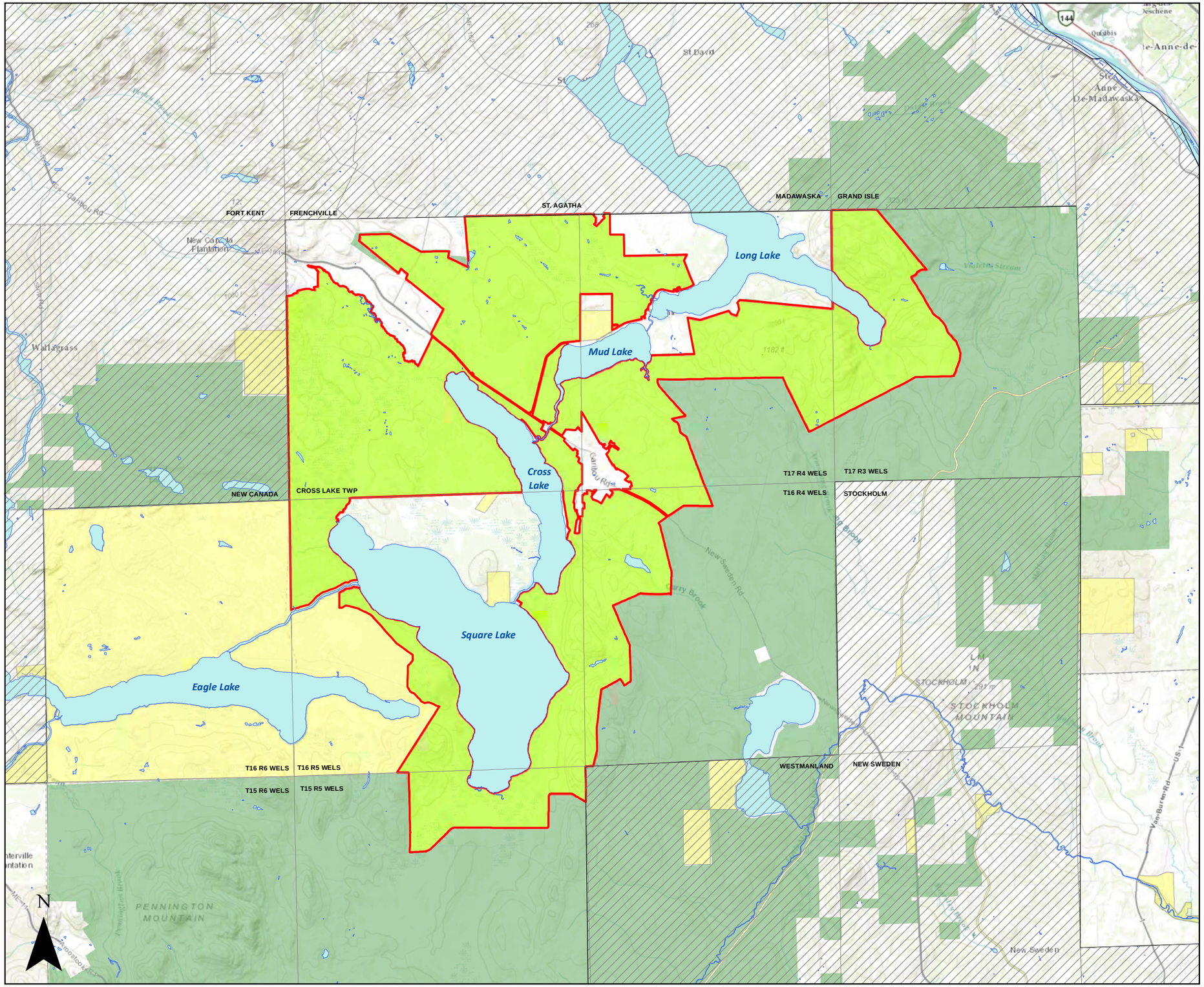
IRVING OWNERSHIP

Fish River Chain of Lakes Concept Plan



Legend

- Organized Towns
- Water Bodies
- State Conservation Lands
- Concept Plan Area
- Irving Ownership

Source

Irving Woodlands, LLC

IRVING

IRVING WOODLANDS, LLC

0 1 2 4 Miles

April 2018

MAP 35

Petitioner's Exhibit 1

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
MAINE FOREST SERVICE
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

28 February 2018

Senator Paul Davis
Representative Michelle Dunphy
Committee on Agriculture Conservation and Forestry
100 State House Station
Augusta, ME 04333-0100

Dear Senator Davis, Representative Dunphy, and members of the committee:

I'm pleased to present to you the 2018 report of the Maine Forest Service (MFS) and the technical panel advising the MFS on Outcome Based Forestry (OBF). This report is required by 12 M.R.S. §8869(3-B).

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."

Outcome based forestry is defined 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.”

When the Legislature enacted the OBF law, it allowed for the replacement of the prescriptive requirements imposed by the FPA by higher-level outcomes acceptable to the MFS and a panel of experts chosen by the Governor. This effort currently involves agreements with Irving Woodlands, Katahdin Forest Management, Seven Islands Land Company, and the Bureau of Parks and Lands, and is working very well.

Your committee plays an important public oversight role in the implementation of OBF. We particularly appreciate past committees’ willingness to personally meet with Irving Woodlands staff and observe the operation of Irving’s OBF agreement. All participating landowners are willing to have the committee visit their lands. We look forward to the committee’s continued commitment to its oversight role.

I would be pleased to present this report to the committee at its convenience. If you have any questions, please let me know.

Sincerely,

Doug Denico

Doug Denico, Director
Maine Forest Service

Enc

DOUG DENICO, DIRECTOR
MAINE FOREST SERVICE
18 ELKINS LANE, HARLOW BUILDING

PHONE: (207) 287-2791 OR 800-367-0223
FAX: (207) 287-8422
www.maineforestservice.gov

Petitioner's Exhibit 2

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Report to the 128th Legislature's Agriculture, Conservation and Forestry Committee on Outcome Based Forestry Submitted pursuant to 12 M.R.S. §8869(§3-B)

Prepared by Douglas Denico, Director
Maine Forest Service
and
The Outcome Based Forestry Technical Review Panel

Mike Dann
Gary Donovan
Maxwell McCormack, Jr.
Chuck Simpson
Dave Struble
Peter Triandafillou

28 February 2018

Table of Contents

Introduction

The practice of forestry is a science. Laws that regulate forestry activities do not necessarily promote the use of science-based forest management. The 120th Legislature enacted the Outcome Based Forestry (OBF) law to address aspects of the Forest Practices Act (FPA) that prevented the wise use of scientific forestry in the best interests of the people of Maine and private and public landowners (see appendices). While the FPA was intended to curtail the creation of large, rolling clearcuts and assure their regeneration, OBF addresses these issues and many more issues of public concern. The only law directly impacted by OBF is the FPA.

The OBF statute was adopted by the 120th Legislature in 2001 in response to the forest policy debates of the 1990's. The OBF statute had a sunset provision until 2012 when the 126th Legislature removed the provision. Until the sunset clause was removed, no OBF agreements were achieved due to landowner uncertainty over the law's future. In 2012, shortly after the sunset clause was removed, two landowners signed an agreement with the state (through the signature of the Director of the Bureau of Forestry, aka Maine Forest Service (MFS)). See Appendix B for a statutory summary.

The Governor has appointed a technical review panel (panel) as required by law (Appendix C). The panel works with the MFS Director to implement, monitor and assess OBF agreements. To participate in an OBF project, the landowner, director, and panel must develop agreed-upon desired outcomes, and develop a method for determining if the outcomes have been attained and a system for reporting results to the public. The panel assesses whether the practices applied on areas subject to an OBF agreement provide at least the equivalent forest and environmental protection as provided by rules and regulations otherwise applicable to that area.

The statute clearly states that a participating landowner must manage their holdings in a way that provide a defined suite of public benefits in return for departing from certain requirements of the FPA.

This report documents progress to date on OBF regarding agreements with Irving Woodlands, Katahdin Forest Management, Seven Islands Land Company, and the Maine Bureau of Parks and Lands.

Progress to date

Four agreements covering six areas have been signed: the Bureau of Parks and Lands (BPL), Irving Woodlands (Irving), Katahdin Forest Management (KFM), and Seven Islands Land Company (SILC). The Irving, KFM, and SILC agreements are of a landscape proportion covering the landowners' entire Maine ownerships of 1.25 million acres, 300,000 acres, and 768,000 acres, respectively, while the BPL Agreement covers three different, specific projects on approximately 3,000 acres.

The objectives agreed upon between the forest landowners, panel, and Bureau Director are part of the agreements and found as an appendix to each agreement.

The panel has conducted several site visits on participating lands and reviewed landowner operations plans prior to their implementation. Several harvest sites on Irving land were visited multiple times. Visits of a similar intensity took place during

negotiations with KFM and SILC. The panel plans two annual visits to each participating landowner, once in early winter to review the previous year's operations and planned operations for the coming year, and once in late summer to review year-to-date progress. Since 2013, panel field inspections have been augmented with systematic, regular reviews of harvest operations (pre-harvest, during harvest, and post-harvest) by Foresters of MFS's Forest Policy and Management Division.

The Legislature's Agriculture, Conservation and Forestry Committee provides oversight of the panel's work on behalf of the public. The committee visited Irving Woodlands' operations in September 2014 and again in the summer of 2015. MFS and the panel look forward to future visits to active OBF projects by the committee.

Examples of public benefits of OBF

- Assurances that the goals and outcomes of soil and water quality protection and biodiversity are being met;
- Pre-harvest planning to address aesthetic impacts of timber harvesting;
- Investment of $37 million in construction of an 80 million board foot spruce/fir sawmill in Nashville Plantation (Irving) that employs 60 people and provides a market for small diameter balsam fir and spruce in northern Maine;[1]
- Increased negotiated payment rates to contractors and woods operators;
- Access to the scientific rationale for each harvest in an OBF agreement;
- Knowledge of harvest levels by species/products;
- Tracking of types of harvests, including clearcuts, for trends;
- Better implementation of science-based silvicultural practices, e.g., beech bark disease management and managing density of white pine stands for quality growth; and,
- Reduction of inspections by Forest Rangers, freeing up their time for forest protection duties.

Examples of forest landowner benefits from OBF

- Application of optimal silvicultural practices to the land base;
- Reduced administrative time devoted to adhering to FPA numerical limits, e.g. 450 trees/acre of regeneration, 250-foot separation zones, etc.;
- Construction of an 80 million board foot spruce/fir sawmill in Nashville Plantation (Irving) that will improve utilization of smaller diameter balsam fir from Irving's and many adjacent landowners' properties;
- Reduced costs of trucking, road building and maintenance by applying scientific management to harvest areas; and,
- Increased investment in tree planting and thinning of young spruce/fir stands.

[1] Such markets are important for managing balsam fir-dominated stands in anticipation of the impending spruce budworm outbreak. Irving has since expanded production and employment at the mill.

Panel evaluation of participant performance

The technical review panel has reviewed each participant's annual operating plans, both *a priori* and retrospectively and harvest operations (in progress and retrospectively); observed and analyzed the participants' independent, third-party certification audits; and, considered the reports of field monitoring conducted by MFS Foresters.

