plan

The public will be informed of the salvage operations through the following mechanisms. Any comments received from the public will be evaluated prior to the salvage.

- Information posted on GKSF website
<http://dnr.wi.gov/forestry/stateforests/SF-Knowles/>
- Informational email sent to master plan stakeholder list
- Direct contact to major stakeholders
- Tribal Consultation
- Open house/public meeting (posted on DNR hearings/meetings page and state forests meeting page)

A summary of public comments received will be presented at the Natural Resources Board Meeting.

V. Recommendation

The Department recommends Natural Resources Board approval of 660 acres of salvage operations within the designated Wilderness Area on the Governor Knowles State Forest.

Natural Resources Board Request for Approval for Salvage Operations on the Governor Knowles State Forest

September 2011

REQUEST

The Department of Natural Resources, Division of Forestry is requesting Natural Resources Board approval to conduct salvage operations on approximately 660 acres within the Wilderness Area of the Governor Knowles State Forest due to a July 1, 2011 wind storm. As stated in the 1988 Master Plan, NRB approval is required to conduct salvage operations within the Wilderness Area.

Purpose and Need for the Request

The Governor Knowles State Forest, located in Burnett and Polk Counties, is guided by a Master Plan approved in November 1988 which allows salvage operations to occur in its Wilderness Area with NRB approval. The Department is seeking NRB approval in compliance with the Master Plan to salvage approximately 660 acres that were affected by the wind storm within the 7,355 acre Wilderness Area . In addition to being compliant with the 1988 Master Plan, this salvage request also aligns with the draft management objectives proposed as part of the process for revising the Master Plan which has been in progress since 2010. The main purposes for the salvage are to ensure adequate regeneration of ecologically important species and reduce current and future risks from insect, disease and fire to state-owned forests as well as adjacent private and county-owned forests.

Description of the July 1, 2011 Wind Storm and 660 Acre Salvage Area

On July 1, 2011 high winds affected over 100,000 acres of forested lands in northwest Wisconsin (Burnett, Polk and Washburn counties) including 3,000 acres of forest lands on the Governor Knowles State Forest, of which approximately 2,000 acres were within the designated Wilderness Area.

The Wilderness Area

The 1988 Governor Knowles State Forest Master Plan designated a 7,355 acre Wilderness Area which runs the entire 50 mile length of the state forest and is generally a narrow strip between the St. Croix River escarpment and the 412 foot wide corridor adjacent to the St. Croix River that is administered by the National Park Service.

Within the Wilderness Area, no timber harvesting or other manipulations of vegetation are permitted. Vehicular travel is prohibited and existing undeveloped woods roads have been blocked. One exception is that existing developed public and improved state forest roads remain open to vehicular travel. Another exception is that recreational trails within the Wilderness Area are maintained using motorized equipment. Recreational activities, which do not require roads, trails, or other developments, are permitted.

Insect and disease control may be undertaken only if areas outside the zone are threatened. **Salvage of timber damaged or killed by natural disasters is at the discretion of the Natural Resources Board [emphasis added].**

The Clam Dam Salvage Area and Methods Used to Assess the Damage

One area with significant wind damage was a portion of the designated Wilderness Area near the Clam Dam. This area is located approximately 13 miles north of the Village of Grantsburg. The Clam Dam area is one of a few areas on the forest where the Wilderness Area boundary extends inland a significant distance beyond the escarpment (over one mile from the St. Croix River in parts). In this area, the St. Croix River is buffered by a corridor of lowland hardwoods which is approximately one-half mile wide. East of the lowland hardwoods and still within the designated Wilderness Area are 660 acres of upland forest on flat to gently rolling terrain with sandy soils (see Map). The salvage area is outside of the "viewshed" of the St. Croix River.

An additional 1,285 acres of the designated Wilderness Area was impacted by the storm; however, a majority of those acres are not accessible due to steep slopes and wet soils and cannot be salvaged.

The assessment of the Clam Dam area is based on a variety of inputs. Shortly after the storm, oblique photos were taken from the air. A forester then did aerial reconnaissance of the area noting the location of the damage. These observations were then ground truthed for parts of the area. Lastly, vertical photos were taken of the entire Clam Dam area by DNR pilots and those photos were integrated into the property's GIS. The vertical photos verified the locations and magnitude of the storm damage in the Clam Dam area.

