

Department of Agriculture, Conservation and Forestry
Maine Forest Service

Report to the Agriculture, Conservation and Forestry Committee
Regarding a New Outcome Based Forestry Agreement With
Katahdin Forest Management, LLC

08 September 2015

INTRODUCTION AND SUMMARY

The Maine Forest Service (MFS) recently entered into an Outcome Based Forestry (OBF) agreement with Katahdin Forest Management, LLC (KFM). The agreement was reviewed by a technical panel appointed pursuant to 12 M.R.S. §8869, sub-§3-B(B). 12 M.R.S. §8869, sub-§3-B(B) requires the MFS director to report to the Agriculture, Conservation and Forestry Committee as to “how the proposed agreement will provide at least the equivalent forest and environmental protection as provided by rules and regulations that otherwise would apply to that outcome-based forestry area.” The Maine Forest Service and the technical panel have reviewed KFM’s forest management plans, policies, independent third party audit reports, and operations on the ground. MFS and the panel find that Katahdin Forest Management’s performance exceeds “business as usual” and has the potential to further excel under outcome based forestry.

CONSTRAINTS OF THE CURRENT FOREST PRACTICES RULES

Maine’s Forest Practices rules, notably Chapter 20 Rule, Forest Regeneration and Clearcutting Standards. The rule establishes standards for clearcutting and for forest regeneration following timber harvesting. In general, if timber harvesting activities result in a clearcut larger than five acres, there must be a separation zone between clearcuts and regeneration standards must be met. No clearcut can be larger than 250 acres. Harvest plans are required for all clearcuts larger than 20 acres, and clearcuts larger than 75 acres must be reviewed by MFS staff before harvesting can begin. The rule originally was promulgated in 1989 and substantially amended in 1999 to increase flexibility for the regulated community.

The rule was developed to implement what is popularly referred to as the “Forest Practices Act.” In theory, the law and the rule were designed to stop the practice of creating large, rolling clearcuts which conveyed the impression to the public that entire townships were being flattened with little regard for the future forest during the era of spruce budworm salvage harvesting. In practice, the rule brought rolling clearcuts to a dead stop and led to a sharp reduction in clearcutting across the state. However, it has also created many unintended consequences that have had - and will continue to have an impact on the structure and composition of Maine’s forests.

The greatest impact of the forest practices rule on both the forest and the state’s economy has been the significant increase in partial harvesting and smaller, closely spaced clearcuts. The needs of Maine’s forest products industry did not change because of the rule. The industry still needs six million cord equivalents or more each year. Landowners in the business of managing forests as a business have sought to reduce their compliance costs by avoiding the creation of clearcuts altogether, and/or by creating smaller, closely spaced clearcuts (standards for smaller clearcuts are less restrictive than for larger clearcuts). Therefore, harvesting now covers a much larger footprint in Maine than it did 25 years ago.

The practices described in the paragraph above can have a number of unintended consequences including but not limited to the breakup of large blocks of contiguous forest into smaller patches and the increased presence of diseased beech in the understory (beech responds well to partial harvesting). Increased partial harvesting is

driving the Maine forest toward a more homogenous state, whereas the natural condition is more heterogeneous in nature.

The economic consequences of the forest practices rules also are significant. Road construction and maintenance costs have increased, as more road miles must be kept open to facilitate harvest access. The cost of moving equipment more frequently also affects the profitability of harvest operations for all links in the harvest chain between the land and the mill. Mill owners often cite the high cost of wood as one of the major factors affecting their ability to continue operating in Maine.

BENEFITS OF THE OUTCOME BASED FORESTRY AGREEMENT WITH KATAHDIN FOREST MANAGEMENT, LLC

The OBF agreement allows for silvicultural decisions to be based more strongly on science and less on what fits the regulatory guidelines. Relieving the clearcut separation zone requirements will reduce road construction and maintenance costs by allowing harvest operations to be more consolidated. Follow-up treatments (planting, herbicide applications, etc.) can be applied more effectively when harvest areas are more consolidated. Please note that while KFM is relieved of some of the regulatory constraints as regards clearcutting, it must still comply with all other forest practices rules, including restrictions on harvesting near water bodies and in protection subdistricts identified by the Land Use Planning Commission.

Timber harvesting can follow natural stand boundaries more closely, allowing complete harvest of plantations, areas susceptible to windthrow, and stand of spruce and fir vulnerable to Spruce budworm. Timber can be maintained in larger, more operable blocks, requiring less time spent by foresters on harvest layout. Losses from windthrow also should be reduced.

