

OUTCOME BASED FORESTRY

TECHNICAL REVIEW PANEL

PROGRESS REPORT

ON AGREEMENT WITH

IRVING WOODLANDS, LLC

JULY 2013

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 2012. The comments pertain to the annual report required by the agreement, and which was provided to MFS in February 2013.

Panel of technical experts reviewing Irving's report:

1. Gary Donovan, Certified Wildlife Biologist;
2. Maxwell L. McCormack, Jr., Research Professor Emeritus of Forest Resources, University of Maine;
3. William A. Patterson IV, The Nature Conservancy;¹
4. Peter Triandafillou VP Woodlands, Huber Resources; and,
5. Robert G. Wagner, Director, University of Maine, School of Forest Resources, and Henry W. Saunders Distinguished Professor in Forestry.

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, p. 7).

Findings: Riparian areas have important wildlife habitat functions in addition to protecting water quality. Irving biologists are currently developing a BMP manual to insure that these important habitats are consistently managed throughout their ownership.

Irving's riparian zone management appears to be consistent with Maine regulations 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 especially commendable. Benefits were especially notable relative to soils evaluations and site productivity.

Irving is trying to take 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 but, 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 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.

¹ Mr. Patterson resigned from the panel on 01 August 2013.

Irving has a sophisticated GIS process that foresters use to identify rare resource issues 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 acres 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.

The FSC auditor will review progress toward this goal in fall 2013, with regard to specific 2012 additions to the Late Succession database. The panel may, if it chooses, use this information to evaluate the tradeoffs between Irving's plans for late successional protection and any mature forest stands that may have been retained under FPA separation zone regulations.

As for the remaining vertebrate species indigenous to the ownership, the panel received information from Irving's 2007 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. Updated information also will be reported in a new forest management plan scheduled to be completed later this year.

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 appears to be a varied distribution of forest size classes and types throughout the ownership to support native forest wildlife species..

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 gains 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 rules. Irving's management activities, including cleaning up senescent timber, removing timber prone to windthrow, and the like, 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 appear to be progressing. At the same time, Irving is specifically identifying other areas that provide valuable mature forest habitat that could be retained. Irving considers it likely 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.

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 is addressing the problems 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 Participant 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. Participant 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 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.

Participant commitments: Participant 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. Participant shall maintain certification status with a nationally recognized sustainable forest management certification system.
 - A. Participant 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. Participant shall invite one member of the panel or a mutually agreeable designee to attend meetings and provide input to Participant'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 been invited to participate in the audit and to attend meetings of Irving's Forest Research Advisory Committee. 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. Participant 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, Participant 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. Participant 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 plan) and total volumes. Information will be made available for sites visited by the panel. Participant 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).
Finding: 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 may be misleading.
 - H. Harvest opening size distribution (acres by opening size class for each harvest prescription by township).
 - 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. Participant 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.

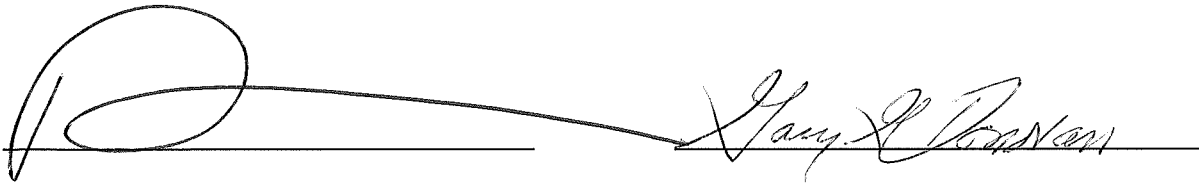
Finding: Irving has certified that a Maine Licensed Forester has reviewed and approved its Forest Management Plan.

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

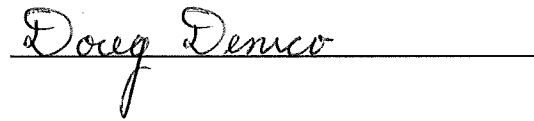
Findings: Irving has addressed aesthetic concerns, particularly in situations involving larger clearcuts, scenic areas such as the AWW, certain areas along public ways and sensitive viewscapes. Irving may wish to give more thought to post mechanical harvest aesthetics in winter vs. summer. Patterns not apparent during summer, leaves-on conditions are quite apparent from a distance in winter (well beyond any defined corridors). Participant 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 3.9% of that total, or just over 2,000 acres.

