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17 March 2014

Senator Eloise Vitelli, Co-Chair
Representative James Dill, Co-Chair
Committee on Agriculture, Conservation, and Forestry
100 State House Station
Augusta, ME 04333-0100

Dear Senator Vitelli, Representative Dill, and members of the committee:

I'm pleased to present to you the second report of the technical panel advising the Maine Forest Service (MFS) on the Outcome Based Forestry (OBF) agreement with Irving Woodlands LLC.

In 2001, the Maine Legislature enacted legislation that allowed landowners and the state to negotiate agreements for landowners to manage their lands outside the prescriptive confines of the state's Forest Practice Act (FPA) while providing equal or better protection of the forests' many functions and values. This enhancement to the FPA was called "Outcome Based Forestry (OBF)." Outcome based forestry is defined as "a science-based, voluntary process to achieve agreed-upon economic, environmental and social outcomes in the state's forest, as an alternative to prescriptive regulation, demonstrating measurable progress towards achieving statewide sustainability goals and allowing landowners to use creativity and flexibility to achieve objectives, while providing for the conservation of public trust resources and the public values of forests." The prescriptive steps required of landowners by the FPA were replaced by practices (called outcomes) acceptable to the MFS and a panel of experts chosen by the Governor.

The panel and MFS have met with Irving staff several times to review forest plans and conduct with field inspections to verify Irving's conformity to the agreement a number of times. MFS staff continue to make, independent field trips to further verify conformity. The panel and MFS agree that Irving continues to fulfill its responsibilities under the agreement. The independent auditors of the Forest Stewardship Council also have found Irving's practices warrant continued certification to that program's high standards.

Both the landowner and MFS realized significant time savings from the OBF process as compared to operations under the FPA. These savings have allowed Irving to reinvest more in the land through planting, competition control, and spacing. An added benefit to the state is Irving's investment of \$30 million in a state of the art sawmill in Nashville Plantation which will create dozens of new jobs for Mainers. Irving has stated several times that this investment was made possible by its OBF agreement.

The MFS thanks the panel, Irving Woodlands, and the FSC certifiers for their successful involvement in this significant legislative program. The following panel report is provided as the documentation of Irving's successful conformity to its OBF agreement.

If you have any questions, please let me know.

Sincerely,

Douglas P. Denico
Director, Maine Forest Service

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OUTCOME BASED FORESTRY

TECHNICAL REVIEW PANEL

PROGRESS REPORT

ON AGREEMENT WITH

IRVING WOODLANDS, LLC

MARCH 2014

Introduction:

This report summarizes the comments of the panel of technical experts appointed by the Governor to review and advise the Maine Forest Service (MFS) and Irving Woodlands LLC (Irving) on the outcome based forestry agreement executed between the two parties in May 2012¹. The comments pertain to the annual report required by the agreement, and which was provided to the panel in February 2014.

Panel of technical experts reviewing Irving's report:

1. Michael Dann, Forester²;
2. Gary Donovan, Certified Wildlife Biologist;
3. Maxwell L. McCormack, Jr., Research Professor Emeritus of Forest Resources, University of Maine;
4. David Struble, State Entomologist, Maine Forest Service;
5. Peter Triandafillou, VP Woodlands, Huber Resources; and,
6. Robert G. Wagner, Director, Center for Research on Sustainable Forests and Cooperative Forestry Research Unit, and Henry W. Saunders Distinguished Professor in Forestry, University of Maine.

With the exception of Michael Dann (see footnote), the panel members endorse this assessment.

Report submitted: 17 March 2014

Desired outcomes of Outcome Based Forestry:

1. Compliance with the state's forest sustainability goals and outcomes for soil productivity; water quality; wetlands and riparian zones; timber supply and quality; aesthetic impacts of timber harvesting; biological diversity; public accountability; economic and social considerations; and, forest health (see Appendix 1, p. 6, for more detail and the panel's assessment of Irving's attainment of the outcomes).

Findings: Riparian areas have important wildlife habitat functions in addition to protecting water quality. Irving biologists have developed a BMP manual to insure that these important habitats are consistently managed throughout their ownership. Upgraded training of staff and contractors will take place during Spring 2014.