Much of the timber within the proposed salvage area received significant stand-altering wind damage. It is estimated that approximately 60-70% of trees in the Clam Dam area received damage. The forest types impacted include oak (scrub and red), pine (red, jack, white), and aspen. The storm damage includes trees broken off at various heights, up-rooted trees, and leaning or bent trees, with the damage varying somewhat between forest types. In the pine types the damage is widespread and includes primarily broken off trees with some leaning and up-rooted. In oak areas the damage is more variable and consists primarily of up-rooted trees or trees with broken or damaged crowns. The aspen damage is also extensive and is typically a mix of broken and up-rooted trees. Some areas, regardless of the forest type, received nearly 100% damage, while some strips and patches were only minimally damaged.

Regeneration of the forest is an important aspect of this request. Even-aged management is necessary to perpetuate the forest types that are present. Therefore, harvest prescriptions will need to be developed and applied at the stand level and will call for the harvesting of both damaged and undamaged timber where necessary to meet silvicultural and ecological objectives. Whether planting, seeding or relying on natural regeneration, certain conditions have to be met within the various forest types in order to achieve successful regeneration. Aspen relies on root suckering for regeneration. In order for suckering to occur, the trees need to be severed (cut or broken off) to stimulate the suckering. Another requirement of aspen is that the site has adequate sunlight reaching the new saplings. These conditions are met on many of the aspen sites within the Clam Dam area now, but in some sites suckering will be somewhat suppressed due to leaning trees and residual shade. Another concern relating to the regeneration of storm damaged aspen is the development of root rot in the damaged trees. Armillaria Root Rot is a fungus that infects the root system and can negatively impact suckering. In

addition, aspen dries and decays relatively quickly. The aspen will become non-merchantable over the next 12 months.

Jack pine, like aspen, requires full sunlight to grow. Unlike aspen, jack pine is most often regenerated either from seed or through the planting of seedlings. Since the acreage of jack pine forest types has been declining across its range, it is more desirable to perpetuate the jack pine forest type where we can. Seed bed preparation is necessary for seed source jack pine regeneration. In some areas seed bed preparation can only be achieved with aggressive scarification using bulldozers. Some sites within this area offer great opportunities for jack pine management. In the Clam Dam area, the ground vegetation lends itself well to incidental seed bed preparation that comes with harvesting. The mossy ground layer found in parts of this area can be adequately disturbed by harvest equipment. With jack pine, it often takes up to five years after the harvest to determine if artificial and natural seeding efforts were successful, but if for some reason the seeding fails or ground vegetation is not conducive to seed bed preparation, then planting seedlings is a practical alternative. Planting requires hand crews to walk the site while planting trees in a somewhat systematic manner. This alternative is not physically or economically possible without the storm damage removed. The jack pine sites will likely succeed to brush and/or maple and scrub oak if not treated with a harvest or burned by a wildfire. If not harvested this fall, the jack pine will be non-merchantable and regeneration efforts will be postponed for as long as it takes for the damaged pine to decay or after significant investment. (Note: harvesting will typically be limited to the months of July-December due to oak wilt restrictions and the complications that come with harvesting blow down when the ground is frozen or snow covered. Other sites, without oaks present, will be limited to the snow/frost free season.) From an insect and disease standpoint, complete harvests with some green tree retention is the only way to mitigate the buildup and spread of bud worms and bark beetles. Partial harvest or simply cleaning up the damaged jack pine now will result in additional pine mortality from bark beetles. In addition, high numbers of leave trees will serve to maintain high populations of bark beetles that will threaten trees on adjacent land.

Oak is more or less shade-intolerant. The most efficient and effective method for regenerating scrub oak on this landscape is through harvests followed by stump sprouting. The age of oak found in this area ranges from 50 to 100 years old. There are sites within this area that originated in 1959 as a result of the West Marshland Fire (a.k.a. the 59 fire). This 52 year old scrub oak received minimal and spotty storm damage. On the older scrub oak sites, harvesting the damaged wood over the next year would stimulate oak regeneration and select against shade-tolerant species that are common in the area, such as red maple. Scrub oak is commonly used for pallets, crating, or fuel. Because of its low grade and slow decay rate, scrub oak will likely be merchantable, with some volume loss, through 2013.