Based on field observations and consideration of the various data and information obtained from multiple sources, the panel finds that the four participating landowners: Irving Woodlands, Katahdin Forest Management, Seven Islands Land Company, and the Bureau of Parks and Lands, have all attained compliance with the state's forest sustainability goals (Appendix A).

All participating landowners have:

- Maintained their certification to one or more independent, third-party standards (Forest Stewardship Council and/or Sustainable Forestry Initiative). If a certification audit has revealed any observations or non-conformances, they have been minor and quickly corrected by the landowner. Panel members have had the opportunity to observe the landowners' certification audits and to review certification audit reports.
- Management plans prepared by Maine licensed foresters. Foresters oversee all timber harvesting and other forest management operations.
- Policies and procedures in place that exceed state regulatory requirements regarding timber harvesting operations in riparian areas. All participating landowners effectively implement state Best Management Practices for protecting water quality.
- Policies and procedures in place to address other forest resources and values, such as wildlife habitat and aesthetics.

Panel members have had the opportunity to participate in any landowner advisory committee meetings. Panel members believe that they have had ample opportunity to review certification audit reports, 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 of the Panel's findings.

MFS monitoring evaluation of participant performance

MFS has assigned a Regional Enforcement Coordinator and District Foresters from the Forest Policy and Management Division to periodically monitor Irving, KFM, and SILC harvest operations to document conformance to the terms of the participants' agreements. These Foresters monitored roughly two dozen harvests on the Irving and KFM land bases over the last year.[2] Some harvests were visited before the harvest began; others while the harvest was in progress; and more post-harvest. Some harvests were visited at various stages for purposes of continuity in monitoring. The Foresters report that the participants are operating in conformance with policies that

[2] SILC's agreement became effective in December, 2017.

exceed the minimum regulatory requirements, particularly with respect to the protection of water quality. The Foresters found no significant issues during their visits.

Concluding remarks

To accommodate the possibility of increased interest in OBF, and recognizing the significant commitment that panel members make, the MFS Director has made recommendations for additional panel members. The regular, systematic reviews of harvest operations by Foresters of MFS's Forest Policy and Management Division have facilitated the panel's work.

Other states have shown interest in Maine's OBF policy, as it offers a path for them to follow where scientific forestry is preferred over restrictive and costly legislation. In Canada, British Columbia has had a "results based forestry" regime in place on its Crown Forests for over a decade. New Brunswick recently adopted a "results based forestry" strategy for its Crown Forests as well. Maine remains the only state in the U.S. to offer outcome based forestry as an option for regulatory compliance.

Appendix A. State Forest Sustainability Goals

1. Criterion 1: Soil productivity
    a. Goal: Maintain site productivity.
    b. Outcomes: 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 forest 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. Outcomes: 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. Outcomes: 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. Outcomes: The landowner does what is prudent and practicable to monitor for and prevent and control insects, disease, and fire, consistent with good practice in the industry and assists MFS in forest health monitoring programs on the ownership.

Appendix B. Key statutory provisions of Outcome Based Forestry

12 M.R.S., §8003 (3)(Q)

Q. The director, in cooperation with public and private landowners, shall actively pursue creating areas on public and private land where the principles and applicability of outcome-based forest policy, as defined in section 8868, subsection 2-B, can be applied and tested. No more than 6 such areas may be designated. The director shall seek to designate areas of various sizes owned by different landowners. The designated areas must represent differing forest types and conditions and different geographic regions of the State. Prior to entering into an outcome-based forestry agreement, the director and the panel of technical experts under section 8869, subsection 3-A shall conduct a comprehensive review of the proposed outcome-based forestry agreement. The term of initial agreements may not exceed 5 years. The director may renew an agreement if requirements under this section and section 8869, subsection 3-A are met. The term of a subsequent agreement may not exceed 5 years.

12 M.R.S., §8868 (2-B)

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 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.

12 M.R.S. §8869 (3-A)

3-A. Plans for outcome-based forestry areas. Practices applied on an 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 forestry 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;

F. Public accountability;

G. Economic considerations;

H. Social considerations; and

I. Forest health.

The Governor shall appoint a panel of at least 6 technical experts to work with the director to implement, monitor and assess tests of outcome-based forestry principles. The panel of technical experts must have expertise in all of the principles listed in paragraphs A to I. In order to participate in an outcome-based forestry project, the landowner, director and technical panel must develop agreed-upon desired outcomes for the outcome-based forestry area and develop a method for determining if the outcomes have been attained and a system for reporting results to the public. The technical panel shall assess whether the practices applied on the outcome-

based forestry area provide at least the equivalent forest and environmental protection as provided by rules and regulations otherwise applicable to that outcome-based forestry area. The technical panel may not delegate this assessment to any other person, except that the technical panel may consider information provided by the bureau, the landowner or a 3rd-party forest certification program auditor.

12 M.R.S. §8869 (3-B)

3-B. Reporting and notification; outcome-based forestry projects. The director, in consultation with the technical panel under subsection 3-A, shall report to the joint standing committee of the Legislature having jurisdiction over forestry matters as follows.

A. Beginning March 1, 2015 and annually thereafter, the director shall submit a report detailing the progress on each outcome-based forestry agreement under section 8003, subsection 3, paragraph Q. The report must include an assessment of the landowner's progress toward attaining the outcomes under subsection 3-A. The report must be presented to the joint standing committee of the Legislature having jurisdiction over forestry matters at a public meeting no sooner than 30 days after submission of the report to the committee.

B. When an initial outcome-based forestry agreement is approved by the director as provided by section 8003, subsection 3, paragraph Q, the director shall notify the joint standing committee of the Legislature having jurisdiction over forestry matters within 15 days. In the notification, the director shall address how the proposed agreement will provide at least the equivalent forest and environmental protection as provided by rules and regulations that otherwise would apply to that outcome-based forestry area.

C. When an outcome-based forestry agreement under this section is renewed as provided by section 8003, subsection 3, paragraph Q, the director shall notify the joint standing committee of the Legislature having jurisdiction over forestry matters no later than 15 days after the agreement is renewed.

A report, notification or any information concerning outcome-based forestry projects under this subsection must be placed on the Department of Agriculture, Conservation and Forestry's publicly accessible website.

12 M.R.S. §8869 (7-A)

7-A. Exemption for outcome-based forestry areas. An outcome-based forestry area designated under section 8003, subsection 3, paragraph Q is exempt from the requirements of this section if specifically exempted in the agreement establishing the outcome-based forestry area.

12 M.R.S. §8869 (13)

13. Confidential information. Information provided to the bureau voluntarily or to fulfill reporting requirements for the purposes of establishing and monitoring outcome-based forestry 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 bureau 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 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.

12 M.R.S. §8879 (1)

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 5-year period. The report must provide an assessment at the state level of progress in achieving the standards developed pursuant to section 8876-A, including an assessment of designated outcome-based forestry projects authorized under section 8003, subsection 3, paragraph Q, including a recommendation to continue, change or discontinue the outcome-based forestry projects. 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 interstate activities. The director shall obtain public input during the preparation of the report through appropriate methods.

Appendix C. Biographies of OBF panel members

Mike Dann is a retired forester from Dixmont, Maine. He earned a BS in Forest Management from the University of Maine Orono and is a Licensed Forester. He has 40 years' experience in natural resource management; 36 years with Seven Islands Land Company and 4 years with SWOAM. He is a member of SWOAM, Maine Forest Products Council, Forest Resources Association, and the Society of American Foresters. He also is a Tree Farmer.

Gary Donovan is a retired wildlife biologist from Holden. He earned a BS in Wildlife Management from the University of Maine and is a Certified Wildlife Biologist since 1980. He is a member of the Wildlife Society, Washington D.C. He worked for the Maine Department of Inland Fisheries and Wildlife from 1969 to his retirement in 1995, and then spent the next ten years working for Champion International Corp in Bucksport and later International Paper when Champion was sold. Since 2006, he has been retained as a habitat biologist by the Wildlife Management Institute. He has won numerous professional awards and served on many special assignments and appointments.

Maxwell McCormack, Jr. BS (forestry) University of Maine; MF, DF (silviculture) Duke University: Research Professor Emeritus of Forest Resources, University of Maine, resides in Unity. He is a Fellow & Golden Member, Society of American Foresters and a Distinguished Member, Northeastern Weed Science Society. Other memberships include the Maine Christmas Tree Association, the Maine Forest Products Council, and the Maine Woodland Owners. He has received several awards for his teaching and forestry research. McCormack is a Maine Licensed Forester.

Chuck Simpson has practiced forestry in Maine for over 40 years. He earned a B.S. in Forest Management from the University of Vermont and an M.B.A. from the University of Maine. He is currently in his 12th year as the Eastern Region Land Manager for the Maine Bureau of Parks and Lands. Prior to that, he was the Woodlands Manager for the University of Maine, where he also coordinated field research studies at both the Dwight B. Demeritt Forest and the Penobscot Experimental Forest. For seven years prior to that, he established and taught a Forestry/Wood harvesting program at Maranacook Community High School in Readfield. He has been a private consulting forester in Maine since 1976. Chuck is a Licensed Forester, a Licensed Wood Scaler, a Certified Forestry/Natural Resources teacher and a Certified Logging Professional.

Dave Struble is the Director of the Maine Forest Service's Forest Health & Monitoring Division, and State Entomologist. His 40+year career with the Maine Forest Service has focused on monitoring and evaluating forest health and sustainability, and developing pest management options for Maine's forest and shade tree owners. He serves on a number of regional and national task forces and US Forest Service program oversight/management committees. Mr. Struble is a graduate of the University of Maine with a BS in Forestry and an MS in Entomology. He is a licensed Maine forester.

Peter Triandafillou is from Orono and is the current Vice President of Woodlands for Huber Resources Corp. He is a member of the Maine Forest Products Council Board of Directors, North Maine Woods Board of Directors, the Forest Society of Maine Board of Directors, and the Society of American Foresters. He is a licensed Maine Forester and has participated on numerous public boards including outcome based forestry, LURC reform, sustainable forestry, Maine wood supply and state-wide water quality rules. He formerly served on the Maine Development Foundation Board of Directors and the Maine Technology Institute Board of Directors.