Irving's riparian zone management exceeds Maine's regulatory requirements and is done with the goal of managing structure, which is beneficial for many kinds of habitat. The company's consistent attention to water quality, wetlands, and riparian zones is commendable. Benefits were especially notable relative to soils evaluations and site productivity.

Licensed foresters of the Maine Forest Service who are monitoring Irving's implementation of the agreement report that all harvests visited pre-harvest, during harvest, and post-harvest comply with the agreement. Forest Rangers continue to inspect Irving harvests for

¹ The relevant portions of the outcome based forestry law and the state's agreement with Irving are found in Appendix 2 and Appendix 3, respectively.

² Mr. Dann recused himself from endorsing the review due to his work as a certification auditor on Irving land.

compliance with state water quality and Land Use Planning Commission standards and find 100% compliance.

Irving is taking a more strategic approach to riparian buffer management by pairing the proper equipment with specially trained crews. Such specialized management of riparian buffers will improve forest health and productivity for the long term and, in limited instances, may reduce the extent of unmanaged riparian buffers as compared to practices under FPA that tended to locate separation zones in riparian zones.

It is important to note that clearcut separation zones required by the FPA rule (pre-outcome based forestry) were temporary features that could be held on the landscape for as little as ten years and did not preclude eventual harvesting. Under outcome based forestry, Irving can take a more strategic approach to creating blocks of mature and late successional forest that should result in more, better protected areas of these forests.

Efficiency gains in harvesting operations and road improvements resulting from outcome based forestry-based opportunities are readily apparent.

Irving has a sophisticated GIS process that foresters use to identify rare resource sites that exist on their ownership. This information includes data from Maine Natural Areas Program, Maine Department of Inland Fisheries and Wildlife, Irving staff and others. Foresters have been trained to identify rare features and any new findings are added to the database. Standard operating procedures are applied to protect these rare features as well as to provide habitat elements (snags, large woody material, etc.) across the ownership. Irving management policy also specifies that ten percent of acreages in five major cover types will be managed in a late successional condition at all times. Foresters are actively working to achieve this goal and they are being audited for compliance to this commitment. As of fall 2013, Irving is about 65% of the way toward achievement of this goal.

As for the vertebrate species indigenous to the ownership, the panel received information from Irving's newly completed 2013 forest management plan which shows the development stage distribution by cover type in each town that Irving manages. The panel used this information to assess size class and forest type distribution on Irving's land and to compare results with the simple model developed by the USDA Forest Service. Irving has reported updated information to the panel. Irving incorporates consideration of multiple habitat elements into its harvest planning and execution, including but not limited to: large woody material, vernal pools, den trees, threatened and endangered species, rare plant communities, and late successional forests. Irving also incorporates the latest research into its management strategies where appropriate, e.g. for Canada lynx.

Of equal concern to providing mature and late successional forest stands, is providing an adequate amount of dense young forest habitats. The majority of forest wildlife species have a primary or secondary dependence on regenerating or young age classes among all forest types for survival. There is a varied distribution of forest size classes and types throughout the ownership to support native forest wildlife species.

The panel plans to continue monitoring Irving's riparian management to assess riparian function and habitat connectivity.

2. Improve timber quality and quantity through active forest management while reducing the forest's susceptibility to disease, insect infestations and damage caused by fire, wind and climate change.

Findings: Under outcome based forestry, Irving has gained substantial timber harvest benefits in terms of reduced harvest costs, layout efficiencies and access to wood that was temporarily tied up in clearcut separation zones under the Forest Practices Act rules. Irving's management activities, including cleaning up senescent timber, and removing timber prone to windthrow, lead to improved growth rates in younger stands, reduce mortality losses, and better position the forest to endure the next spruce budworm epidemic. Management activities in higher risk separation and riparian zones are progressing. At the same time, Irving is specifically identifying other areas that provide valuable mature forest habitat that could be retained. Irving believes that there will be areas of better protected, late successional forest over time as it takes a more strategic approach to implementation of the forest management plan as opposed to the temporary nature of such forests when they are retained in clearcut separation zones.