Overstory removal harvests can occur as soon as regeneration is well established without waiting for FPA height requirements. Waiting to reach the FPA height requirements slows growth of the new stand, and taller stems are more easily damaged during the overstory removal process.

The OBF agreement allows for the removal of unmerchantable, poor quality stems by harvesting biomass and other low quality stems without the worry of an unintentional clearcut being created through a series of 100 square foot openings being linked together.

Under the forest practices rules, clearcut separation zones need to be mapped and tracked for a minimum of 10 years. The OBF agreement eliminates this requirement, reducing the cost of mapping and tracking.

Overall, the OBF agreement will allow KFM to improve timber growth and reduce mortality through a variety of active forest management techniques which maintain or improve regeneration success and growth of desirable species and/or reduce the forest's susceptibility to mortality and growth reduction due to windthrow, insect, disease, and other causes. Contributing factors include, but are not limited to:

- accelerating the development of regeneration by reducing the wait time for young trees under an existing overstory;

- reducing windthrow losses in residual overstory stands and separation zones;
- allowing pre-salvage or salvage of a full stand and species that are either highly susceptible to or damaged by Spruce budworm or other agents capable of causing large-scale mortality; and,
- replacing stands dominated by diseased beech with faster growing, native species that will produce quality timber (either black spruce or aspen mix, depending on site conditions and other considerations).

KFM will continue to implement and refine its practices that benefit fish and wildlife, such as constructing all new stream crossings (>18" culvert size) as small bridges, thereby maintaining a natural stream bottom and fish and aquatic organism passage and prioritizing older crossings as to benefit gained from repair or replacement, to be addressed as harvest operations are active in the area. Under OBF, KFM will be able to reduce the forest fragmentation effects of partial harvesting by increasing the size of managed stands, which should benefit Canada lynx, moose, and neotropical birds, and other species as well. KFM also will be able to apply active, consistent management over time in deer wintering areas to improve the integration of browse with adequate cover in the larger, more productive (i.e. where deer are present) deer wintering areas on KFM land.

KFM currently has 9 employees, and approximately 77 full time equivalent employees working for KFM contractors and subcontractors. KFM sells wood to approximately 20 mills in the region. It provides leases to several companies establishing or expanding businesses in the area. The OBF agreement will provide additional opportunities to enhance economic redevelopment in the Katahdin Region, consistent with KFM's own economic success; including but not limited to: direct and indirect employment; forest products sales; recreational opportunities for individuals and businesses; and KFM staff support; leases to several companies expanding or establishing new businesses in the area; 72 recreational business permits issued to guides and organizations operating on KFM lands; and recreational trails that KFM has allowed to be established on KFM land (5 mile hiking/interpretive trail, 163 miles snowmobile trail, 26 miles cross-country ski and walking trail, and 16 miles multi-use trail).

KFM's OBF agreement also will reduce costs for both it and its contractors. For example, contractors will be more efficient, as consolidating harvest areas means fewer equipment moves. Similarly, KFM's road reconstruction and maintenance costs will decrease. KFM can also reduce its costs to lay out harvests and track clearcut buffers (something which must be done to maintain compliance with the current forest practices rules).

As indicated in its correlation of the state's sustainability standards with documentation provided by KFM (attached), the evidence reviewed demonstrates that KFM has attained the identified goals and outcomes for each of the 9 criteria of sustainability.

**OUTCOME BASED FORESTRY - KATAHDIN FOREST MANAGEMENT (KFM)
CORRELATION OF STATE CRITERIA, GOALS, AND OUTCOMES WITH
DOCUMENTATION PROVIDED BY KFM**

Source documents reviewed:

- NSF-ISR recertification audit report certificate issued 29 September 2014
- Forest Management Plan 2013-2022 15 April 2014
- SFI 2010-2014 Standard Program Linkages, revised 10 September 2014
- Calculation of Growth for the KFM Property Using FIA Data (Stephen E. Fairweather, Ph. D., Mason, Bruce, & Girard, Inc., 29 March 2015)
- Forest Society of Maine 2012/2013 easement monitoring report, 04 April 2014

Criterion 1: Soil productivity

Goal: Maintain site productivity.

Outcomes: Site productivity will be maintained or improved, and the area in roads and yards will be minimized.