IRVING WOODLANDS IN MAINE

IRVING WOODLANDS, LLC

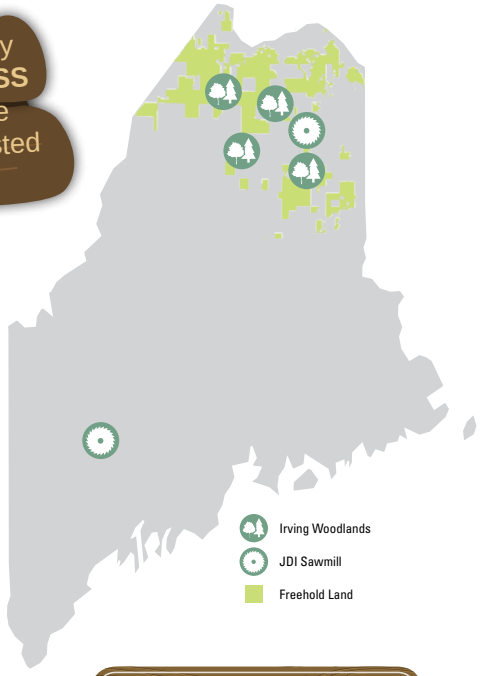




VITAL STATISTICS

- Over 60 years of operations in Maine
- 1.255 million acres in Maine (7% of the forested land in Maine)
- A team of 30 forestry professionals working on the ground in Maine
- Voluntary Conservation Program – 241 sites and growing
- Voluntary investments in forest science with UMaine, Manomet, Inland Fisheries & Wildlife and other partners
- Irving Woodlands LLC plants 70% of the planted trees in Maine – over 60 Million seedlings in the last 35 years

Sustainable Forestry in Maine means **LESS THAN 2.5%** of the land base is harvested every year



FSC
www.fsc.org
FSC® C041515
The mark of responsible forestry

ISO 14001 REGISTERED KPMG

SUSTAINABLE FORESTRY INITIATIVE
SFI-00032

2.9 Million Trees Planted in 2016

ECONOMIC IMPACT (2016)

Forestry & Forest Products in Maine

- Jobs: Over 2,400 (direct, indirect and induced)
- Annual Employment Income: $90.7 million (direct, contractor & indirect)
- Over $60 million in local Maine purchases
- Over $70 million in capital investment (2012-2016)
- Providing a dependable and sustainable wood supply to numerous customers throughout the State of Maine

Sustainable Forest Management Planning 80-100 Years Ahead

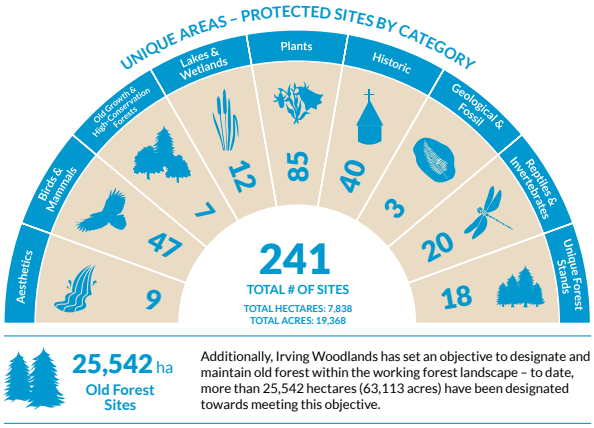
CONSERVATION & RESEARCH

IRVING WOODLANDS, LLC

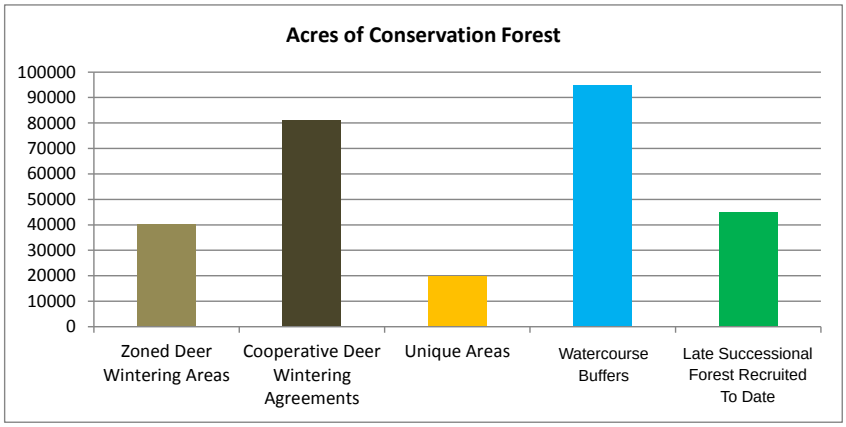




VOLUNTARY CONSERVATION EFFORTS IN THE NORTH MAINE WOODS



122,000 Acres of Deer Wintering Habitat



94,000 Acres of Watercourse Buffers

RESEARCH PARTNERS

Our (voluntary) Forest Research Advisory Committee includes UMaine scientist Dr. A. Weiskittel as well as Mr. A. Whitman from Manomet.

Dr. A. Weiskittel is the Irving Chair in Forest Ecosystem Management at UMaine.

Irving Woodlands, LLC has been a long term and active member of the Cooperative Forestry Research Unit.

OUTCOME-BASED FORESTRY OVERVIEW

IRVING WOODLANDS, LLC





In 2013 we finalized a new management plan for the 1,255,000 acres that we own in Northern Maine.

This forest management plan aligns with the criteria and objectives outlined within the Maine Forest Service's (MFS) Outcome Based Forestry (OBF) law. We are confident that our new plan can be implemented to meet the desired outcomes of the OBF agreement that we entered into with the MFS. This agreement requires that our operations be implemented in a manner that is ecologically sustainable, economically viable and socially responsible.

Outcome Based Forestry requires economic, social and environmental assessment.

http://www.maine.gov/dacf/mfs/policy_management/outcome_based_forestry.html

Our OBF agreement obligates us to maintain independent third party certifications for our woodlands and relieves us from certain provisions of the Maine Forest Practices Act (FPA). Today, our woodland's are certified to meet the standards of the Forest Stewardship Council® (FSC® C041515) and the Sustainable Forestry Initiative® (SFI®) forest certification systems. Under this agreement the FSC US Forest Management standards have been aligned (with additional indicators) with all federal and state laws.

Final OBF assessment is determined by a governor appointed panel of technical experts who report to the director of the MFS. The accompanying table provides a quick reference comparison between OBF and the Maine FPA and the benefits that have been achieved thus far. A summary of our forest management plan and our SFI and FSC certification reports are both publicly posted on our website.

Comparison Between OBF agreement and FPA

	OBF	FPA
State of Maine, Based Technical Experts Review	Yes ✓	No X
Independent 3rd Party Certification Required	Yes ✓	No X
Provisions to Improve Timber Supply and Quality	Yes ✓	No X
Provisions to Protect Forest Health	Yes ✓	No X
Provisions to Conserve Biological Diversity	Yes ✓	No X
Provisions to Consider Economic and Social Obligations	Yes ✓	No X
Reduced Administrative Work for Landowner and MFS Staff	Yes ✓	No X
Increased Reporting Transparency	Yes ✓	No X
Science Based Harvest Prescriptions	Required for all harvests	Only required for clearcuts
Regeneration of Clearcuts	Required	
Maximum Clearcut Size Allowable	250 acres	
Clearcut Separation Zone Requirements	Landowner can manage with scientifically based silviculture prescriptions	May only be harvested according to prescriptive standards in rule
	Buffering between clearcuts can utilize natural landscape features	Minimum 250 foot separation zones with short term 1:1 acreage requirement
**Required Compliance to All Local, State & Federal Regulations to Protect Water and Wildlife and Protected Resources (i.e. DEP, LUPC, MFS, AWW, Local Ordinances etc.)	Yes	

**The State of Maine has established laws that protect the wildlife, waters and unique natural resources in our State that are above and beyond the FPA. All of the laws protecting our natural resources remain intact and are still subject to compliance under OBF.

http://www.jdirving.com/environment.aspx?id=5334&ekmensel=8_submenu_168_btnlink

BENEFITS OF OUTCOME BASED FORESTRY

IRVING WOODLANDS, LLC





- ✓ Less road building (40% reduction)
- ✓ Operate on less of the landbase – less fragmentation of the forest
- ✓ Science-based harvest prescriptions = better management
- ✓ Salvaging mortality due to wind damage and disease, improving forest health and reducing forest loss due to mortality
- ✓ Lower operating costs
- ✓ Improved earnings and productivity for 90+ contractors due to reduced equipment moves and related downtime
- ✓ A competitive wood supply for our Maine mills and over 20 others in in the state
- ✓ Ongoing local purchases ($60+ M in 2016)
- ✓ Capital investment to sustain competitiveness ($70+M 2012-2016)
- ✓ No increase in percentage of clear cutting

Science Based Harvest Prescriptions

"Under outcome based forestry my machines spend less time on a low-bed and this has helped me improve my bottom line."

Jeremy Fournier - Ironwood Logging
Eagle Lake, ME (7 employees)

"KPel Industrial Services, Inc., is based in Fort Fairfield, ME. We employ 26 people. In an area that has been challenged by out-migration and limited job creation, Irving's decision to create 63 jobs by investing $33 million in the Ashland Sawmill was good news for the County and for our business in a particular. This investment and the benefits we have received as a local business and employer are in large part because outcome based forestry ensures a sustainable, cost-efficient delivery of wood to the Ashland Sawmill."

Scott Colton
Co-owner
Fort Fairfield, ME

ACCOUNTABILITY

IRVING WOODLANDS, LLC



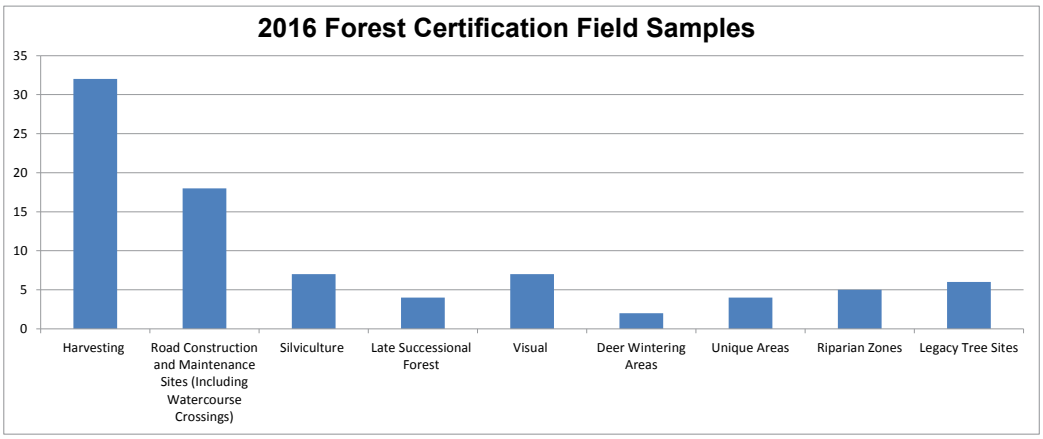


Independent 3rd party verification of our forest management is important for public credibility and confidence. Under our OBF agreement with the MFS, we are required to maintain independent 3rd party certification (aligned with all state and federal laws) for all of our Maine Lands with oversight and endorsement of auditing results by a governor appointed panel of experts.

In 2016, our operations were audited to the standards of the Sustainable Forestry Initiative (SFI) and ISO 14001 as well as the principles and criteria of the Forest Stewardship Council (FSC) – US Forest Management Standards. Auditors found our sustainable forest management system to be in conformance to the SFI program and that the ISO 14001 Environmental Management System (EMS) was being effectively implemented and that overall conformance to the applicable FSC standards was achieved. No corrective action requests and three observations were issued by auditors for FSC indicators under the US Forest Management Standards and will be reviewed in 2017 to evaluate compliance.