Irving has invested \$30 million in a state of the art sawmill in Nashville Plantation. Irving's willingness to invest such a substantial sum also serves as a positive indicator of improving timber supply and quality.

3. Increase reforestation success, growth rates, and/or timber quality on site specific areas and on a landscape basis, using a variety of forest management techniques that may include but are not limited to the establishment of planted areas, vegetation management, matching species to site, tree improvement techniques, fertilization, and pre-commercial and commercial thinning.

Finding: Irving has made significant investments in more intensive silviculture over the past two years. Annual acres planted have increased since 2011, and acres pre-commercially thinned in 2013 were well above previous years' totals. Although the acreage treated for competition control was down slightly over previous years, the total investment in intensive silviculture has increased and is projected to increase even more in 2014. Irving continues to address the problem of undesirable beech site occupation in a positive way.

4. Continued certification to the standards of a recognized certification system (for example, American Tree Farm System, Forest Stewardship Council (FSC) and/or Sustainable Forestry Initiative (SFI)), will be prima facie evidence that Irving has achieved compliance with the state's sustainability goals and outcomes and satisfied the conditions of this section. Certification is a continuous process that involves regular surveillance audits and periodic recertification audits; therefore, any discovered departures from the standards will be rectified in a timely manner. Irving is currently enrolled in both SFI and FSC and uses the latter for benchmarking compliance with the state's sustainability standards.

Overall findings: Irving personnel consistently exhibited knowledge and practical know-how that illustrated and verified that executing the established standards of OBF enabled a higher level of ecologically sound forestry with a more enhanced level of productivity and improved cost effectiveness than would have occurred by strict adherence to Maine's Forest Practices Act rules. The panel finds that Irving Woodlands LLC has maintained its certification to the FSC standard and has made good progress in attaining the other desired outcomes.

Irving commitments: Irving agrees to and commits to the following as good faith demonstrations of its commitment to practice forestry in a manner that provides at least the equivalent forest and environmental protection as provided by existing rules and any applicable local regulations:

1. Irving shall maintain certification status with a nationally recognized sustainable forest management certification system.
 - A. Irving shall act promptly to satisfactorily address any Corrective Action Request or Nonconformance associated with its certification.
 - B. A member of the panel or a mutually agreeable designee shall be permitted to participate in the forest management certification audit field visits, and to provide input to the third party lead auditor on behalf of the panel.
 - C. Irving shall invite one member of the panel or a mutually agreeable designee to attend meetings and provide input to Irving's Forest Research Advisory Committee.

Overall findings: Irving has maintained its certification to the FSC standard and has acted promptly to address any Corrective Action Requests and Observations. Panel members have participated in the FSC audit. Panel members believe that they had ample opportunity to review records, discuss practices and policies, and to observe field operations. Their expectations and needs for explanations and answers to questions were satisfied. Field operations provided effective illustrative support.

2. Irving shall document results of its efforts to improve measurably the quantity and/or quality of its timber resource. In addition to documentation of compliance with applicable certification standards, Irving shall provide evidence of attainment of the desired outcomes described in Section 7 of the Outcome Based Forestry agreement through the use of metrics outlined in Section 3, below.

Findings: Irving has documented its efforts to improve measurably the quantity and/or quality of its timber resource (see 3, below).

3. Irving shall annually report to MFS information about its harvest management and silvicultural metrics including, but not limited to:
 - A. Acres of high risk separation zones harvested during the past year.
 - B. Trends in silvicultural investments, including, but not limited to precommercial thinning and competition control, organized by Forest Operations Notification number or where commercial harvesting has not taken place in a township, by individual township.
 - C. Estimates of harvest acreage summarized for the coming five-year period by silvicultural prescription, including overstory removal, commercial thinning, shelterwood, and clearcut.
 - D. A more specific annual harvesting plan which describes the planned acreage for harvest for the upcoming year in each township by prescription, with clearcuts exceeding 250 acres individually mapped and identified.
 - E. Annual harvest summary for the previous year, provided within 60 days of year end, a summary of the area harvested over the previous year by prescription (actual versus planned) and total volumes. Information will be made available for sites visited by the panel. Irving will continue to provide information on acres harvested by harvest type, by township as required on the "Confidential Report of Timber Harvest."
 - F. Annual regeneration report for clearcuts. Acres planted by species and site class, organized by Forest Operations Notification number or where commercial harvesting

has not occurred in a township, by individual township. Where available, information will be provided for sites where the panel conducts field verifications.