Report submitted 08 July 2013

A large, stylized handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to read "Gary J. Bennett".

A handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to read "Nigel Pennock".

A handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to read "Doug Demco".

A handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to read "Robert W. Jones".

APPENDIX. State of Maine Criteria, Goals, and Outcomes of Forest Sustainability.

1. Criterion 1: Soil productivity
 - a. Goal: Maintain site productivity.
 - b. Outcome: The landowner will maintain or improve site productivity and minimize the area in roads and yards.
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.
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).
4. Criterion 4: Aesthetic impacts of timber harvesting
 - a. Goal: Minimize adverse visual impacts of timber harvesting.
 - b. Outcomes:
 1. The landowner minimizes 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.
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.

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 maintains 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 reviews and approves the landowner's Forest Management Plan.
3. The landowner employs Licensed Foresters who are actively involved in the management, planning and supervision of operations on the land.
4. All timber harvesting contractors employ at least one person possessing Certified Logging Professional or Qualified Logging Professional certifications or the equivalent.

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.

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.

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.

Background on the state's Outcome Based Forestry Agreement with Irving Woodlands LLC

In 2001, the Maine Legislature enacted legislation (Exhibit A) 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 Maine Forest Service (MFS) and a panel of experts chosen by the Governor.

In 2011, the Governor chose a panel of 5 experts (Exhibit B) in anticipation of a landowner request to enter into an OBF agreement. In the spring of 2012, The MFS signed such an agreement with Irving Woodlands LLC(Exhibit C).

The Agreement includes several significant sections:

1. The outcomes mutually agreed upon by the MFS and panel, including:
 - Conformance with Maine's forest sustainability standards;
 - Improving timber quality and quantity and forest health;
 - Increasing timber growth and reforestation on specific sites; and,
 - Remaining certified to the standards of a recognized forest certification system. Continued forest certification is accepted as proof by the MFS and panel that the state's sustainability standards are being met.
2. The landowner is exempt from specific requirements of the FPA, such as individual harvest plans for clearcuts larger than 20 acres and clearcut separation zones.
3. The landowner makes specific commitments, including:
 - The provision of supplemental performance data;
 - A commitment to achieve the outcomes;
 - provide an annual report;
 - Forestry plans are approved by a licensed forester;
 - Aesthetics are considered in harvest layout; and,

Background on the state's Outcome Based Forestry Agreement with Irving Woodlands LLC

- Other reasonable requests asked by the MFS, panel and mutually agreed to by the landowner will be followed.
4. Certain proprietary information will be made available to the panel and the MFS but excluded from public availability.
 5. Termination and land exchange protocols.

Other critical elements include:

- Only FPA rules are subject to OBF agreements. The landowner must comply with all other rules (e.g. shoreland area harvesting).
- By remaining in conformity with the standards of a recognized forest certification system, the panel accepts that Maine's forest sustainability standards are being met. Any issues between the panel or the MFS with a certification report are not part of an Outcome Based Forestry Agreement or panel report.
- Unless specifically included within the agreement, resolution of new issues must be mutually agreed to by the panel, MFS and the landowner.

Initial agreements are for a five-year term as permitted by the enabling statute. Agreements can be renewed.

The panel and MFS met with the landowner to review forest plans and followed up with field inspections to verify conformity a number of times. Reviews of forest management/harvesting plans and field inspections were carried out twice for an annual cutting cycle (Summer 2012 through winter/spring of 2013).

In addition, MFS staff made six, independent multiple-day field trips to further verify Irving's conformity to the agreement. MFS personnel field also checked several 2013 winter harvests conducted within riparian zones to see if any activities had created sedimentation issues. None were found.

The MFS found significant improvement in forest management practices under OBF as compared to the FPA. Forest practices are consistently based on sound silviculture, and harvest areas and prescriptions follow natural soil, forest type and structure boundaries.

The OBF and forest certification system were considered together by both panel members and certification auditors. This was an unexpected but very positive synergy between the two programs.

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. The landowner's forest practices as defined in the agreement's outcomes also improved significantly.

As the panel moves into its second year of the agreement with Irving, monitoring of the Agreement will be conducted more efficiently with some field monitoring being passed on to the MFS.