Our FSC and SFI certifications require us to minimize and strive to reduce our use of chemical pesticides.

Expert panel findings for 2016 can be found on the Maine Forest Service's website for Outcome Based Forestry. The following graphs depict focal areas for auditors in 2016.



http://www.jdirving.com/environment.aspx

IRVING WOODLANDS DETAILED SCORECARD

IRVING WOODLANDS, LLC





MAINE WOODLANDS DETAILED SCORECARD

Sustainable Forestry	2015 Maine Data
Resource holdings (freehold - Maine) - Acres	1,255,000 acres in 2016
Land base harvested (%)	2.2% in 2016
Trees planted - # of seedlings	2.9 million in 2016
Forest lost from disease	0 acres in 2016
Forest lost from windthrow	0 acres in 2016
Forest lost from fire	0 acres in 2016
Forest lost from all causes	0 acres in 2016
Mapped watercourse buffers (total)	94,000 acres in 2016
Watercourse distances sustainably managed (total)	275 miles in 2016
Forestry road building (new roads)	69 miles in 2016
Pre-commercial thinning & plantation cleaning completed	1,600 acres in 2016
Tree planting completed	4,200 acres in 2016
Sustainable Forestry Initiative Certification (SFI)	100% of Maine holdings
Environmental Management System Registration (ISO 14001)	100% of Maine holdings
Forest Stewardship Council Certification (FSC)	100% of Maine holdings
Certification Non-Conformances (FSC, SFI & ISO 14001)	0 in 2016
Volunteer Conservation areas on JDI land # of unique areas set aside	241 sites / 63,000 acres

From the Auditor's Report

"Numerous examples of effectively protected riparian areas and waterbodies were observed during the field audit."

"A number of vernal pools were observed during the field audit to be well protected under the Company's Vernal Pool Policy."

"JDI planners do an effective job of tailoring the silviculture system(s) being prescribed to the stand characteristics (species composition, structure, condition, age(s), etc.), site characteristics (fertility, trafficability) and broad management objectives pertaining to a particular stand. In addition to clearcut systems, a variety of partial cutting silviculture systems are prescribed and implemented by the Company."

2016 OPERATIONS REPORT

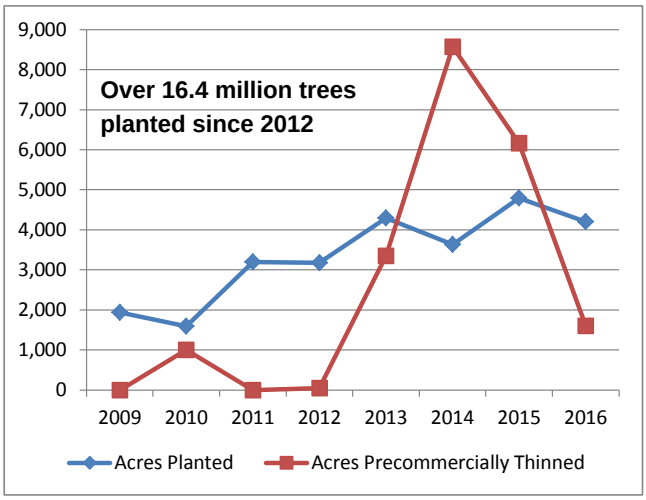
IRVING WOODLANDS, LLC



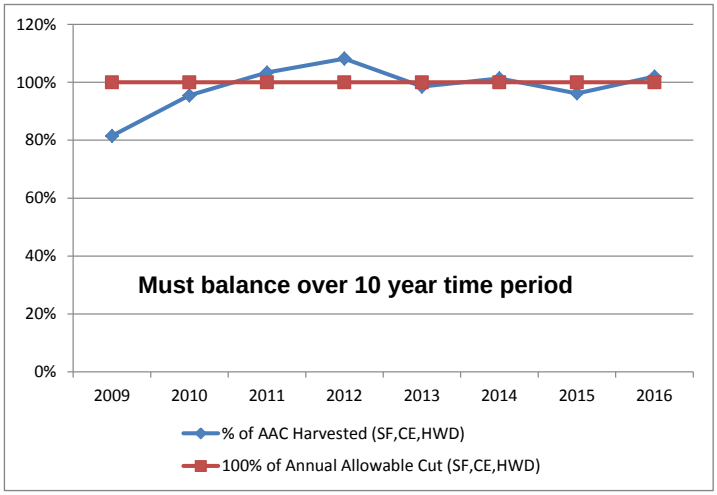


In 2016, our foresters implemented an operating plan that was designed to meet our sustainable forest management strategy as outlined in our management plan under OBF. Operations were conducted under complex environmental, market and economic conditions this past season. The flexibility afforded by OBF to properly plan and execute operations to meet the daily challenges that our people face was a tremendous asset in closing a successful operating year.

Silviculture – Growing a Healthy Forest



Sustainable Harvesting of Forest Products



FOREST MONITORING RESULTS

IRVING WOODLANDS, LLC





As part of our commitment to improve the health, growth and long term yield from our lands, we continuously monitor forest health, development and growth and yield (often in cooperation with the MFS). Monitoring is achieved through staff training and observation, stakeholder consultation and input, regular aerial reconnaissance, and an intensive ground sampling program that measures growth and yield dynamics for long term planning needs. The following provides a sample of our 2016 monitoring program.

FOREST SURVEYS		
1st year Planted Stand Survival Plots	95%	Survival issues are mostly related to weather extremes and hylobius weevil.
2nd year Planted Stand Survival Plots	83%	Survival issues are related to competition, hylobius weevil and weather.
5th year Planted Stand Survey	3173 Acres	were surveyed and were found to be free from significant competition.
10th year Planted Stand Survey	3700 acres	were surveyed and found to have significant natural competition that now requires intermediate thinning treatments.
High Conservation Value Forest (HCVF) Survey	7 areas	No management activities occurred in or adjacent to any HCVF. No significant changes have occurred within the designated areas. Old trees continue to show signs of stress and dieback. Insect and disease damage is still evident. No evidence of fire.
Invasive Species Monitoring	All	Glossy Buckthorn, Garlic Mustard and Dog Strangling Vine are invasive species of particular concern, at this time monitoring has not detected evidence of establishment in the woodlands.
Insect Monitoring	92 plots	Irving foresters assisted MFS personnel with insect monitoring, primarily looking for spruce budworm activity (see: MFS website for regional results of findings).

In addition to monitoring forest health and growth, we are obligated and required to measure our impact on the environmental and social aspects of our operations. We strive to protect our environment with programs to improve operations, lessen our impacts on water resources and improve our handling of dangerous goods such as fuel. Operations improvement is the focus of our daily work. It covers all of our operations from planning to reforestation of harvest areas. Programs to improve operations include sustainability of wood supply, public education and communication in forest management affairs, soil conservation by controlling equipment rutting, conservation of biodiversity by protection of habitat, respecting forest cover type distribution and site specific and forest level habitat protection.

Water protection programs include managing our use of dangerous goods near water, careful planning and management of riparian areas, management of siltation from harvest areas, proper installation and maintenance of watercourse crossings, and strict control of activities within municipal water supply areas. These programs all follow existing government regulations
and are part of all staff and contractors' daily routines.

The environmental and social impact of our operations is monitored by following an Environmental Management System (EMS) that allows us to record, monitor and respond to incidents as they are reported. Our EMS system is based on a "top to bottom" communication system. Corporate leadership to our regional team flows through the operations. Staff meetings are regular, and operational issues in the form of Incident's and Non- conformances are discussed between staff and contractors every week. All incidents and non-conformances are entered into a database where corrective actions are reported, prioritized and tracked to monitor trends for determining where we are off plan and where improvements need to be made.

In 2016, improvement was below expectation for equipment rutting. Further action plans have been established to assist in meeting established targets. In 2016, 5 public complaints were received and action plans to address those concerns were completed.

STAKEHOLDER ENGAGEMENT

IRVING WOODLANDS, LLC





Meeting with and formally addressing stakeholder concerns is part of our 3rd party certification requirements. We have met both formally and informally with individuals and organizations in an effort to incorporate responsible ideas, guidance, suggestions, information/data, positive comments, complaints and concerns into our management planning process.

Organization	Nature of Business
Maine Natural Areas Program	Gathering spatial information on any recent finds of Maine's rare and invasive plants as well as providing the state with details on staff finds. This is done annually.
Maine Inland Fisheries & Wildlife	Gathering spatial information on recent finds of Maine endangered/threatened fauna species and provide details to the State on any JDI staff finds. This is done annually. Spent time with MIFW staff in the field to confirm the use of a number of Great Blue Heron colonies. Regular discussions on issues such as deer and moose management, heron colonies, etc.
Maine Heritage Preservation Commission	Gathering spatial information on any recent archeological finds.
University of Maine (Presque Isle)	Discuss operational constraints on our harvesting equipment that will be in the vicinity of an historic native site.
New England Wildflower Society (NEWFS)	NEWFS provides Irving Woodlands, LLC with detailed information on the status of particular rare plant sites on our land in northern Maine.
Manomet Center for Conservation Sciences	Advice on rare/uncommon forest communities and late successional forests.
Penobscot Environmental Consulting	Advice on retaining and recording legacy trees.
SFI Fisheries Improvement Network (FIN)	Maine Forest Products Council / SFI led group consisting of Landowners, State and ENGO groups dedicated to improving fish habitat state-wide.
Maine Stream Connectivity Network	Regulator, landowner ENGO group formed to improve fish and aquatic connectivity on Maine watercourses.
MFPC Wildlife Technical Committee	Landowner group who discuss fish & wildlife issues, usually with state regulators and user groups like SAM.
Cooperative Forest Research Unit (CFRU)	UMaine researcher-landowner sponsored body which develops and researches a variety of forestry and wildlife interaction issues.
Maine Department of Environmental Protection	Issues concerning invasive forest plant species.

In 2016 we also met with the following:

- Numerous Individuals
- Local Town Boards
- Aboriginal Groups
- Sportsmen Organizations
- Technical Schools
- Other Landowners
- Numerous Forestry Organizations
- Sportsmen Forest Landowner Alliance
- Maine Snowmobile Association Clubs
- ATV Clubs
- North Maine Woods
- Allagash Wilderness Waterway
- Maine Forest Service
- Fish River Lakes Association

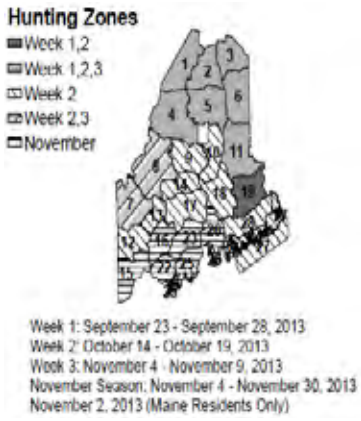
RECREATIONAL USE

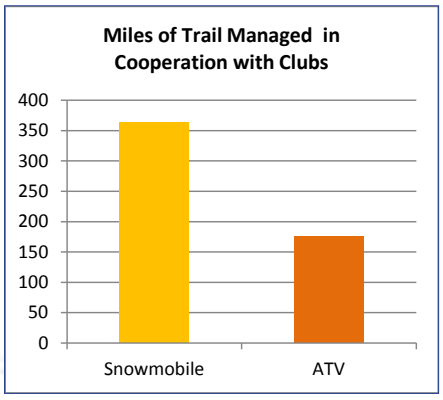
IRVING
IRVING WOODLANDS, LLC





Irving Woodlands LLC continues to provide historic, traditional recreational opportunities. Both inside and outside the North Maine Woods framework of Aroostook County, there is a well developed culture that provides public access to private land for engaging in traditional recreational uses. The working relationships developed with both individuals and groups from this sector has been mutually beneficial to all. Continued support of traditional uses such as hunting, fishing, trapping and hiking on our lands are welcome.