One red oak site is located on the north end of the salvage area, nearer the St. Croix River. On this site prompt harvest is required to ensure that higher quality products can be made from the wood. Because acorns are the preferred regeneration method for higher quality oak, a shelterwood or seed tree harvest is more typical versus a clearcut. Prescriptions will be modified on this site, where possible depending on the level of damage, to retain higher quality seed trees for acorn production. The leave trees will also meet (to the extent possible given the impacts of the storm) the aesthetic objective of not being able to see harvests from the river during leaf-on conditions. Ground disturbance from harvesting equipment or a post-sale prescribed burn will prepare the seed bed for oak regeneration. If no salvage harvesting is done, the scrub and red oak sites will add to the fuel loading in the area as well as increase the potential for flat and round headed wood borers and armillaria root rot.

Long-lived pine species, such as red and white pine, are also present in the area. The harvest prescriptions for these species is similar to red oak in that they require sunlight, regenerate from seed, seed bed preparation is essential, and the retention of higher quality seed trees is important. Where possible, harvest prescriptions will be developed to favor the regeneration of longer-lived pine species.

Preferred Management Alternative for the Clam Dam Salvage

The preferred management alternative for the salvage is to conduct complete and partial harvests of stands within the 660 acre area in order to maximize tree regeneration through both natural and artificial methods. This involves treating at the stand level by harvesting, in some cases, both damaged and undamaged trees (16,000 cord eq.) in order to achieve and implement the silvicultural and ecological objectives being proposed in the draft master plan.

Advantages: efficient implementation, economically attractive and very marketable, reduces present and future fuel loads, minimizes insect and disease concerns, offers flexibility for green tree retention levels and locations, maintains the most draft plan opportunities

Disadvantages: high harvest impact to the area

Salvage Management Objectives

- Ensure the regeneration of existing timber types. This landscape is known for its shade-intolerant forest types which require full sunlight to regenerate. Without full sunlight, some of the current forest types will naturally convert to less desirable shade-tolerant forest types, such as red maple.
- Reduce fuel load for both wildland and prescribed fire.
- Capture remaining value of the timber resource.
- Maintain opportunities identified in the master plan revision process currently in progress:
 - developing a diversity of stocking rates of jack pine with some areas containing widely scattered trees and others forming a closed canopy forest of standard density;
 - providing sites for research, education, and ecological interpretation as well as demonstration areas of pine barrens and old jack pine forest management;
 - increasing red oak on suitable sites;
 - maintaining blocks of aspen through regeneration harvests; and
 - monitoring and controlling invasive species where necessary.
- Provide habitat for many uncommon species of birds, reptiles, amphibians and invertebrates that are known to occur in the area and depend on a mosaic of younger forests and grasslands
- Provide habitat features created by the storm for species such as Red-headed Woodpeckers, Northern Flickers, and several species of bats that depend on ecologically complex habitats with residual trees, snags, and cavity trees.
- Reduce the social impacts of the storm by restoring recreational access (primarily hiking trails and hunter access) and aesthetic qualities.
- Mitigate the risk of insect and disease issues, including the potential off-site impacts.
- Maintain the aesthetic qualities and remote nature in areas near the Saint Croix National Scenic Riverway (north edge of the Wilderness Area) by retaining un-harvested buffers.
- Monitor the storm's long-term impacts on forest management and ecology.
- Maintain forest health and vigor through harvesting.

Salvage Management Prescriptions

- Maintain the health of aspen by clearcutting sites to ensure vigorous regeneration is achieved.
- Harvest jack pine and scrub oak sites impacted by the storm. Pre- and post-harvest assessments will be made and specific harvest prescriptions will be tailored to meet both the current and future desired conditions and regeneration prescriptions of the various cutting blocks.
- Regenerate healthy and vigorous sites through the use of natural regeneration, direct seeding, planting, and partial harvest (seed trees, shelterwood).
- Use prescribed fire if deemed necessary in combination with other regeneration options.
- Conduct salvage in the red oak and red/white pine sites in the northern part of the area by harvesting damaged trees and any additional trees that would meet the silvicultural objectives of the site. The objective is to improve conditions for red oak and pine regeneration with seed tree retention and seed bed preparation.
- Modify harvest prescriptions or retain un-salvaged areas necessary to preserve the St. Croix River “viewshed” and provide unique wildlife habitat.
- Water quality will be protected through the implementation of Wisconsin’s Forestry Best Management Practices for Water Quality.
- Wisconsin’s Forestry Best Management Practices for Invasive Species will be implemented by requiring that harvest equipment be clean prior to arrival, monitoring the site after the harvest for invasive species occurrences, and prescribing control treatments if necessary.
- Ensure that threatened, endangered, and special concern species will be protected through continual consultation with the Endangered Resource Specialist.