Background on the state's Outcome Based Forestry Agreement with Irving
Woodlands LLC

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.

Doug Denico

Douglas P. Denico

Director, Maine Forest Service

Exhibit A. Legislation Creating Outcome Based Forestry

PUBLIC LAWS OF MAINE
First Regular Session of the 120th

CHAPTER 339
S.P. 544 - L.D. 1690

An Act to Promote Outcome-based Forest Policy

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §8003, sub-§3, ¶Q is enacted to read:

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, a single area may not exceed 100,000 acres and the total area under agreement may not exceed 200,000 acres. One area must be owned by a landowner holding fewer than 1,000 acres statewide. 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. This paragraph is repealed July 1, 2006.

Sec. 2. 12 MRSA §8868, sub-§2-B is enacted to read:

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. This subsection is repealed July 1, 2006.

Sec. 3. 12 MRSA §8869, sub-§3-A is enacted to read:

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.

Background on the state's Outcome Based Forestry Agreement with Irving Woodlands LLC

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. This subsection is repealed July 1, 2006.

Sec. 4. 12 MRSA §8869, sub-§7, as enacted by PL 1989, c. 555, §10, is amended to read:

7. Application. This section ~~shall apply~~ applies to all forest lands within the State, including land in municipal and state ownership. ~~Only~~ Except as provided in subsection 7-A, only state-owned or operated research forests or industrially owned research forests certified by the commissioner are exempt from these requirements.

Sec. 5. 12 MRSA §8869, sub-§7-A is enacted to read:

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. This subsection is repealed July 1, 2006.

Sec. 6. 12 MRSA §8869, sub-§13 is enacted to read:

13. Confidential information. Information provided to the bureau 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 designated as confidential for the purposes of Title 1, section 402, subsection 3, paragraph A if the bureau has determined that failure to designate the information as confidential would provide competitors an opportunity to obtain business or competitive advantage over the person to whom the information belongs or pertains or would result in loss or other significant detriment to that person. The bureau, 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. This subsection is repealed July 1, 2006.

Sec. 7. 12 MRSA §8879, sub-§1, as enacted by PL 1997, c. 720, §13, is amended to read:

1. Content. The report must describe the condition of the State's forests based on historical information and information collected and analyzed by the bureau for the biennium. The report must provide an assessment at the state level of progress in achieving the standards developed pursuant to section 8876-A, including progress of the outcome-based forestry experiment authorized under section 8003, subsection 3, paragraph Q. The director shall also provide observations on differences in achieving standards by landowner class. The report must summarize importing and exporting of forest products for foreign and

Background on the state's Outcome Based Forestry Agreement with Irving Woodlands LLC

interstate activities. The director shall obtain public input during the preparation of the report through public hearings and other appropriate methods.

Sec. 8. Report to the Legislature on outcome-based forestry. By December 31, 2005, the Director of the Bureau of Forestry within the Department of Conservation, in consultation with the panel of technical experts established pursuant to the Maine Revised Statutes, Title 12, section 8869, subsection 3-A, shall submit a report to the 122nd Legislature on the feasibility of implementing outcome-based forestry as a basis for forest policy. The report must include the results of the experiment in outcome-based forestry, established in the Maine Revised Statutes, Title 12, section 8003, subsection 3, paragraph Q, and an assessment of the feasibility of this program as an effective means to improve forest management. If the director recommends outcome-based forestry as an effective and desirable means to attain forest policy goals, the report must also include:

1. Justification for establishing such a policy, based on the results of the experiment, including an analysis of the improvements in forest management likely under outcome-based forestry;
2. Steps needed to arrive at broadly supported outcomes, based on the principles of soil productivity; water quality, wetlands and riparian zones; timber supply and quality; aesthetic impacts of timber harvesting; biological diversity; and public accountability;
3. The conditions under which landowners would be allowed to participate in the program and be exempt from certain rules and regulations, such as bureau approval of outcome-based forestry plans;
4. The bureau's plan to assess compliance with outcome-based forestry plans and to determine thresholds for noncompliance;
5. A discussion of outcome-based forestry's potential to improve public accountability and confidence in forest management, including specific tools that can be used to improve accountability and public confidence in forestry; and
6. An overall implementation plan, including general recommendations, recommendations for statutory changes and regulatory changes and the estimated costs to implement such a plan.