North Maine Woods, Inc.
P. O. Box 425, 92 Main Street, Ashland, Maine 04732
"Experience the Tradition"

MAINE SNOWMOBILE MSA ASSOCIATION

CAN-AM CROWN SLED DOG RACE FORT KENT, MAINE

Portage Lakers Member ATV Club

INVESTING IN MAINE

IRVING WOODLANDS, LLC





WE ARE COMMITTED TO CONTINUOUSLY IMPROVING EVERY ASPECT OF OUR MANAGEMENT AND OPERATIONS.

We want to be partners and good neighbors and we continue to actively work to support our state, our communities, workers, contractors, suppliers and customers.

- ✓ ***In 2016 we worked with 30 commercial outfitters offering outdoor experiences in our woodlands***
- ✓ ***Cooperative working relations with over 650 camp leases***
- ✓ ***Recruiting, developing and training people internally, from our university system and our communities***

2016 INVESTMENTS IN GROWING HEALTHY FORESTS

- ✓ 2,900,000 trees planted
- ✓ 1,600 acres of pre-commercial forest thinning
- ✓ $2,500,000 silviculture investments in 2016

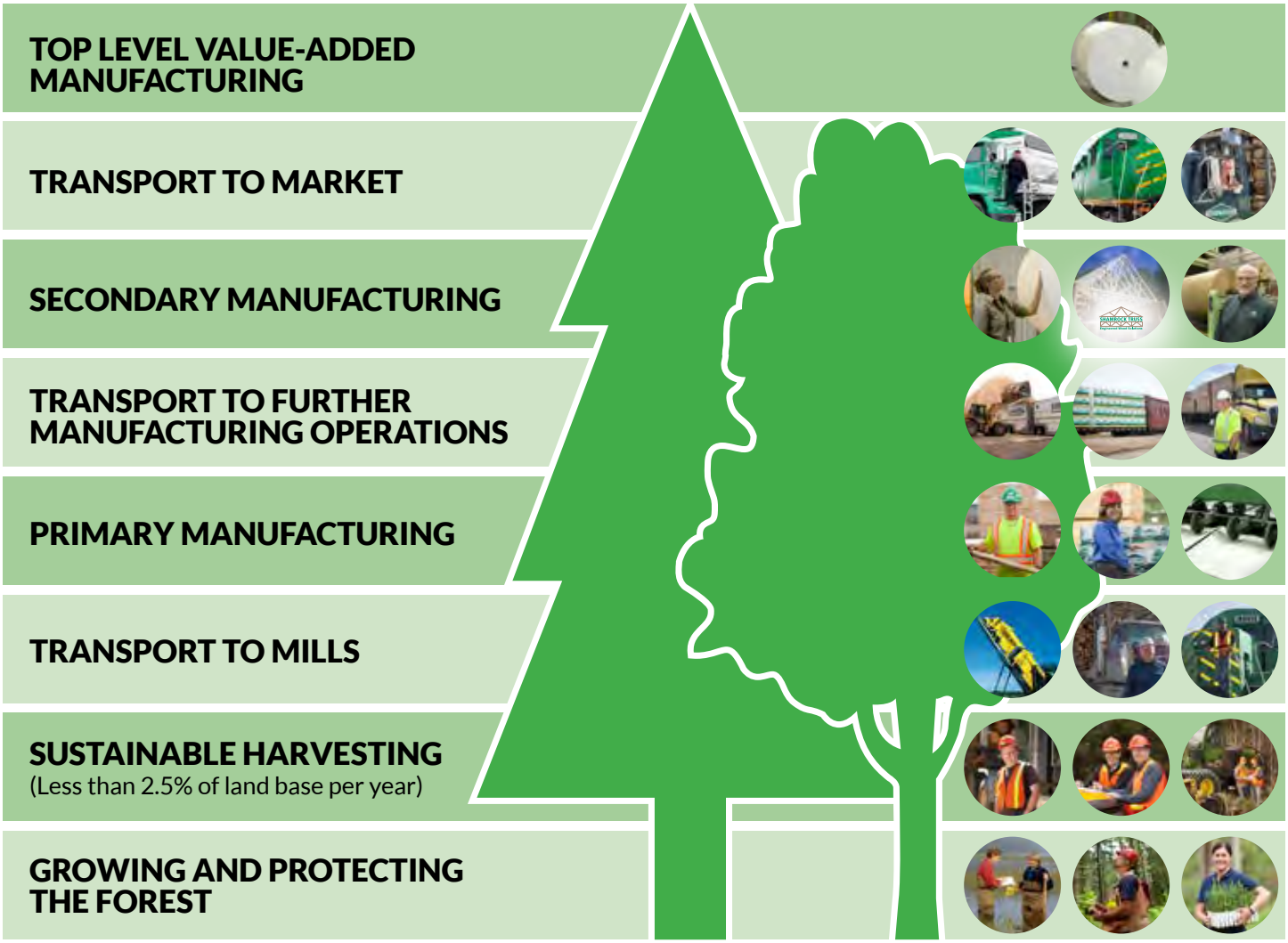
ADDITIONAL PROJECTS UNDERWAY

- ✓ Increased spruce budworm monitoring levels
- ✓ Recruitment of contractors and specialized equipment for working in the forest
- ✓ Development of a new management plan utilizing next generation data and analysis
- ✓ Development and use of precision forestry tools

OUTCOME BASED FORESTRY SUSTAINS A VALUE-CHAIN OF JOBS THROUGHOUT MAINE

IRVING WOODLANDS, LLC

HEALTHY FORESTS • GROWING JOBS • VIBRANT COMMUNITIES



Outcome based forestry means a competitive wood supply to many non-Irving mills in the state, including:

Columbia Forest Products
Corinth Pellets
JM Huber
Katahdin Forest Products
Louisiana Pacific
Maibec Lumber
Maine Biomass Exports
Maine Woods Company
Moose River-Jackman
Northeast Pellets
Pleasant River Lumber
Portage Wood Products
Premium Log Yards
Re-Energy Ashland
Re-Energy Fort Fairfield
Sappi
Woodland Pulp LLC
WT Gardner Chipmills

FOREST MANAGEMENT AND STUMP-TO-FOREST GATE CHAIN-OF-CUSTODY SURVEILLANCE EVALUATION REPORT

Irving Woodlands, LLC (IWLLC)

J.D. Irving Northern Maine Woodlands Forestry Division

Maine, USA

SCS-FM/COC-00121N

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St. John, New Brunswick
E2L 4M3, Canada
MacDougall.Scott@jdirving.com
www.jdirving.com

CERTIFIED	EXPIRATION
08 December 2014	07 December 2019

DATE OF FIELD AUDIT
18-20 October 2016
DATE OF LAST UPDATE
12 December 2016

SCS Contact:
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Forest Management Certification
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Setting the standard for sustainability™

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Petitioner's Exhibit 4

Foreword

Cycle in annual surveillance audits			
☐ 1st annual audit	☒ 2nd annual audit	☐ 3rd annual audit	☐ 4th annual audit
Name of Forest Management Enterprise (FME) and abbreviation used in this report:			
Irving Woodlands, LLC (JDI, IW or FME)			

All certificates issued by SCS under the aegis of the Forest Stewardship Council (FSC) require annual audits to ascertain ongoing conformance with the requirements and standards of certification. A public summary of the initial evaluation is available on the FSC Certificate Database http://info.fsc.org/.

Pursuant to FSC and SCS guidelines, annual / surveillance audits are not intended to comprehensively examine the full scope of the certified forest operations, as the cost of a full-scope audit would be prohibitive and it is not mandated by FSC audit protocols. Rather, annual audits are comprised of three main components:

- A focused assessment of the status of any outstanding conditions or Corrective Action Requests (CARs; see discussion in section 4.0 for those CARs and their disposition as a result of this annual audit);
- Follow-up inquiry into any issues that may have arisen since the award of certification or prior to this audit; and
- As necessary given the breadth of coverage associated with the first two components, an additional focus on selected topics or issues, the selection of which is not known to the certificate holder prior to the audit.

Organization of the Report

This report of the results of our evaluation is divided into two sections. Section A provides the public summary and background information that is required by the Forest Stewardship Council. This section is made available to the general public and is intended to provide an overview of the evaluation process, the management programs and policies applied to the forest, and the results of the evaluation. Section A will be posted on the FSC Certificate Database (http://info.fsc.org/) no less than 90 days after completion of the on-site audit. Section B contains more detailed results and information for the use by the FME.

Table of Contents

SECTION A – PUBLIC SUMMARY

1. General Information

1.1 Annual Audit Team

Auditor Name:	Kyle Meister	**Auditor role**:	Lead Auditor
Qualifications:	Kyle Meister is a Senior Certification Forester with SCS Global Services. He has been with SCS since 2008 and has conducted FSC FM pre-assessments, evaluations, and surveillance audits in Brazil, Panama, Mexico, Costa Rica, Bolivia, Indonesia, India, Japan, New Zealand, Spain, and all major forest-producing regions of North America. He has conducted COC assessments in multiple regions of the USA and Latin America. Mr. Meister has successfully completed CAR Lead Verifier, ISO 9001:2008 Lead Auditor, and SA8000 Social Systems Introduction and Basic Auditor Training Courses. He holds a B.S. in Natural Resource Ecology and Management and a B.A. in Spanish from the University of Michigan; and a Master of Forestry from the Yale School of Forestry and Environmental Studies.		
Auditor Name:	Michael Thompson	**Auditor role**:	Auditor
Qualifications:	Mr. Thompson is the President of Penobscot Environmental Consulting, Inc., and a Certified Wildlife Biologist. He has worked as a subcontractor to SCS for over 20 years, conducting certification evaluations to the Forest Stewardship Council's (FSC) forest management and chain-of-custody standards. Mr. Thompson has also conducted audits to the Sustainable Forestry Initiative (SFI) forest management standards. He received his B.Sc. degree in wildlife from the University of Idaho and his M.Sc. degree in wildlife from the University of Maine. He is currently enrolled as a PhD student in the University of Maine's School of Forest Resources. Mr. Thompson has over 30 years of experience in ecology, wildlife management, wetland science, and rare species conservation.		

