

**Forest Management and Stump-to-Forest Gate Chain-of-Custody
Certification Evaluation Report for the:**

J.D. Irving Woodlands LLC – Maine Woodlands

**Conducted under auspices of the SCS Forest Conservation Program
SCS is an FSC Accredited Certification Body**

**CERTIFICATION REGISTRATION NUMBER
SCS-FM/COC-00121N**

Submitted to:

**J.D. Irving Northern Maine Woodlands Forestry Division
Irving Woodlands, LLC**

Lead Auditor: Robert J. Hrubes, Ph.D.

Report Author: Kyle Holland, CF

Date of Field Audit: 28 September – 2 October, 2009

Date of Report: Draft: November 19, 2009, Finalized: December 8, 2009

Certified: December 8, 2009

By:

**SCIENTIFIC CERTIFICATION SYSTEMS
2200 Powell St. Suite Number 725
Emeryville, CA 94608, USA
www.scscertified.com**

**SCS Contact: Dave Wager dwager@scscertified.com
J.D. Irving Contact: Blake Brunson (506) 632-7777**

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 SCS website (www.scscertified.com) no less than 30 days after issue of the certificate. Section B contains more detailed results and information for the use of J.D. Irving Woodlands LLC.

FOREWORD

Scientific Certification Systems, a certification body accredited by the Forest Stewardship Council (FSC), was retained by J.D. Irving Woodlands LCC to conduct a certification evaluation of its Maine woodlands. Under the FSC/SCS certification system, forest management operations meeting international standards of forest stewardship can be certified as “well managed,” thereby enabling use of the FSC endorsement and logo in the marketplace.

In September and October 2009, an interdisciplinary team of natural resource specialists was empanelled by SCS to conduct the evaluation. The team collected and analyzed written materials, conducted interviews and completed a 5-day field and office audit of the subject property as part of the certification evaluation. Upon completion of the fact-finding phase of the evaluation, the team determined conformance to the 56 FSC Criteria in order to determine whether award of certification was warranted.

This report is issued in support of a recommendation to award FSC-endorsed certification to J.D. Irving Woodlands LCC for the management of its Maine Woodlands Operation. In the event that a certificate is awarded, Scientific Certification Systems will post this public summary of the report on its web site (www.scscertified.com).

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SECTION A- PUBLIC SUMMARY AND BACKGROUND INFORMATION

1.0 GENERAL INFORMATION

1.1 FSC Data Request

Applicant entity	<i>J.D. Irving Woodlands LLC</i>
Contact person	<i>Blake Brunsdon, Chief Forester</i>
Address	<i>300 Union Street St. John, New Brunswick E2L 4M3, Canada</i>
Telephone	<i>506-632-7777</i>
Fax	<i>506-632-4421</i>
E-mail	<i>brunsdon.blake@jdirving.com</i>
Certificate Number	<i>SCS-FM/COC-000121</i>
Certificate/Expiration Date	<i>12/10/2009-12/10/2014</i>
Certificate Type	<i>Single FMU</i>
Location of certified forest area	
Latitude	<i>47.237250</i>
Longitude	<i>-68.581444</i>
Forest zone	<i>temperate</i>
Total forest area in scope of certificate which is:	
privately managed ¹	<i>1,255,000 acres</i>
state managed	<i>0</i>
community managed ²	<i>0</i>
Number of forest workers (including contractors) working in forest within scope of certificate	<i>Approximately 100 (varies by season), 35 JDI staff, the remainder contractors/crews.</i>
Area of forest and non-forest land protected from commercial harvesting of timber and managed primarily for conservation objectives	<i>15,700 acres in Maine Natural Areas and JDI Unique Site Program.</i>
Area of forest protected from commercial harvesting of timber and managed primarily for the production of NTFPs or services	<i>None</i>
Area of forest classified as 'high conservation value forest'	<i>3081 acres (5 sites) that MNAP mapped as HCVF acres (to be refined as part of CAR 2009.3)</i>
List of high conservation values present ³	<i>HCV 1-6 1-3 definitely</i>
Chemical pesticides used	<i>Yes, for release of planted stands when necessary</i>
Total area of production forest (i.e. forest from which timber may be harvested)	<i>1,185,000</i>
Area of production forest classified as 'plantation' for the purpose of calculating the Annual Accreditation Fee (AAF)	<i>None</i>
Area of production forest regenerated primarily by replanting ⁴	<i>NA</i>
Area of production forest regenerated primarily by	<i>NA</i>

¹ The category of 'private management' includes state owned forests that are leased to private companies for management, e.g. through a concession system.