Forest Resources and Fiscal Impacts

Based on forest reconnaissance data and local knowledge of the site, the volume of salvageable timber is estimated to be roughly 16,000 cords of pulpwood and 76,500 board feet of sawtimber with an estimated salvage value of \$250,000.

Species	Acres	Volume		Value	
		Cords	Board Feet	Cords	MBF
Red Oak	30	400	75,000	\$ 4,000.00	\$15,000.00
Scrub Oak	285	8,000		\$ 80,000.00	
Jack Pine	171	3,600		\$ 72,000.00	
Mixed Hardwood	9	207	1,560	\$ 3,105.00	\$ 150.00
Aspen	165	3,795		\$ 75,900.00	
Total	660	16,002	76,560	\$235,005.00	\$15,150.00

Internal Resource Specialist Consultation

The Governor Knowles State Forest is currently in an active master planning process to update the 1988 Master Plan. The land management sub-team for the master plan revision process consists of an Endangered Resource Specialist, a Wildlife Specialist, a Forest Ecologist/Silviculture Specialist, a Fisheries Specialist and the property forester. This team has been discussing the future management opportunities for the GKSF over the past year, and has drafted a set of proposed management objectives and prescriptions for the Clam Dam area. At this time, the draft plan proposal is to reclassify the Clam Dam area of the Wilderness Area to a Native Community Management Area, focusing on restoring and perpetuating native plant and animal communities, while still providing forest products where appropriate.

Following the storm, the team met to discuss what implications the storm damage might have on the proposed objectives in the draft master plan. The team agreed that in order to maintain management opportunities described in the draft master plan, salvage operations are necessary in the Clam Dam area and that the preferred alternative described herein is the best alternative for capturing those opportunities. The team supports a variety of harvest prescriptions combined with variable levels of retention to retain the long-term management objectives in the draft master plan.

Landowners Adjacent to the Proposed Salvage Area

The Burnett County Forest (BCF) has large tracts of public land adjacent to and in the vicinity of the Wilderness Area and affected salvage. BCF manages 650 acres of pine forest types within one mile of the Wilderness Area boundary and 2,000 acres of pine within two miles. BCF was also heavily impacted by the storm; however, large blocks of red pine immediately adjacent to the Wilderness Area received minimal damage. BCF is in the process of accessing 20,000 acres of storm damaged timber on their property. Approximately 2,000 acres of salvage timber sales have been sold with more sales being planned.

The National Park Service owns 412 feet adjacent to the St. Croix River. They also own a 180 acre parcel in the area adjacent to the Clam Dam area.

Clam Dam Road is a dead end road which terminates at a hydro-electric dam owned and operated by Flambeau Hydro, LLC. There is one full time residence owned by Flambeau Hydro, LLC at the end of Clam Dam Road which is occupied year-round by a maintenance worker.

A 100 acre private in-holding lies adjacent to the Wilderness Area. The property is a recreational property used primarily for hunting. This property also received significant timber damage.

Public Involvement Plan

The public will be informed of the salvage operations through the following mechanisms. Any comments received from the public will be evaluated prior to the salvage.

- Salvage information posted on GKSF website
<http://dnr.wi.gov/forestry/stateforests/SF-Knowles/>
- Informational email sent to master plan stakeholder list
- Direct contact to major stakeholders
- Open house/public meeting (posted on DNR hearings/meetings page and state forests meeting page)

Potential Impacts of the Salvage

Ecological

There is potential for insect and disease outbreaks to occur in the stands that were damaged by the storm. Damaged and broken trees are an attractant to and habitat for insect and diseases. If insects and disease were to become established within the GKSF, off-site impacts could occur and would be detrimental to non-damaged forest areas. As described above, the Burnett County forest has significant acreages of pine that were not impacted by the storm, but could be harmed in the future if insect and

disease outbreaks were to spread from the GKSF to the undamaged stands on the county forest. Salvage harvesting will help mitigate forest pest concerns on the GKSF and adjacent ownerships.

The Clam Dam area occurs within the Northwest Sands Ecological Landscape, where young stages of forest/grasslands are important to many uncommon species of birds, reptiles, amphibians and invertebrates (especially butterfly species). A complete salvage, combined with natural regeneration, will provide habitat for these species in the coming years.