Results:

- KFM uses soil drainage, depth to water table, and forest type maps to plan harvest activities.
- KFM conducts site inspections prior to harvest.
- KFM uses the MFS BMP manual and has rutting and compaction and skid trail spacing guidelines consistent with good practice.
- Contractors are trained to avoid unacceptable rutting.
- KFM conducts periodic inspections of harvest operations.
- Contractors place brush in trails.
- A review of the SFI audit report verifies that KFM takes appropriate measures to protect and maintain site productivity.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Maine Criterion 2: Water quality, wetlands and riparian zones

Goal: Maintain or improve the chemical, physical, and biological integrity of aquatic systems in forested areas and riparian forests.

Outcomes: Forest management in shoreland areas protects water quality and aquatic and riparian forest biodiversity.

Results:

- KFM uses the MFS BMP manual and has rutting, wet weather event, and unfrozen ground guidelines consistent with good practice. The easement monitoring report identified minor rutting issues on a few sites, but these situations were corrected immediately.
- KFM conducts periodic inspections of harvest operations.
- KFM has a regular practice of moving or shutting down operations as ground conditions warrant.
- KFM manages riparian buffers where possible (some too steep and/or wet to operate).
- A review of the SFI audit report verifies that KFM takes appropriate measures to protect water quality, wetlands, and riparian zones.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Criterion 3: Timber Supply and quality

Goal: Improve the quantity and quality of future timber supply when appropriate.

Outcome: The management strategy and harvest levels for the lands will increase the quality and quantity of the forest resource as appropriate in the medium and long term (20 - 50 years).

Results:

- KFM has calculated its sustainable harvest levels in its forest management plan. Harvest levels have been slightly below the annual allowable cut for the past decade: slightly over on hardwoods, but slightly under on spruce/fir and other softwoods (hemlock, pine and cedar).
- KFM has a 100 year forecast for three major species groups: Spruce/fir; other softwood, and hardwood. The company maintains a rolling forest inventory; has partitioned its land by capability and soil classifications, and has developed growth and yield models.
- KFM-specific forest inventory and inventory change using FIA plot data was calculated by an independent forestry consultant (Mason, Bruce and Girard) and found to support KFM's inventory. Standing inventory increased over the period analyzed.
- KFM uses sound practices to protect regeneration during harvesting, e.g. bumper trees and trail spacing.
- Over the past decade, KFM has conducted planting, competition control and timber stand improvement to improve stocking and growth of high value species, but has not done precommercial thinning. Most planting is of native spruces. The majority of harvests have advanced natural regeneration.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Criterion 4: Aesthetic impacts of timber harvesting

Goal: Minimize adverse visual impacts of timber harvesting.

Outcomes:

1. The landowner will minimize visual impacts of harvests, roads, landings and other management activities.
2. The landowner's planning staff are trained in and apply principles of visual quality management.
3. The landowner identifies areas with high and moderate visual sensitivity, and takes appropriate measures to avoid significant visual impacts whenever necessary.

Results:

- KFM policies require managers to consider using special techniques when harvesting in important viewsheds, and its foresters have received training.
- KFM manages (cleans up and minimizes) roadside yards.
- KFM issues salvage permits for firewood harvesting from landings to facilitate cleanup.
- KFM uses primarily shelterwood harvesting, which can soften the visual impact of harvesting.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Criterion 5: Biological diversity

Goal: Maintain biological diversity with healthy populations of native flora and fauna, forest communities and ecosystems.

Outcomes:

1. Management addresses the habitat needs of the full range of species present.
2. Maintain or manage for acreage in the late successional (LS) condition through management and protection.
3. Maintain a reasonable component of standing dead trees, live cull trees, and down logs across the landscape (not necessarily on every acre).
4. High Conservation Value Forests are properly identified and values are protected on the ownership.
5. Rare, threatened and endangered species habitats are properly identified, and the land is managed to protect the habitats and occurrences of rare, threatened and endangered species.
6. Important plant communities are properly identified, and the land is managed to protect important plant communities.
7. Deer wintering areas are properly identified and managed to maintain or improve their value as winter cover for deer.