G. Road density (miles per acre of ownership by township).

Findings: Irving provided the requested documentation on silvicultural metrics. Irving continues to be a leader in silvicultural investments such as planting, competition control, and precommercial thinning.

Harvest planning and implementation and silvicultural prescriptions are within the norm for a large ownership. Irving also has demonstrated an ability to respond quickly to large-scale natural disturbances, adjusting its harvest plans accordingly. For example, about 900 acres were subjected to significant wind events in 2013. These events caused a great deal of blowdown and breakage of standing mature timber, primarily in areas that had not experienced harvesting for several decades. Irving has already salvaged about 75% of this area, with plans to finish up in 2014.

Irving has documented its road densities as required, and its efforts in this regard are commendable. Well-designed transportation systems (year around and winter only roads) are important to Irving. The panel found that roads were built for safe, efficient access to markets that meet or exceed MFS Best Management Practices for protecting Maine's water quality. Road density by township is an indicator of potential water quality problems sites (potential stream crossings) and reduction of forest habitat. With three exceptions, townships had a road density of less than two percent of the township area, and many had less than one percent. However, higher road densities can be a reflection of more intensive management of particular, higher productivity sites, so a primary focus on reducing road densities can be misleading.

H. Harvest opening size distribution (acres by opening size class for each harvest prescription by township).

Finding: Irving provided the requested information.

I. Development stage distribution (acres by development stage within each broad cover type class by township). Development stages to be reported are: regeneration, sapling, young, immature, mature, and overmature.

Finding: Irving provided the required documentation.

4. Irving shall prepare and submit a report of the average clearcut size and total clearcut areas on an annual basis.

Finding: Irving provided the required documentation.

5. A Maine Licensed Forester within the company shall review and approve the landowner's Forest Management Plan.

Finding: Irving has certified that a Maine Licensed Forester has reviewed and approved its Forest Management Plan.

6. Harvests will be laid out with consideration of visual aesthetics in areas of moderate and higher visual sensitivity. Irving's forest management staff will be proficient in managing for visual aesthetics and receive periodic training.

Findings: Irving has addressed aesthetic concerns, particularly in situations involving larger clearcuts, scenic areas such as the Allagash Wilderness Waterway, certain areas along public ways and sensitive viewscapes. Irving may wish to give more thought to post mechanical harvest aesthetics in winter vs. summer. Patterns not apparent during summer, leaves-on conditions are quite apparent from a distance in winter (well beyond any defined corridors). Irving may also wish to consider more feathering of clearcut and overstory removal edges to soften the striking visual appearance of these heavier harvests, particularly in areas with high public use.

7. Irving will accommodate other reasonable requests for information made by MFS and the panel as mutually agreed upon.

Finding: Irving has willingly provided any additional information requested by the panel. Irving reports that at the time of implementation of the outcome based forestry agreement, it had approximately 53,000 acres tied up in unexpired separation zones. During the first year of operation of the agreement, Irving harvested approximately 7% of that total, or just over 2,000 acres. During the second year of operation of the agreement, Irving harvested approximately 16% of that total, or just over 4,200 acres. 79% of the area harvested in separation zones were non-clearcut harvests.

Appendix 1. State of Maine Criteria, Goals, and Outcomes of Forest Sustainability and Panel Assessment of Irving's Attainment

1. Criterion 1: Soil productivity

- a. Goal: Maintain site productivity.
- b. Outcome: Site productivity will be maintained or improved, and the area in roads and yards will be minimized.

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

2. Criterion 2: Water quality, wetlands and riparian zones

- a. Goal: Maintain or improve the chemical, physical, and biological integrity of aquatic systems in forested areas and riparian forests.
- b. Outcomes: Forest management in shoreland areas protects water quality and aquatic and riparian forest biodiversity.