In addition to clearcutting, partial (or selective) salvage will provide habitat for many species of wildlife. For example, snapped-off trees and standing trees with dead limbs are excellent habitat features for birds such as Red-headed Woodpeckers, Northern Flickers and several species of bats. In some areas, standing live and dead snags will be left onsite to provide habitat and den trees contributing to structural complexity. Tree retention guidelines will be followed.

The Clam Dam area provides opportunities to manage vegetation and enhance tree regeneration using prescribed fire. Fire will also improve wildlife habitat. If the salvage does not occur, fire would not be an option because of the heavy fuel loading and health and safety concerns. A salvage harvest will maintain prescribed fire as a tool for future management.

Economic

The primary economic impact of the salvage harvest will be the generation of an estimated \$250,000 of timber sale revenue. Harvesting will also generate products for logging contractors and mills thereby contributing to local and regional economies. This salvage area is likely to generate significant interest from the logging community due the sale size and species distribution.

Social

Social impacts may be negative or positive. While some members of the public may view the salvage as aesthetically displeasing, others may view the damaged trees, if left as is, as aesthetically displeasing. Informing the public about the salvage operation and getting their feedback is the primary method for attempting to minimize social impacts.

In addition to aesthetics, there are social impacts to the salvage related to recreation on the GKSF. The storm impacted most of the campgrounds and trails on the property, many of which are still closed to public use. Specifically, the Clam Dam area contains a variety of recreational trails and access into Burnett County Forest lands, National Park Service lands, and a 100 acre private parcel of land. Approximately 5 miles of the 7.5 mile long Sioux Portage Hiking Trail are located within the salvage area and have received significant damage. There is also a hike-in backpack campsite along that trail. This is also a popular hunting area for bear, deer, small game, Wild Turkey, waterfowl, and upland birds due to the variety of hiking and access trails. The salvage harvest will have a positive impact to the recreation resources by providing the ability to clear these areas of damaged and hazardous trees so they are once again safe for use by the public. Woods roads and trails in and around the area will be maintained and improved as a result of the harvest activity.

Social impacts of the salvage also relates to the increased and immediate risk of wildland fire because of the heavy fuel load currently on the ground due to the storm damage. The proposed salvage area lies within the Webster Ranger Station Fire Protection Unit, which is one of the busiest stations in the Cumberland Area in terms of wildland fire occurrence. An ignition in this area, if not salvaged, could severely complicate suppression efforts and result in significantly higher suppression costs and

additional timber loss on thousands of acres of the Burnett County Forest, privately owned land, and additional state-owned land. A salvage harvest will help mitigate this risk to life, property, and resource.

Other Salvage Alternatives Considered

1. Harvest only damaged timber on the 660 acre area (8,000 cord eq.) at this time and reassess harvest needs in the future following the passage of the draft master plan.

Advantages: quick implementation, minimizes most of the insect and disease concerns, reduces current fuel loads, maintains many of the draft plan opportunities, retained trees sold under future market conditions, cleans up with least harvest impact

Disadvantages: delays regeneration efforts, only moderately marketable if at all, no flexibility for green tree retention levels and locations, low stumpage

2. Only harvest the damaged areas where necessary to achieve regeneration objectives of the draft master plan. This option would focus primarily on areas that require burning or artificial regeneration. Oak sites would be left until the master plan approval since it decays more slowly, but oak that is within the burning, seeding, or planting areas would be harvested. Aspen patches or sites would be harvested now only if adequate regeneration is not possible or if burning the site is proposed in the future.

Advantages: minimal harvest impact to the area, maintains many of the draft plan opportunities, marketable

Disadvantages: does not address all the insect and disease concerns, addresses a portion of the fuel loading concerns, slow to implement-requires further assessment, analysis, and set-up