Effective September 21, 2001, unless otherwise indicated.

Background on the state's Outcome Based Forestry Agreement with Irving Woodlands LLC

Exhibit B. Outcome Based Forestry Panel Members

1. Gary Donovan, Certified Wildlife Biologist;
2. Maxwell L. McCormack, Jr., Research Professor Emeritus of Forest Resources, University of Maine;
3. William A. Patterson IV, The Nature Conservancy;²
4. Peter Triandafillou VP Woodlands, Huber Resources; and,
5. Robert G. Wagner, Director, University of Maine, School of Forest Resources, and Henry W. Saunders Distinguished Professor in Forestry.

² Mr. Patterson resigned from the panel on 01 August 2013.

Background on the state's Outcome Based Forestry Agreement with Irving Woodlands LLC

Exhibit C. Outcome Based Forestry Agreement Between Maine Forest Service and Irving Woodlands LLC.

(begins on next page)

OUTCOME BASED FORESTRY AGREEMENT #2011-1

This agreement by and between IRVING WOODLANDS LLC (hereinafter "Participant"), the DEPARTMENT OF CONSERVATION, MAINE FOREST SERVICE (hereafter "MFS") is entered into pursuant to Title 12 M.R.S., § 8003, sub-§ 3.Q. and § 8869, sub-§ 3-A and 7, and in accordance with MFS Forest Policy and Management Division procedures.

Whereas, the Maine Legislature has defined outcome based forestry as "a science-based, voluntary process to achieve agreed-upon economic, environmental and social outcomes in the State's forests, 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;

Whereas, in its 1999 State of the Forest report, MFS stated that the state has "reached the limits of what a command and control regulatory framework has to offer [with respect to regulation of forest practices]. Command and control regulation has many limitations and may result in unintended consequences, such as forest fragmentation and premature harvesting to recover equity in a forest investment. The Maine Forest Service believes that the state should begin to focus more on outcome-based forestry regulation, on the premise that this approach will do more to promote, stimulate and reward excellent forest management yet still provide a baseline of regulatory protection for critical public resources;"

Whereas, the Maine Legislature has endorsed outcome based forestry and directed MFS to pursue experimental agreements consistent with legislative direction; and,

Whereas, outcome based forestry is intended to be a long term approach to ensuring the sustainable management of Maine's forests; now therefore,

Participant and the MFS agree as follows:

1. **Authority:** Pursuant to Title 12 M.R.S. Chapters 801 and 805, subchapter 3-A, MFS has regulatory authority over the activities described herein.
2. **Partner to this agreement:** Participant is a landowner and/or involved in forest management in the state of Maine. Participant's primary office is located in Fort Kent, Maine.
3. **Location:** Participant manages approximately 1.25 million acres in the state of Maine.
4. **Application of this agreement; forest management plan:** This agreement applies to all forest management activities on lands owned by Allagash Timberlands, LP, Aroostook Timberlands, LLC, and Maine Woodlands Realty (as described in the Forest Management Plan) that are managed by Participant in Maine (the "Property").

The J.D. Irving Northern Maine Woodlands 2007 - 2031 Strategic Forest Management Plan dated September 2010 (the "Forest Management Plan") is incorporated in this agreement by reference, as it will guide Participant on its activities on the Property. The landowner's Forest Management Plan has outlined targets for opening size, age class distribution, and harvest levels by silvicultural prescription. The Forest Management Plan will be updated and revised from time to time at the discretion of Participant's Chief Forester to reflect substantive changes.

5. Interpretation of this agreement: In the context of this agreement, the use of terms including, but not limited to, "maximize," "minimize," and "optimize," and other similar terms are understood to mean that the landowner will take reasonable measures to achieve the specific outcomes identified.
6. Panel of technical experts: As required by 12 M.R.S. §8869, sub-§ 3-A; the Governor of Maine has established a panel of technical experts (hereinafter "panel") to work with the Director of the Maine Forest Service to implement, monitor and assess tests of outcome-based forestry experiments. The makeup of the panel may change from time to time at the discretion of the Governor of Maine. Present membership on the panel is:
 - A. Gary Donovan, Certified Wildlife Biologist;
 - B. Maxwell L. McCormack, Jr., Research Professor Emeritus of Forest Resources, University of Maine;
 - C. William A. Patterson IV, The Nature Conservancy;
 - D. Peter Triandafillou VP Woodlands, Huber Resources; and,
 - E. Robert G. Wagner, Director, University of Maine, School of Forest Resources, and Henry W. Saunders Distinguished Professor in Forestry.
7. Desired outcomes of Outcome Based Forestry:
 - A. 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).
 - B. 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.
 - C. 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.