Results:

- KFM has wildlife management plans to address important issues; e.g., lynx (Healthy Forests Reserve Program), cooperative deer wintering area agreements, and the Back Channel area and other special sites.
- Critical habitat and G1 and G2 species occurrences are mapped.
- KFM has developed natural community management plans with Maine Natural Areas Program in the easement area. KFM also has a plan for protecting old growth forest in the easement area.
- KFM has policies to protect raptor nests, heron rookeries, eagle nests, cavity nest trees, and vernal pools.
- Special areas are identified prior to harvest, and this information is provided to contractors.
- KFM foresters have participated in Stream Smart training and have replaced and installed many small bridges which improve and maintain fish (salmon, trout, etc.) and other aquatic species passage in streams throughout its timberlands.
- KFM has a snag retention policy consistent with scientific recommendations for Maine.
- KFM manages a well-regarded and long-standing, large Cooperative Deer Wintering Area. Total potential habitat suitable for deer wintering is projected to increase over 45 years.
- KFM lands contain a significant amount of Canada lynx habitat which is also projected to increase over 45 years. The US Fish and Wildlife Service have

commended KFM for its habitat management plan for Canada lynx under the Healthy Forests Reserve Program.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcomes for this criterion.

Criterion 6: Public accountability

Goal: Demonstrate sustainable forestry and build public confidence that forest management is protecting public values for the long-term.

Outcomes:

1. A Licensed Forester within the company will review and approve the landowner's Forest Management Plan.
2. The landowner will employ Licensed Foresters who are actively involved in the management, planning and supervision of operations on the land.
3. All timber harvesting contractors will employ at least one person possessing Certified Logging Professional or Qualified Logging Professional certifications or the equivalent.

Results:

- KFM's management plan was prepared and approved by a licensed forester.
- KFM employs several licensed foresters who are responsible for managing the land.
- KFM requires the presence of a CLP or QLP logger on all harvests.
- KFM has maintained its SFI certification. The most recent audit (September 2014) identified no nonconformances.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcomes for this criterion.

Criterion 7: Economic considerations

Goal: Optimize benefits to the local and regional economy while also achieving the goals specified for the other criteria, to the extent allowed by market conditions.

Outcome: The landowner's management activities support as vibrant and diverse a forest products industry as is practicable, including loggers, truckers, and production facilities.

Results:

- KFM provides training and incentives for loggers to enhance utilization, e.g. higher payment for separating high quality sawlogs.
- KFM provides recreational business permits to allow commercial recreational use of its land and grants permits for many miles of trails which local businesses depend upon.
- KFM supplies wood to many regional mills and works with mill managers to provide a reliable supply of wood, improve utilization and secure markets for all species and grades of wood on its timberlands.
- KFM grants free permits for individual-use firewood salvage and sells firewood to a processor for local use.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Criterion 8: Social considerations

Goal: The landowner supports the communities surrounding their lands and operations, and except where special circumstances dictate otherwise, the landowner continues to provide historic and traditional recreational opportunities that do not conflict with the landowner's objectives or values.

Outcome: The landowner provides opportunities for appropriate historic and traditional recreational uses that do not conflict with the landowner's values or objectives.

Results:

- KFM has extensive public use on its land and offers several programs to support such use. These include a campsites and rental cabins program and numerous roads open to public use.
- KFM participates in North Maine Woods.
- KFM permits on its lands: 163 miles of snowmobile trails; 26 miles of cross-country ski trails; 16 miles of multi-use (including ATV) trails and the 5 mile River Pond Nature Trail, a hiking interpretive trail. In addition, KFM constructed a separate walkway on the Abol Bridge for sightseers, hikers and snowmobilers.
- Rafting accounts for a significant number of visitors to KFM land.
- In addition, KFM hosts Maine TREE Foundation Teacher Tours and other tours when requested.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Criterion 9: Forest health

Goal: The forest is healthy and vigorous with no serious insect infestations or disease outbreaks.

Outcomes: The landowner does what is prudent and practicable to monitor for and prevent and control insects, disease, and fire, consistent with good practice in the industry and assists MFS in forest health monitoring programs on the ownership.

Results:

- KFM participated in the augmented Spruce budworm trap program organized by MFS. It is monitoring and preparing for the impending outbreak.
- Foresters are trained in invasive species recognition and control. For example, KFM removes occurrences of *Phragmites* when identified.
- KFM has taken steps to use pesticides in a controlled and selective manner.
- Diseased beech issues are managed by salvage harvesting, planting and herbicide application.
- KFM has a fire management plan.
- KFM distributes firewood movement limitation notices.

Assessment of this criterion: Evidence reviewed demonstrates that KFM has attained the identified goal and outcome for this criterion.

Overall assessment of the criteria and indicators: The literature reviewed indicates that KFM generally has attained the identified goals and outcomes for the nine criteria and associated indicators. The 2014 SFI audit found no nonconformances. The 2014 easement monitoring report found full compliance with the easement terms. There are no significant departures from the state's goals and outcomes.