1.2 Total Time Spent on Evaluation

A. Number of days spent on-site assessing the applicant:	3
B. Number of auditors participating in on-site evaluation:	2
C. Additional days spent on preparation, stakeholder consultation, and post-site follow-up, including drafting of the certification audit report:	3
D. Total number of person days used in evaluation:	**9**

1.3 Standards Employed

1.3.1. Applicable FSC-Accredited Standards

Title	Version	Date of Finalization
FSC-US Forest Management Standard	1-0	08 July 2010
All standards employed are available on the websites of FSC International (www.fsc.org), the FSC-US (www.fscus.org) or the SCS Standards page (www.scsglobalservices.com/certification-standards-and-program-documents). Standards are also available, upon request, from SCS Global Services (www.SCSglobalServices.com).		

1.3.2. SCS Interim FSC Standards

Title	Version	Date of Finalization
SCS COC indicators for FMEs	5-1	December 2012
This SCS Interim Standard was developed by modifying SCS' Generic Interim Standard to reflect forest management in the region and by incorporating relevant components of the Draft Regional / National Standard and comments from stakeholders. More than one month prior to the start of the field evaluation, the SCS Draft Interim Standard for the country / region was sent out for comment to stakeholders identified by FSC International, SCS, the forest managers under evaluation, and the National Initiative. A copy of the standard is available at www.scsglobalservices.com/certification-standards-and-program-documents or upon request from SCS Global Services (www.SCSglobalServices.com).		

2 Annual Audit Dates and Activities

2.1 Annual Audit Itinerary and Activities

18 October 2016	
FMU/Location/ sites visited	**Activities/ notes**
FME office, Fort Kent, Maine	Opening Meeting: Introductions, client update (cut-to-length performance, use of new inventory techniques, relationship to mill in Ashland, ME and current challenges, spruce budworm outbreak, etc.), review audit scope, audit plan, intro/update to FSC and SCS standards and protocols, review of open CARs/OBS, final site selection
Fort Kent/ Northwoods Region	1. Block 6017: multi-entry/ single-tree selection harvest of northern hardwoods with riparian area and buffer. Discussion on riparian management zone (RMZ) widths and management restrictions. 2. Block 6017: clearcut of intolerant hardwoods and beech affected by beech bark disease (BBD). Will be replanted with spruce-fir. Discussion on even-aged management retention policies (1/2 acre/ 25 acres) and operations. 3. Block 6017: Northern red oak (*Quercus rubra*) island for late successional retention and due to species being at edge of its natural range. 4. Block MH002: site being evaluated for potential old growth/ late successional designation. Discussion with foresters and botanist on classification process, data sources, and stakeholder consultation. Site identified by harvest supervisor that initiated discussions with other team members. 5. Block 6017: combination multi-entry/ single-tree selection and seed-tree harvest of gradient of northern to intolerant hardwoods with high beech component. Objective to regenerate northern hardwoods except for beech and control established beech due to BBD. Use of feller-buncher to knock beech back and allow other species to reach the overstory. 6. Block 6017: spruce site planted in 1994, with multiple herbicide treatments conducted in the past. In 2015 it was pre-commercially thinned. Discussion on changes to replanting and retention policies since 1994. 7. Block 6018: observation of example of brushing technique in RMZ of a clearcut. Brushing is used to avoid rutting during cut-to-length operations and create filter-strips within small openings in the RMZ. Objective is to

	release remaining conifers from competition and allow some hardwood regeneration within RMZ for diversity and stream habitat. 8. Block MH06097B: observation of 2016 aerial herbicide treatment used to release spruce-fir planted in 2015. Observation of retention islands of established conifer regeneration. Discussion on site preparation and herbicide treatments and how monitoring is being conducted to see if the number of herbicide treatments can be reduced. Application with rodeo, arsenal and oust. 9. Main office: document and record review, and daily wrap-up.
19 October 2016	
FMU/Location/ sites visited	**Activities/ notes**
Ashland Region (Meister)	1. Block 7292: Commercial thinning of spruce-fir stand; interview with contractor and inspection of equipment, confirmed contractor training and safety equipment up-to-date (e.g., first aid, spill kit, fire extinguisher, communications such as cell phone booster, satellite phone, radio, etc.); inspection of site for spacing, residual stand damage and retention (white pine, hardwoods, snags). Discussion on ensuring quality of residual stand and harvested products. 2. Block 7301: Commercial thinning of spruce-fir stand; interview with contractor and inspection of equipment, confirmed contractor training and safety equipment up-to-date (e.g., first aid, spill kit, fire extinguisher, communications such as cell phone booster, satellite phone, radio, etc.); inspection of site for spacing, residual stand damage and retention (white pine, hardwoods, snags). 3. Block 7301: interview with employee of contractor, confirmed training and safety equipment up-to-date (e.g., first aid, spill kit, fire extinguisher, communications such as cell phone booster, satellite phone, radio, etc.). 4. Block 7293: Commercial thinning of spruce-fir stand; interview with contractor and inspection of equipment, confirmed contractor training and safety equipment up-to-date (e.g., first aid, spill kit, fire extinguisher, communications such as cell phone booster, satellite phone, radio, etc.); inspection of site for spacing, residual stand damage and retention (white pine, hardwoods, snags). 5. Lane Brook Road: inspection of road close-out using new guidelines. Discussion of lessons learned and how to reduce costs while being effective. 6. Block 7292: Overstory removal using tracked-harvester to release established spruce-fir regeneration. Well-formed hardwoods >9” retained for future value. Interview with contractor and inspection of equipment, confirmed contractor training and safety equipment up-to-date (e.g., first aid, spill kit, fire extinguisher, communications such as cell phone booster, satellite phone, radio, etc.); inspection of site for spacing, residual stand damage, and RMZ. RMZ inspected was to specifications through use of GPS boundaries. Discussion on harvest and extraction operational efficiency through sorting and placement in the field, and use of woody debris placement in stream restoration projects under modified state laws. 7. Block 7386: culvert replacement inspection at Duck Pond Road due to blow-out. Observation of broad-based dips, diversions and up-slope smaller

	culverts to remove water off the road so it can drain over vegetation. All measures help prevent future blow-outs of larger culvert. 8. Block 7344/ Bull Ridge 4 Mile: Concrete bridge installation over stream crossing; similar broad-based dips installed at approaches to bridge to prevent excessive water on road and blow-out. Drainage features are sized to the size of the watershed and slope so that they can handle extreme flood events. Discussion of watershed and water quality research in New Brunswick and in Maine through a partnership with the University of Maine. 9. Block 7344/ Twin Brook Rd: observation of new culvert installation. Similar construction to other sites, but with use of native seed mix on exposed mineral soils. 10. EB51: observation of decommissioned road and bridge removal near beaver pond. Project conducted in cooperation with state agency to maintain water levels for fisheries and wetland habitat. 11. EB51: observation of 55 acre clearcut of spruce-fir with completed site preparation using anchor chains. Site was replanted with white pine and Norway spruce after preparation in 2016 and may be herbicide treated due to herbaceous competition in 2017. Retention area was 1.5 acres to meet minimum guidelines that included a bog and stream. 12. Block 7344: clearcut of spruce-fir and beech in 2016 using feller-buncher and whole-tree skid followed by disk-trenching site preparation. Will be replanted in 2016. Discussion on types of site preparation, planting techniques, monitoring of each, and future plans to test sites using no preparation or partial preparation.
Fort Kent/ Northwoods Region (Thompson)	1. Unique Area 20030: Proposed harvest adjacent to and partially within a Unique Area, known as the Allagash Ledges, that provides habitat for the rare Pygmy Snaketail (*Ophiogomphus howei*) odonate. The species is listed as S2 in Maine, but is currently ranked as Least Concern on the IUCN Red List of Threatened Species. Aquatic life stages occur in the adjacent Allagash River and adults briefly live in the forest canopy adjacent to riverine habitats. IWLLC provided copies of consultation with the Maine Department of Inland Fisheries and Wildlife (MDIFW) regarding a planned partial harvest of the area. 2. Planned harvest in a Deer Wintering Area (DWA) adjacent to Unique Area 20030. Generally a proposed salvage harvest of dead and declining balsam fir. IWLLC provided evidence of consultation with MDIFW regarding the proposed harvest. 3. Block 6260: Extensive 2015 harvest block within the Allagash Wilderness Waterway (AWW), where consultation and permitting are required in areas that might be viewed by recreational users on the Allagash River. Evidence of consultation and approvals provided by IWLLC. IWLLC foresters explained how the harvest was modified, in consultation with the AWW, as it progressed to minimize visual impacts. IWLLC is working on a viewshed model using LiDAR that will improve delineation or recreational user viewsheds. 4. Block 6776: Active harvest operation. Primary prescription in this hardwood stand was the overstory removal stage in a shelterwood system. Discussion of island retention procedures in overstory removal harvests. IWLLC is now

	using LiDAR to screen for potential islands. Discussion of how IWLLC is advancing the schedule for treating fir-dominated stands in response to anticipated spruce budworm outbreak. 5. Block 6776: Private interview with independent logging contractor. 6. Block 6776: Private interview with IWLLC female forester. 7. Block 6892: Recent harvest that included full-tree chipping operation with chipping equipment owned and operated by IWLLC. Prescriptions included thinning in riparian areas, seed tree, overstory removal, and clearcut. 8. Block 6892: Active harvest operation to observe the "mechanical processor in a box (MPB)" system. Disease-free beech retained.
20 October 2016	
FMU/Location/ sites visited	**Activities/ notes**
Ashland Office (Meister)	Document and record review, including for sites visited over previous two days, monitoring, chemical use, FSC sales, management plans, etc.; interviews with staff
Ashland Region (Thompson)	1. Block 6611: Just completed logging on steep slopes. Main harvest trails constructed with an excavator and then logging done using self-leveling mechanical harvesting equipment. Secondary trails generally retain organic soils and are partially covered with logging slash, eliminating the need for waterbars. This approach to erosion and sedimentation control was discussed with state agencies. Waterbars will be constructed on main trails using excavators.
Ashland Office	Closing Meeting Preparation: Auditor(s) take time to consolidate notes and confirm audit findings
	Closing Meeting and Review of Findings: Convene with all relevant staff to summarize audit findings, potential non-conformities and next steps

2.2 Evaluation of Management Systems

SCS deploys interdisciplinary teams with expertise in forestry, social sciences, natural resource economics, and other relevant fields to assess an FME's conformance to FSC standards and policies. Evaluation methods include document and record review, implementing sampling strategies to visit a broad number of forest cover and harvest prescription types, observation of implementation of management plans and policies in the field, and stakeholder analysis. When there is more than one team member, team members may review parts of the standards based on their background and expertise. On the final day of an evaluation, team members convene to deliberate the findings of the assessment jointly. This involves an analysis of all relevant field observations, stakeholder comments, and reviewed documents and records. Where consensus between team members cannot be achieved due to lack of evidence, conflicting evidence or differences of interpretation of the standards, the team is instructed to report these in the certification decision section and/or in observations.

3. Changes in Management Practices

The Outcome Based Forestry agreement with the Maine Forest Service was amended in 2016 to address size limit exemptions and regeneration requirements in even-aged management units, and regular notification of townships in which harvests take place. Records of notification were verified during the 2016 audit. No issues were noted with meeting even-aged management restrictions.