² A community managed forest management unit is one in which the management and use of the forest and tree resources is controlled by local communities.

³ High conservation values should be classified following the numbering system given in the ProForest High Conservation Value Forest Toolkit (2003) available at www.ProForest.net

⁴ The area is the *total* area being regenerated primarily by planting, *not* the area which is replanted annually. NB this area may be different to the area defined as a 'plantation' for the purpose of calculating the Annual Accreditation Fee (AAF) or for other purposes.

natural regeneration	
List of main commercial timber and non-timber species included in scope of certificate (botanical name and common trade name)	<i>red, black, white and Norway spruces balsam fir, hemlock, northern white cedar, white and red pines, white and black ash, American beech, white and yellow birch, red and sugar maples, northern red oak, aspens/poplars</i>
Approximate annual allowable cut (AAC) of commercial timber	<i>m³ by species/mix Spruce/Fir: 482,000 Hardwood: 500,000 Cedar: 67,000 White Pine: 15,000 These are based on growth projections of the 1998 inventory (see CAR 2009.8) and are adjusted for inoperable forestland.</i>
Approximate annual commercial production of non-timber forest products included in the scope of the certificate, by product type	<i>Unknown, but relatively minor</i>
List of product categories included in scope of joint FM/COC certificate and therefore available for sale as FSC-certified products (include basic description of product - e.g. round wood, pulp wood, sawn timber, kiln-dried sawn timber, chips, resin, non-timber forest products, etc.)	<i>Sawlogs, veneer logs, roundwood, pulpwood, chips, fir tips, biomass</i>

Conversion Table English Units to Metric Units

Length Conversion Factors

To convert from	to	multiply by
mile (US Statute)	kilometer (km)	1.609347
foot (ft)	meter (m)	0.3048
yard (yd)	meter (m)	0.9144

Area Conversion Factors

To convert from	to	multiply by
square foot (sq ft)	square meter (sq m)	0.09290304
acre (ac)	hectare (ha)	0.4047

Volume Conversion Factors

Volume

To convert from	to	multiply by
cubic foot (cu ft)	cubic meter (cu m)	0.02831685
gallon (gal)	liter	4.546

1 acre	= 0.404686 hectares
1,000 acres	= 404.686 hectares
1 board foot	= 0.00348 cubic meters
1,000 board feet	= 3.48 cubic meters
1 cubic foot	= 0.028317 cubic meters
1,000 cubic feet	= 28.317 cubic meters

Breast height = 1.4 meters, or 4 1/2 feet, above ground level

Although 1,000 board feet is theoretically equivalent to 2.36 cubic meters, this is true only when a board foot is actually a piece of wood with a volume 1/12 of cubic foot. The conversion given here, 3.48 cubic meters, is based on the cubic volume of a log 16 feet long and 15 inches in diameter inside bark at the small end.

1.2 Management Context

Management of the Irving Maine forestlands is subject to an array of local, state and federal guidelines and regulations. At the federal level, the principal regulations of greatest relevance to forest managers include the following statutes:

- U.S. Constitution, Article VII, Amendment V
- Endangered Species Act
- Clean Water Act
- Forest Resources Conservation and Shortage Relief Act
- Federal Hazardous Waste Management Act
- Federal Clean Air Act
- National Resource Protection Act
- National Environmental Policy Act
- National Wild and Scenic River Act
- Occupational Safety and Health Act of 1970
- Archeological and Historic Preservation Act
- National Historic Preservation Act
- The Rivers and Harbors Act
- Native American Grave Protection and Repatriation Act
- Land and Water Conservation Fund Act of 1965
- Americans with Disabilities Act
- Rehabilitation Act
- Architectural Barriers Act
- U.S. ratified treaties, including CITES and ILO

At the state level, the principal regulations governing forest management include the following:

- Constitution of the State of Maine, Section 21
- Maine Revised Statute Annotated (M.R.S.A.)
- Maine Forest Practices Act
- Maine Forest Service Rules, Chapters 20, 21
- Maine Land Use Regulation Commission Laws and Statutes, Ch. 10
- Maine Land Use Regulation Commission, Comprehensive Land Use Plan
- Maine Endangered Species Act
- Maine Natural Resources Protection Act (M.R.S.A. 38)
- Shoreland Zoning Act
- Erosion and Sedimentation Control Act
- Protection and Improvement of Water Act
- Maine Human Rights Act
- Maine Workers' Compensation Act of 1992
- Maine's Rivers Act
- M.R.S.A. 36 (Property tax, tree growth tax)

- M.R.S.A. 33
- M.R.S.A. 32 (Licensing, various)
- M.R.S.A. 30, An Act to Implement the Maine Indian Claims Settlement
- M.R.S.A. 29, (Vehicles, hauling limits)
- M.R.S.A. 27, (History, Culture and Artifacts)
- M.R.S.A. 26, (Labor, various)
- M.R.S.A. 22
- M.R.S.A. 17
- M.R.S.A. 14
- M.R.S.A. 13
- M.R.S.A. 12
- M.R.S.A. 10 (Liens, various)
- M.R.S.A. 7
- M.R.S.A. 5, (Administrative Procedures Act)

Regulatory Context for State and Local Regulations:

County and local regulations, especially those related to road use and scenic viewsheds, are part of the regulatory landscape and are relevant, but do not typically play a prominent role as compared to state and federal regulations. Notably, a sizable portion of the J.D. Irving Woodland LLC (JDI) forestlands are subject to regulation of the Maine Land Use Regulation Commission (LURC). This Commission was established by the State legislature in 1971 to serve as the planning and zoning authority for the state’s townships, plantations, and unorganized areas. The Commission has land use regulatory jurisdiction over these areas because they have no form of local government to administer land use controls, or they have chosen not to administer land use controls at the local level. LURC rules and standards cover a number of areas relevant to the management of the defined land holdings, including policies covering timber harvesting, deer yard management, and erosion control on logging jobs, roads, and water crossings. LURC permits are required for certain activities within certain designated protection zones (i.e., wetlands, fish/wildlife zones, and aquifer protection areas). Other policies/regulations pertinent to JDI are found in LURC’s Lake Management Program, amended 1990, and Rivers with Special Protection Plan. LURC standards and regulations for timber harvesting have been separate and distinct from the Maine DEP’s regulations, but the Maine Forest Service recently has harmonized statewide standards for timber harvesting in shoreland areas and modification of stream crossings (Maine Forest Service Statutes, Chapter 21).

Maine also has a set of forest practice regulations, promulgated and administered by the Maine Forest Service. These regulations require that the Forest Service be notified of all commercial timber harvests, and that areas and volumes harvested be reported annually. All clearcuts over 5 acres require separation zones; clearcuts over 20 acres must have a silvicultural justification on file; clearcuts over 75 acres require prior review by the Forest Service and more detailed management plans. New rules, Chapter 23, relate to liquidation harvesting, but exempt parties that have undergone third-party certification.

Aside from the state forest practice regulations, the overriding and most influencing body of regulations governing management of the defined lands within JDI Maine woodlands is the federal Endangered Species Act. Of particular significance are listings under the federal Endangered Species Act, such as the golden eagle, Atlantic salmon, and, most recently, the Canada Lynx. Under both the state Forest Practices Regulations and the federal Endangered Species Act, there is a focus on long-term management.

1.2.1 Environmental Context

About 90 percent of Maine's total land area is forested (17.7 million acres or 7.2 million ha), and 95 percent of this area (16.9 million acres/6.8 million ha) is considered productive forestland. In addition to being the most heavily forested state, Maine has the highest percentage of forestlands in private ownership at 95 percent. Small, non-industrial private forest landowners manage 37 percent of the productive land, mostly in the southern and central portions of the state, whereas large private forest landowners manage about 59 percent, mainly in the north and northeast regions of the state. State and county governments own approximately 4 percent of the productive forestland.

1.2.2 Socioeconomic Context

Maine's generally poor soil, short growing season, and remoteness from industrial and commercial centers have long staved off robust development and population growth, leaving the landscape of the state, and its economy, dominated by agriculture and forestry. Maine's agricultural outputs include poultry, eggs, dairy products, cattle, wild blueberries, apples, and maple sugar. Commercial fishing, once a mainstay of the state's economy, still maintains an important presence. Aquifers and springs in Western Maine are a major source of bottled water, a growing and controversial industry. Maine's industrial outputs consist chiefly of paper, lumber and wood products, electronic equipment, leather products, food products, textiles, and bio-technology. Naval shipbuilding and construction remain key as well. Manufacturing is still the largest sector in the state's economy. Maine is a leading producer of paper and wood products in eastern Canada and Northeast U.S., which are the most valuable of all manufactured commodities in the Maine.