- D. 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 Participant has achieved compliance with the state's sustainability goals and outcomes and satisfied the conditions of this Section 7. 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. Participant is currently enrolled in both SFI and FSC and uses the latter for benchmarking compliance with the state's sustainability standards.
8. Exemptions from certain requirements of 12 M.R.S. § 8869 and MFS Chapter 20 Rule, Forest Regeneration and Clearcutting Standards: Provided that Participant satisfies the conditions set forth in Section 7 of this agreement, Participant is exempt from the following requirements of law and rule:
- A. Chapter 20 Rule Sections 5.A. and 6. Participant will not create clearcuts larger than 250 acres without securing express written approval from MFS.
 - B. 12 M.R.S. § 8869, sub-§ 2-A and Chapter 20 Rule Section 5.B. (clearcut separation zones).
 - C. 12 M.R.S. § 8869, sub-§ 3 and Chapter 20 Rule Section 5.C. (forest management plans for individual clearcuts larger than 20 acres).
 - D. 12 M.R.S. § 8883-B, sub-§ 1 and Chapter 20 Rule, Section 3.A.3. (prior notification, submission of harvest plans to MFS for individual clearcuts larger than 75 acres).
 - E. Chapter 20 Rule, Section 5.C.3.b. (certification of establishment of clearcuts).
 - F. Chapter 20 Rule, Sections 4.C. and 5.C.3.a. (certification of regeneration of clearcuts). Notwithstanding such exemption, Participant will measure regeneration success on clearcuts, the results of which shall be made available for inspection by MFS and the panel. In cases where regeneration is found to be inadequate, Participant will implement a reforestation strategy in a timely fashion.
9. Modifications to certain requirements of 12 M.R.S. § 8869, and MFS Chapter 20 Rule, Forest Regeneration and Clearcutting Standards: Participant may operate subject to the following modifications of law and rule:
- A. Chapter 20 Rule, Section 3.A.3. Participant must file one harvest notification per township harvested per two years. Participant is not required to file harvest notification amendments with MFS. However, Participant is required to internally maintain adequate documentation of harvest activities by township to permit harvest inspections by MFS and to facilitate work of the panel.



10. Participant commitments: Participant 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:
- A. Participant shall maintain certification status with a nationally recognized sustainable forest management certification system.
 - 1. Participant shall act promptly to satisfactorily address any Corrective Action Request or Nonconformance associated with its certification.
 - 2. 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.
 - 3. Participant shall invite one member of the panel or a mutually agreeable designee to attend meetings and provide input to Participant's Forest Research Advisory Committee.
 - B. Participant 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, Participant shall provide evidence of attainment of the desired outcomes described in Section 7 of this agreement through the use of metrics outlined in Section C, below.
 - C. Participant shall annually report to MFS information about its harvest management and silvicultural metrics including, but not limited to:
 - 1. Acres of high risk separation zones harvested during the past year.
 - 2. 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.
 - 3. Estimates of harvest acreage summarized for the coming five-year period by silvicultural prescription, including overstory removal, commercial thinning, shelterwood, and clearcut.
 - 4. 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.
 - 5. 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 plan) and total volumes. Information will be made available for sites visited by the panel. Participant will continue to provide



information on acres harvested by harvest type, by township as required on the "Confidential Report of Timber Harvest."

6. 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.
 7. Road density (miles per acre of ownership by township).
 8. Harvest opening size distribution (acres by opening size class for each harvest prescription by township).
 9. 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.
- D. Participant shall prepare and submit a report of the average clearcut size and total clearcut areas on an annual basis.
- E. A Maine Licensed Forester within the company shall review and approve the landowner's Forest Management Plan.
- F. Harvests will be laid out with consideration of visual aesthetics in areas of moderate and higher visual sensitivity. Participant's forest management staff will be proficient in managing for visual aesthetics and receive periodic training.
- G. Participant will accommodate other reasonable requests for information made by MFS and the panel as mutually agreed upon.