4. Results of the Evaluation

4.1 Existing Corrective Action Requests and Observations

	Finding Number: 2014.5
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☒ Next audit (surveillance or re-evaluation) ☐ Other deadline (specify):
FSC Indicator:	FSC US Forest Management Standard, V1-0, 6.9.b
Issue: IWLLC presented research results that describe the non-invasive character of Norway spruce; however, evidence from a University of Maine project suggests that Norway spruce can naturally regenerate beyond the planted block (capstone undergraduate research paper by one of B. Seymour's students discussed during closing meeting; *Thompson, N. Norway Spruce (*Picea abies*) Regeneration in Central and Northern Maine*). IWLLC should consider repeating this monitoring effort.	
Observation: IWLLC should periodically monitor the establishment and abundance of Norway spruce seedlings outside the planted footprint.	
FME Response 2015 *(submitted after the 2014 audit but prior to issuance of the 2014 audit report)*	A survey was completed to monitor the establishment of Norway Spruce outside the planted footprint on a 100 year old Norway Spruce planted stand in southern New Brunswick. Softwood trees were counted in 120 plots outside the planted stand. There were 638 softwood trees of which 2 were Norway Spruce. We concluded that Norway Spruce is not invasive.
SCS Review 2015	The 2015 audit team takes positive note of the additional study that Irving undertook in southern New Brunswick which provides an additional data point supporting a conclusion that Norway spruce is not invasive. But since this was a one-time study and not conducted in Maine and because Norway spruce remains a topic of discussion in the professional forestry community, the 2015 audit team concludes that it would be beneficial for this Observation to be kept open for another year so as to encourage IWLLC managers and field personnel to continue to monitor natural regeneration of Norway spruce.
FME Response 2016	Using the Quebec protocol, two older Norway spruce planted areas on Irving LLC land in Maine were surveyed for NS found outside the planted stand boundary.

SCS Review 2016	FME demonstrated records of its Norway spruce monitoring transects. Two Norway spruce seedlings were found on the edge of one of the transects near some road scarification. Three planted areas rather than two were checked and two transects were measured on each block using the protocol established by Mottet *et al*. 2010 in an off-site regeneration study of Norway spruce in Quebec. The study found that off-site regeneration decreased with increasing distance from planted areas and concluded that Norway spruce does not exhibit invasive qualities. The fact that off-site regeneration was detected at a lower percentage than found in the study indicates that Norway spruce likely does not exhibit invasive qualities in this region of Maine either.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ Other decision

	Finding Number: 2015.1
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU): N/A	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☒ Next audit (surveillance or re-evaluation) ☐ Other deadline (specify):
FSC Indicator:	FSC US Forest Management Standard, V1-0, Indicator 4.1.c
Issue: The FSC-US National Standard, Indicator 4.1.c., requires that forest workers are provided with fair wages. "Forest workers" include both employees and independent contractors who work on Irving's Maine timberlands.	
Observation: IWLLC's conformity to Indicator 4.1.c. will be maintained and enhanced through an ongoing commitment to its Principles for Partnership, particularly within the context of the company's pro forma that is used in establishing contractor rates for forest workers. The effectiveness of the Principles for Partnership process in establishing and maintaining fair wages for contracted forest workers could be made more effective through an annual, documented analysis of actual wage rates in relation to logging industry norms, cost of living, and inflation rates in the region.	
FME Response *(including any evidence submitted)*	An annual analysis was completed to compare IWLLC *pro forma* wage rates to logging wage rates in the region as documented by the Maine Department of Labor. Cost of living increase percentages were compared to *pro forma* increases. IWLLC wage rates are above average for the region.

SCS Review	FME used Maine Department of Labor (MEDOL) average weekly wages for harvest operators for 2013-2016 and compared it to their *pro forma* wage rates for the same period. FME found that in all years it pays more than the state average wages and has consistent annual increases. FME ensured that its wage rates were extracted from its rate model to ensure that only wages were compared to each other. The model includes a cost of living factor that reflects inflation rates and other factors. FME's legal team advised it against seeking wage information from other managers in the region due to anti-trust concerns, thus only state data was used. SCS requested that the FME attempt to seek median wage data from the MEDOL, but none was found. The analysis likely will be revised annually as a part of the annual updates to the *pro forma* calculations, as confirmed in interviews with staff. Refer to **OBS 2016.2.**
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.2
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU): N/A	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☒ Next audit (surveillance or re-evaluation) ☐ Other deadline (specify):
FSC Indicator:	FSC US Forest Management Standard, V1-0, Indicator 5.4.b
Issue: The FSC-US National Standard, Indicator 5.4.b., requires that the forest owner or manager strives to diversify the economic use of the forest so as to enhance contributions to the local/regional economy.	
Observation: IWLLC should explore the potentials for developing forest carbon offset projects on its Maine timberlands, as an opportunity to diversify the economic use of its land base.	
FME Response *(including any evidence submitted)*	A document was created that described the efforts JDI has taken to explore carbon offset projects in Maine. JDI completed a survey for the Keeping Maine's Forests Carbon Credit Program Study, which further describes the efforts made and JDI's position on carbon offset projects in Maine.
SCS Review	FME provided a summary of its analysis and possible course of action. FME is also a part of Maine's forest carbon working group ("Keeping Maine's Forest Carbon Credit Program Study"). As FME is actively investigating this opportunity on multiple levels, SCS concludes that this OBS has been met.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.3
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU): N/A	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☒ Next audit (surveillance or re-evaluation) ☐ Other deadline (specify):
FSC Indicator:	FSC US Forest Management Standard, V1-0, Indicator 6.5.d
Issue: The FSC-US National Standard, Indicator 6.5.d., requires that temporary haul roads and skid trails (or forwarder trails) are designed, constructed, maintained an/or reconstructed to reduce short and long-term environmental impacts.	
Observation: During the course of the 2015 audit, a few instances of rutting and compaction associated with forwarder and harvester trails, particularly on the margins of wet sites, was observed. While the length of the observed ruts did not meet the company's definition of rutting, IWLLC should continue to be focused on avoiding rutting in the location/layout of haul trails on wet/sensitive sites across which is run heavy equipment.	
FME Response *(including any evidence submitted)*	A Soft Ground BMP for Cut to Length Operations was created to guide harvesters and forwarders when working on wet ground. A training video was created to assist with operator training on the BMP.
SCS Review	FME demonstrated its BMP which includes a recommendation to brush trails, which includes diagrams and illustrations. The new BMP was included in a packet provided to loggers and covered in spring training, as verified in records and interviews with contractors.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.4
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU): N/A	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☒ Next audit (surveillance or re-evaluation) ☐ Other deadline (specify):
FSC Indicator:	FSC US Forest Management Standard, V1-0, Indicator 6.5.d
Issue: The FSC-US National Standard, Indicator 6.5.d., requires that to reduce short and long-term environmental impacts, unneeded roads are closed and rehabilitated.	
Observation: There are opportunities for IWLLC to better demonstrate conformances with this Indicator, as evidenced by the management approach that was taken with respect to the new mainline off-highway haul road entering from the St. Francis Checkpoint of North Maine Woods in which the old, more meandering road segments were blocked off and stream culverts removed but otherwise not obliterated/rehabilitated and returned to forest cover.	

FME Response *(including any evidence submitted)*	Road Abandonment Guidelines were created that contain three objectives to consider during abandonment to ensure that roads are closed out in a responsible manner. The objectives are safety, environmental, and revegetation to forest cover.
SCS Review	FME demonstrated that the new guidelines have been implemented in the field. They are currently documented as a part of the general response to 2015 findings, but will be placed into another document. Refer to **OBS 2016.2.**
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

4.2 New Corrective Action Requests and Observations

	Finding Number: 2016.1
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify):
FSC Indicator:	FSC-US indicator 7.1.i.
Non-Conformity *(or Background/ Justification in the case of Observations)*: FME is considering the use of Bt (*Bacillus thuringensis*) an as option to control spruce budworm. If this is used, the FMP should include a description of how its use conforms to C6.8.	
Corrective Action Request *(or Observation)*: If biological controls are used, the FMP should describe what is being used, applications, and how the management system conforms to Criterion 6.8.	
FME response *(including any evidence submitted)*	Use of biological controls to protect the forest from spruce budworm will not begin until 2018, at the earliest. IWLLC will be updating its management plan in 2017 and will include a section that describes what biological controls will be used, application methods and how the management system conforms to Criterion 6.8.
SCS review	Any actions implemented will be evaluated at the 2017 annual audit.
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2016.2
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	

Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): none
FSC Indicator:	FSC-US indicator 7.2.a.
Non-Conformity *(or Background/ Justification in the case of Observations)*: FME has not fully decided where its responses to OBS 2015.1 and 2015.4 will be incorporated into the FMP and/or its components, such as SOPs.	
Corrective Action Request *(or Observation)*: The FMP should be updated to incorporate the changes made to the management system in response to observations from 2015.	
FME response *(including any evidence submitted)*	OBS 2015.1 - The analysis of comparing IWLLC wage rates to logging wage rates in the region, as documented by the Maine Department of labour, will be completed annually as part of the annual pro forma review. OBS 2015.4 - The IWLLC Road Abandonment Guidelines have been formalized and posted on the corporate website as part of the management plan documents.
SCS review	Any actions implemented will be evaluated at the 2017 annual audit. For example, while the document was provided, its location on the FME's intranet will have to be verified.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2016.3
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): none
FSC Indicator:	SCS COC indicators for FMEs, V5.1, indicator 2.3
Non-Conformity *(or Background/ Justification in the case of Observations)*: Examined supplemental letter to Woodland Pulp, LLC (5/9/16), which includes FSC certificate code and claim. However, claim is incorrect (FSC Pure). For other sales, FME provides a copy of its stump-to-gate procedures to its customers in addition to the load slips. While the FSC claim in communicated in procedures, they do not contain the FSC certificate code. While none of this evidence constitutes a violation to FSC-US COC requirements under C8.3, it would result in the FME's COC-certified buyers receiving a non-conformity to 4.1.1 of FSC-STD-40-004, V2-1.	
Corrective Action Request *(or Observation)*: FME should ensure that all sales documents issued for outputs sold with FSC claims include its FSC Forest Management (FM/COC) code and the FSC claim "FSC 100%".	

FME response *(including any evidence submitted)*	The FSC certification code has been added to the stump to gate chain of custody procedures. The supplier letter to Woodland Pulp now has the correct FSC claim - "FSC 100%".
SCS review	SCS reviewed the two documents provided and both were found to contain the correct FSC claim and code for customers to use to supplement other information provided as part of sales of certified material.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

5. Stakeholder Comments

In accordance with SCS protocols, consultation with key stakeholders is an integral component of the evaluation process. Stakeholder consultation takes place prior to, concurrent with, and following field evaluations. Distinct purposes of such consultation include:

- To solicit input from affected parties as to the strengths and weaknesses of the FME's management, relative to the standard, and the nature of the interaction between the company and the surrounding communities.
- To solicit input on whether the forest management operation has consulted with stakeholders regarding identifying any high conservation value forests (HCVFs).