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

3. Criterion 3: Timber supply and quality

- a. Goal: Improve the quantity and quality of future timber supply when appropriate.
- b. 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).

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

4. Criterion 4: Aesthetic impacts of timber harvesting

- a. Goal: Minimize adverse visual impacts of timber harvesting.
- b. 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.

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving generally is achieving the outcomes for this criterion. However, as noted earlier, Irving may wish to give more thought to post mechanical harvest aesthetics in winter vs. summer. Patterns not apparent during summer, leaves-on conditions are quite apparent from a distance in winter (well beyond

any defined corridors). Irving may also wish to consider more feathering of clearcut and overstory removal edges to soften the striking visual appearance of these heavier harvests, particularly in areas with high public use.

5. Criterion 5: Biological diversity

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

b. 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.

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

6. Criterion 6: Public accountability

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

b. Outcomes:

1. The landowner will maintain independent 3rd party certification with a nationally recognized sustainable forestry management certification system without major, unresolved non-conformances on managed lands.
2. A Licensed Forester within the company will review and approve the landowner's Forest Management Plan.
3. The landowner will employ Licensed Foresters who are actively involved in the management, planning and supervision of operations on the land.
4. All timber harvesting contractors will employ at least one person possessing Certified Logging Professional or Qualified Logging Professional certifications or the equivalent.

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

7. Criterion 7: Economic considerations

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

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

8. Criterion 8: Social considerations

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

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

9. Criterion 9: Forest Health

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

Finding: Based on the results of Irving's certification audit, and as verified by panel and MFS staff field visits, the panel concludes that Irving is achieving the outcomes for this criterion.

Appendix 2. Extracts of Outcome Based Forestry Statute

12 M.R.S. §8003.

Q. The director, in cooperation with public and private landowners, shall actively pursue creating experimental areas on public and private land where the principles and applicability of outcome-based forest policy, as defined in section 8868, can be applied and tested. No more than 6 such areas may be designated. The director shall seek to designate areas representing differing forest types and conditions and from different geographic regions of the State. The term of initial agreements may not exceed 5 years.

12 M.R.S. §8868

2-B. Outcome-based forest policy. "Outcome-based forest policy" means a science-based, voluntary process to achieve agreed-upon economic, environmental and social outcomes in the State's forest, as an alternative to prescriptive regulation, demonstrating measurable progress towards achieving statewide sustainability goals and allowing landowners to use creativity and flexibility to achieve objectives, while providing for the conservation of public trust resources and the public values of forests.

12 M.R.S. §8869

3-A. Plans for experimental areas. Practices applied on an experimental area created pursuant to section 8003, subsection 3, paragraph Q must provide at least the equivalent forest and environmental protection as provided by existing rules and any applicable local regulations. At a minimum, tests of outcome-based principles must address:

- A. Soil productivity;
- B. Water quality, wetlands and riparian zones;
- C. Timber supply and quality;
- D. Aesthetic impacts of timber harvesting;
- E. Biological diversity; and
- F. Public accountability.

The Governor shall appoint a panel of technical experts to work with the director to implement, monitor and assess tests of outcome-based forestry principles. In order to participate in the outcome-based forestry experiment, the landowner, director and technical panel must develop agreed-upon desired outcomes for the experimental area and develop a method for determining if the outcomes have been attained and a system for reporting results to the public.

7-A. Exemption for outcome-based forest policy experimental areas. Outcome-based forest policy experimental areas designated under section 8003, subsection 3, paragraph Q are exempt from the requirements of this subchapter and rules adopted pursuant to this subchapter.

13. Confidential information. Information provided to the division voluntarily or to fulfill reporting requirements for the purposes of establishing and monitoring outcome-based forest policy experimental areas, as created pursuant to section 8003, subsection 3, paragraph Q, is public unless the person to whom the information belongs or pertains requests that it be designated as confidential and the division has determined it contains

proprietary information. For the purposes of this subsection, "proprietary information" means information that is a trade secret or production, commercial or financial information the disclosure of which would impair the competitive position of the person submitting the information and would make available information not otherwise publicly available. The division, working with the landowner and the panel of technical experts appointed under subsection 3-A, may publish reports as long as those reports do not reveal confidential information.