11. Sale and purchase of lands:

- A. Participant will be permitted to add any lands their ownership group purchases to be included within this agreement, provided that Participant promptly includes those same additional lands in their forest certification program and their management strategy and plans, and provided Participant manages the lands to the same standards as the rest of their ownership. Similarly, this agreement does not prohibit Participant from selling some or its entire ownership group lands to an unaffiliated third party.
- B. Any lands sold would immediately upon transaction closing be removed from governance under this agreement, and would be required to fully comply with all forest practices regulations for all subsequent activity. Any remaining lands managed by Participant would be continue to be governed by this agreement provided the lands remain credibly third party certified, and managed according to the strategy outlined in the management plan.

- C. Participant shall notify MFS of any sales or purchases of land covered under this subsection within 30 days of closing.

12. Confidentiality:

- A. The parties recognize that portions of documents and other information that Participant may be required, or may elect, to provide or make available to MFS or the panel (irrespective of the form or manner in which such information is provided or made available) pursuant to or in connection with this agreement may contain information that constitutes a trade secret (as defined in 10 M.R.S. § 1542(4)) or proprietary information (as defined in 12 M.R.S. § 8869(13)), the public disclosure of which, or the use of which, other than for the express purposes set forth in this agreement could result in competitive harm and/or economic loss to the Participant or its subsidiaries and affiliates.
- B. The parties also recognize that pursuant to the Maine Freedom of Access Act ("FOAA") MFS, as a division of an agency of the State, has an obligation to make records in its possession available to members of the public, except in limited and defined circumstances. 1 M.R.S. § 402(3) and § 408(1). Some of those exceptions may apply to documents and other information provided or made available by Participant to MFS or the panel.
- C. Specifically, 1 M.R.S. § 402(3)(A) exempts from disclosure "[r]ecords that have been designated confidential by statute." Two statutes may apply to information Participant provides or makes available pursuant to this agreement and may exempt some information from disclosure under the FOAA.
- D. 10 M.R.S. § 1542(4) designates certain information as trade secrets and not subject to disclosure by governmental subdivisions or agencies. Maine statute defines a trade secret as follows:
 - 1. "Trade secret" means information, including but not limited to, a formula, pattern, compilation, program, device, method, technique or process, that:
 - a. Derives independent economic value, actual or potential, from not being generally known to and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use; and
 - b. Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.
- E. In addition, 12 M.R.S. § 8869(13) provides:

Confidential information.

Information provided to the [MFS] 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 [MFS] 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 [MFS], 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.

12 M.R.S. § 8869(13) (emphasis added).

- F. Therefore, if Participant believes that information it is providing to MFS or the panel "voluntarily or to fulfill reporting requirements for the purposes of establishing and monitoring outcome-based forest policy experimental areas," id., it must request that the information be designated as confidential by MFS. If MFS determines that the information being provided contains "proprietary information" as defined in 12 M.R.S. § 8869(13), MFS will designate that information as confidential. MFS will notify Participant whether the information has been designated as confidential or not within a reasonable period of time.

Notwithstanding the foregoing, the parties agree and acknowledge that the information listed or described on Schedule A to this Agreement shall be treated as having been designated by MFS as proprietary and confidential without the requirement of a review on a case-by-case basis.

- G. If MFS receives a request for information under the FOAA that it has designated as confidential, it will notify Participant of that request within a reasonable of time. MFS will also notify Participant if it plans to disclose the information or deny the request.
- H. Participant may require any panel member participating in the forest management certification audit to sign a confidentiality agreement. This agreement must be similar in scope and content to any confidentiality agreement required by Participant of the auditor and/or any other participants in the audit. Information designated hereunder as confidential or proprietary shall not be made available to any panel member who has not executed such a confidentiality agreement.
- I. The parties recognize that the final determination about whether information is exempt from disclosure under the FOAA ultimately rests with Maine's courts. The parties also recognize that MFS is bound by any decision rendered by a Maine court and that MFS will comply with any final decision issued by a Maine court. MFS reserves the right to appeal a decision issued by a Maine court if it determines in good faith that the decision contains an erroneous interpretation of the FOAA, 10 M.R.S. § 1542(4) or 12 M.R.S. § 8869(13). Participant also

remains free to exercise its legal rights, including any appeal rights it might have, regarding any decision issued by a Maine court.