Principal stakeholder groups are identified based upon results from past evaluations, lists of stakeholders from the FME under evaluation, and additional stakeholder contacts from other sources (e.g., chair of the regional FSC working group). The following types of groups and individuals were determined to be principal stakeholders in this evaluation:

5.1 Stakeholder Groups Consulted

Maine Forest Service	Harvesting contractors
Outcome Based Forestry Panel members	IWLLC employees

Stakeholder consultation activities are organized to give participants the opportunity to provide comments according to general categories of interest based on the three FSC chambers, as well as the SCS Interim Standard, if one was used (in this audit, an Interim Standard was not used). The table below summarizes the major comments received from stakeholders and the assessment team's response. Where a stakeholder comment has triggered a subsequent investigation during the evaluation, the corresponding follow-up action and conclusions from SCS are noted below.

5.2 Summary of Stakeholder Comments and Responses from the Team, Where Applicable

☐ *FME has not received any stakeholder comments from interested parties as a result of stakeholder outreach activities during this annual audit.*	
Stakeholder comments	**SCS Response**
Economic Concerns	
All contractors interviewed stated that payment for services was fair and that work is more consistent on the FME's lands in comparison to other forests where they could work. FME-sponsored training and the bonus system were also touted as benefits.	SCS confirmed that FME has a system in place to evaluate and ensure that contractors are receiving fair pay. The system takes into account terrain, equipment type, haul distance, species, depreciation, and several other factors. FME has improved this system since the last audit by finding a way to compare it to average state wages for logging contractors. For the time period demonstrated, 2013-16, contractor pay exceeded the state average each year.
Social Concerns	
None received.	
Environmental Concerns	
None received.	

6. Certification Decision

The certificate holder has demonstrated continued overall conformance to the applicable Forest Stewardship Council standards. The SCS annual audit team recommends that the certificate be sustained, subject to subsequent annual audits and the FME's response to any open CARs.	**Yes** ☒ **No** ☐
Comments: FME continues to exhibit an exemplary level of performance to all certification requirements.	

7. Changes in Certification Scope

Any changes in the scope of the certification since the previous audit are highlighted in yellow in the tables below.

Name and Contact Information

Organization name	Irving Woodlands, LLC (IWLLC)		
Contact person	Scott MacDougall		
Address	300 Union Street St. John, New Brunswick E2L 4M3, Canada	**Telephone**	506-632-6085
		Fax	506-432-0518
		e-mail	MacDougall.Scott@jdirving.com
		Website	www.jdirving.com

FSC Sales Information

FSC salesperson	Same as above		
Address		**Telephone**	
		Fax	
		e-mail	
		Website	

Scope of Certificate

Certificate Type	☒ Single FMU	☐ Multiple FMU
	☐ Group	
SLIMF (*if applicable)*	☐ Small SLIMF certificate	☐ Low intensity SLIMF certificate
	☐ Group SLIMF certificate	
# Group Members (*if applicable)*		
Number of FMU's in scope of certificate	1	
Geographic location of non-SLIMF FMU(s)	*Latitude & Longitude: 47.221541°, -68.755697°*	
Forest zone	☐ Boreal	☒ Temperate
	☐ Subtropical	☐ Tropical

Total forest area in scope of certificate which is:	**Units: ☐ ha or ☒ ac**
privately managed	1,255,000
state managed	
community managed	

Number of FMUs in scope that are:			
less than 100 ha in area		100 - 1000 ha in area	
1000 - 10 000 ha in area		more than 10 000 ha in area	1

Total forest area in scope of certificate which is included in FMUs that:	**Units: ☐ ha or ☒ ac**
are less than 100 ha in area	0
are between 100 ha and 1000 ha in area	0
meet the eligibility criteria as *low intensity* SLIMF FMUs	0

Division of FMUs into manageable units:

The forestlands have also been grouped geographically into five economic zones that are used to guide transportation and potential silvicultural investments decisions; the zones include Allagash, Blackstone, Estcourt, Oakfield and Rocky Brook.

Production Forests

Timber Forest Products	**Units: ☐ ha or ☒ ac**
Total area of production forest (i.e. forest from which timber may be harvested)	1,185,000
Area of production forest classified as 'plantation'	0
Area of production forest regenerated primarily by replanting or by a combination of replanting and coppicing of the planted stems	70,545 acres 6%
Area of production forest regenerated primarily by natural	1,114,455 acres

regeneration, or by a combination of natural regeneration and coppicing of the naturally regenerated stems	94%
Silvicultural system(s)	**Area under type of management**
Even-aged management	
Clearcut (clearcut size range 5 -249 acres)	16%
Shelterwood	46%
Other:	
Uneven-aged management	
Individual tree selection	38%
Group selection	
Other:	
☐ Other (e.g. nursery, recreation area, windbreak, bamboo, silvo-pastoral system, agro-forestry system, etc.)	
The sustainable rate of harvest (usually Annual Allowable Harvest or AAH where available) of commercial timber (m3 of round wood)	m3 by species/mix Spruce/Fir: 547,000 Hardwood: 558,000 Cedar: 53,000 White Pine: 4,000
Non-timber Forest Products (NTFPs)	
Area of forest protected from commercial harvesting of timber and managed primarily for the production of NTFPs or services	0
Other areas managed for NTFPs or services	0
Approximate annual commercial production of non-timber forest products included in the scope of the certificate, by product type	Unknown, but relatively minor

Explanation of the assumptions and reference to the data source upon which AAH and NTFP harvest rates estimates are based:

There are three major sources of data which are employed to generate yield curves (volume forecast over time). The first one, a digital forest inventory, is compiled from the interpretation of digital aerial photographs taken in 2010. The second source of data comes from the company's Forest Development Survey (FDS) program. These are ground plots used to ground-truth the photo interpretation. FDS plots are established in a large number of stands which serve as a snapshot of the forest structure at a distinct point in time. With the new 2010 digital photography, a major FDS program was undertaken through 2011 and 2012. The third data source is the PSP network that is used to validate and calibrate the growth model. It also provides detailed data on the stand dynamics (growth and mortality) for different components of the forest. Currently, there are 326 Permanent Sample Plots established in the Maine district.

The footprint of harvest and silviculture operations occurring throughout each year are collected digitally in the field and their attributes and spatial configurations are used to continually update the photo-interpreted forest inventory. A continuously up-to-date inventory is the fundamental base for establishing accurate estimates of the forest structure that will provide, among other things, timber volume and wildlife habitat predictions. All growth and yield forecasting activities have been linked back to the forest stands within the digital (GIS) forest inventory

Species in scope of joint FM/COC certificate: *Scientific/ Latin Name* (Common/ Trade Name)

Red spruce, *Picea rubens*
Black spruce, *Picea mariana*

White spruce, *Picea glauca* Norway spruce, *Picea abies* Balsam fir, *Abies balsamea* Hemlock, *Tsuga canadensis* Northern white cedar, *Thuja occidentalis* Eastern white pine, *Pinus strobus* Red pine, *Pinus resinosa* White ash, *Fraxinus americana* Black ash, *Fraxinus nigra* American beech, *Fagus grandifolia* White birch, *Betula papyrifera* Yellow birch, *Betula alleghaniensis* Red maple, *Acer rubrum* Sugar maples, *Acer saccharum* Northern red oak, *Quercus rubra* Big leaf aspen, *Populus grandidentata* Trembling aspen, *Populus tremuloides*

FSC Product Classification

Timber products		
Product Level 1	**Product Level 2**	**Species**
W1 Rough Wood	W1.1 Roundwood (logs)	All
W3 Wood in chips or particles	W3.1 Wood Chips	All
Non-Timber Forest Products		
Product Level 1	**Product Level 2**	**Product Level 3 and Species**

Conservation Areas

Total area of forest and non-forest land protected from commercial harvesting of timber and managed primarily for conservation objectives	21132 acres

High Conservation Value Forest/ Areas

High Conservation Values present and respective areas: **Units:** ☐ **ha or** ☒ **ac**

	Code	HCV Type	Description & Location	Area
☐	HCV1	Forests or areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).		
☐	HCV2	Forests or areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit,		

		where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.		
☒	HCV3	Forests or areas that are in or contain rare, threatened or endangered ecosystems.	Yankeetuladi St Francis Floodplain Orchard Bog Cross Lake Fen	153 699 534 618
☒	HCV4	Forests or areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	Long Lake Smelt Fishery Long Lake Slopes Chase Lakes	500 431 1283
☐	HCV5	Forests or areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).		
☐	HCV6	Forests or areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).		
Total Area of forest classified as 'High Conservation Value Forest/ Area'				4218

Areas Outside of the Scope of Certification (Partial Certification and Excision)

☐ N/A – All forestland owned or managed by the applicant is included in the scope.	
☒ Applicant owns and/or manages other FMUs not under evaluation.	
☐ Applicant wishes to excise portions of the FMU(s) under evaluation from the scope of certification.	
Explanation for exclusion of FMUs and/or excision:	The parent company of Irving Woodlands LLC (IWLLC) is J.D. Irving Limited, corporately located in New Brunswick, Canada. J.D. Irving Limited owns 3.4 million acres of forestland in Canada and Maine. In total, these lands are divided into five operating districts, four of which are located in Canada. Only those lands under the control of the JD Irving Maine operating district within the State of Maine are within the scope of this certification evaluation; Canadian lands are outside the scope of this certificate. The rationale for partial certification is due largely to differing regional standards between the Maritime and Northeast regions. The company does not at this time believe that the Maritime standard, which encompasses the balance of its ownership, is an appropriate normative standard for industrial/commercial forest management. J.D. Irving has been actively engaged in the Maritime standards development process and remains committed to re-engaging FSC certification in Canada if the Maritime standard undergoes revision through a multi-stakeholder and transparent process. The balance of the ownership is Canadian lands which are managed under the same system as the

	Maine Woodlands. Because of this common management system, there are no concerns about the forest management of these non-certified lands in Canada.
Control measures to prevent mixing of certified and non-certified product (C8.3):	The other areas that are not within the scope of this Certificate are located in Canada and are geographically separate from these areas located in Maine.

Description of FMUs excluded from or forested area excised from the scope of certification:		
Name of FMU or Stand	**Location (city, state, country)**	**Size (☐ ha or ☒ ac)**
JD Irving Canada	New Brunswick Canada	2.145 million acres

8. Annual Data Update

8.1 Social Information

Number of forest workers (including contractors) working in forest within scope of certificate (differentiated by gender):		
326 male workers	3 female workers	
Number of accidents in forest work since last audit:	**Serious:** 0	**Fatal:** 0

8.2 Annual Summary of Pesticide and Other Chemical Use

☐ *FME does not use pesticides.*

Commercial name of pesticide / herbicide	**Active ingredient**	**Quantity applied annually (kg or lbs)**	**Size of area treated during previous year**	**Reason for use**
Rodeo	Glyphosate	4091.75 gallons	7,913.4	Conifer Release
Arsenal AC	Imazapyr	114.24 gallons	7545.7	Conifer Release, Site Prep
Accord XRT II	Glyphosate	425.25 gallons	516.9	Conifer Release, Site Prep
Oust XP	Sulfometuromethyl	253.82 lbs	3618.8	Conifer Release, Site Prep