3. No salvage actions. Leave the damaged and dead wood as is and “let nature take its course”.

Advantages: no harvest impact to the area, no costs associated with salvage

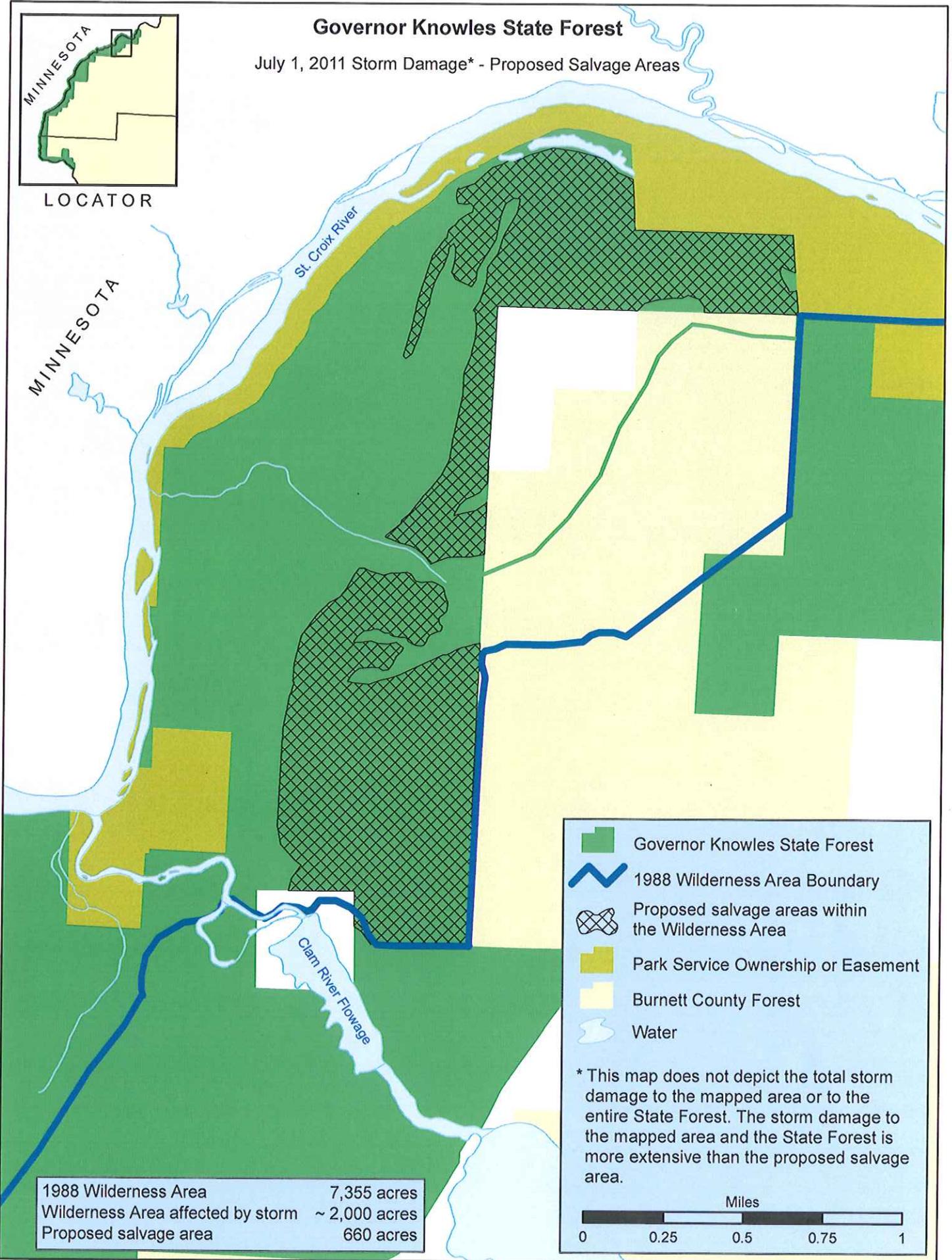
Disadvantages: does not address any of the insect and disease concerns, leaves an unsafe amount of timber on the ground significantly increasing the risk for wildfire and associated impacts to life and property, eliminates many regeneration opportunities and other draft plan opportunities, value of the timber resource would be lost, recreational and access trails would remain closed for an extended period of time

Governor Knowles State Forest

July 1, 2011 Storm Damage* - Proposed Salvage Areas



LOCATOR



- Governor Knowles State Forest
- 1988 Wilderness Area Boundary
- Proposed salvage areas within the Wilderness Area
- Park Service Ownership or Easement
- Burnett County Forest
- Water

* This map does not depict the total storm damage to the mapped area or to the entire State Forest. The storm damage to the mapped area and the State Forest is more extensive than the proposed salvage area.

1988 Wilderness Area	7,355 acres
Wilderness Area affected by storm	~ 2,000 acres
Proposed salvage area	660 acres