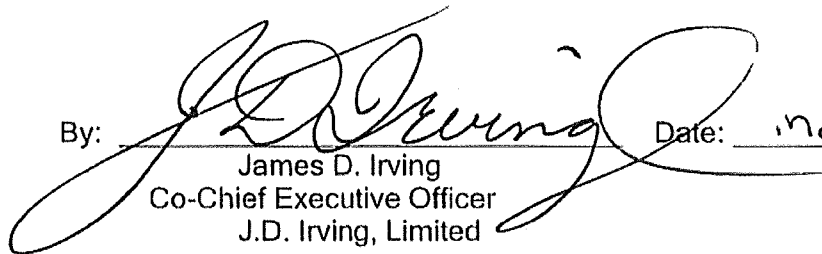
13. Representations and Warranties. MFS hereby represents and warrants to the Participant that as contemplated by 12 MRS § 8003(3)(Q), after giving effect to this agreement, MFS will not have designated more than six (6) experimental areas.
 14. Reimbursement: Participant shall pay MFS a reasonable annual fee for its participation in outcome based forestry, not to exceed \$10,000 annually.
 15. Duration of this agreement: This agreement takes effect on 11 May 2012 and terminates on 10 May 2017. It is renewable by mutual agreement between MFS and Participant.
 16. Amendments; Entire Agreement: This agreement may be amended at any time by mutual, written consent of the parties. This Agreement constitutes the entire agreement between or among the parties hereto with respect to the subject matter hereof, and supersedes any and all prior oral or written expressions, agreements or understandings with respect thereto.
 17. Termination of this agreement: This agreement may be terminated prior to the expiration of the term:
 - A. By mutual agreement of the parties.
 - B. By Participant, effective upon at least ninety (90) days' prior written notice to MFS.
 - C. By MFS effective upon at least ninety (90) days' prior written notice to Participant in the event that Participant has materially breached any provision of this agreement and has failed to cure such breach to the reasonable satisfaction of MFS within such ninety (90) day period (or, in the event that such cure cannot reasonably be effectuated within such ninety (90) day period, such longer period as may reasonably be required, provided that Participant continues to diligently pursue such cure.
- The parties agree and acknowledge that the termination of this agreement shall result only in the prospective loss to Participant and the Property of the exemptions set forth in Section 8 hereof, and that any actions, omissions, conditions or circumstances arising or prevailing prior to such termination or expiration shall be covered by the exemptions provided pursuant to Section 8 hereof.
18. Official Record: This agreement shall not be effective nor become part of the official record unless and until it is signed by the Director of the Maine Forest Service.



Outcome based forestry agreement #2012-1
10 May 2012


IN WITNESS WHEREOF, the parties hereto have executed this Outcome Based Forestry Agreement consisting of 13 (thirteen) pages, including Schedule A and the Appendix.

Irving Woodlands LLC

By:  Date: May 18, 2012
James D. Irving
Co-Chief Executive Officer
J.D. Irving, Limited



Department of Conservation, Maine Forest Service

By:  Date: 5-17-12
Douglas Denico
Director, Maine Forest Service

Schedule A. List of Proprietary and Confidential Information

The Participant has requested and the Director of the Maine Forest Service has determined that the following information which may be provided to the Panel is either considered confidential or proprietary information and must not be further circulated.

1. Annual Reporting Metrics that are currently provided to MFS in the landowner reports of timber harvesting activities (confidential under 12 M.R.S. §8885 (4)).
Exception: Annual reporting on trends in silvicultural investments is not confidential, by agreement of Participant.
2. Maine management plan information that is not part of the annual Irving Woodlands Public Summary, such as:
 - a. Information regarding quantity and quality of the timber resource;
 - b. Information regarding sustainable and planned harvest levels; and,
 - c. Information regarding forest inventory and/or cover type and/or area distribution (confidential under 36 M.R.S. §579).
3. Employee or contractor, supplier or customer lists or employee or contractor specific information (proprietary information).
4. Pay rate and/or cost information (proprietary information).



APPENDIX. State of Maine Criteria, Goals, and Outcomes of Forest Sustainability.

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.

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.

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).

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.

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.

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.

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.

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.

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.