Tourism and outdoor recreation play a major and increasingly important role in Maine's economy, probably supporting more jobs in the state than any other industry. Picturesque coastal and island resorts and the promise of tranquil outdoor life hold a strong appeal for tourists, recreational and seasonal visitors, and, increasingly, retirees. The state is a popular destination for inland sport hunting (particularly deer, moose and bear), sport fishing, snowmobiling, skiing, boating, camping and hiking, among other activities.

The population of Maine is just over 1.3 million people. Ninety-seven percent of the population is white; American Indians comprise only 0.6 percent. Nevertheless, there are five Indian Tribes in Maine: Passamaquoddy, Penobscot, Micmac, Maliseet, and Abenaki. In 1980, President Carter signed the Maine Indian Land Claims Settlement Act, which acknowledged that Congress never ratified treaties with Maine Indians. As a result of the

Act, Penobscots and Passamaquoddies gave up claims to millions of acres of land in exchange for a \$27 million trust fund and \$51 million to buy 300,000 acres of land. The Act also established the Houlton Band of the Maliseets as a federally recognized tribe, and it received \$900,000 to buy 5,000 acres of land. Micmacs were left out of the Settlement Act, but in 1991, Micmacs received federal recognition and \$900,000 to buy land. The Abenaki Tribe still is not recognized by the federal government. JDI engages with these Tribes to protect special sites of importance and provide specialty items from the forest such as brown ash, used for basket-making.

1.3 Forest Management Enterprise

The forestland managed by JDI in Northern Maine totals approximately 1,255,000 acres. The ownership of these acres is split 55% and 45% to Aroostook and Allagash Timberlands respectively. This division is for accounting purposes and serves to separate the interests of investment financiers. The property stretches from the western border with Quebec and to the eastern border with New Brunswick, with the majority of the land being in Aroostook County.

JDI considers ninety-four percent (1,185,000 acres) of their lands in Northern Maine to be productive forestland, capable of growing trees at a rate of not less than 20 cubic feet per acre per year (1.4 m³/ha/year). At a broad level, the productive forest area is managed for both timber and non-timber objectives. The area being managed for timber objectives is referred to as the general forest while the area being managed primarily for non-timber objectives is referred to as the special management area (zones); the general forest comprises 82% of the productive forest while the special management areas comprise 18%.

The age class distribution of the Maine woodlands directly affects the silvicultural practices used by JDI. Historic forest disturbance patterns, including spruce-budworm outbreaks and harvesting, have resulted in an unbalanced age structure across the forestland; a substantial portion of the forest is mature or nascent, while a relatively minor portion is middle-aged. JDI considers this imbalance in all of its prescriptions and aims to establish a balanced forest to yield long-term sustainable harvest levels while maintaining important wildlife habitat.

1.3.1 Land Use

Relative to pre-settlement conditions, the forests of Maine, including the JDI lands, have experienced a systematic reduction of white pine, red spruce, and yellow birch. The entire region was harvested during the 19th century with exploitation focused first on white pine, followed by red spruce and then sawlog quality hardwoods. In contrast to the drier, harsher forest sites of the western U.S., the forests of Maine have remained well stocked despite this extensive harvesting. The species composition, however, has been substantially simplified, and many stands are comprised of pole-sized trees. The smaller diameter stand structures have fostered, and in turn have been perpetuated by the pulp and paper industry, which, beginning in the 1890s, has become the dominant landowner in Maine. Reflecting the long history of extensive timbering, there are very few old-growth stands remaining in the region.

JDI first established itself in Maine in 1947 with the acquisition of 225,000 acres in the area west of Allagash. These new lands were held in common and undivided ownership primarily with the Dunn heirs, and Dauteuil Lumber. However in the late 1970's, JDI took an active role in the management of these lands by establishing management objectives that became somewhat incompatible with the other owners, principally silvicultural investment in forest productivity. In pursuit of their objectives, JDI initiated a campaign to consolidate their ownership out of common undivided interest and in 1977 the company assumed direct management responsibility for its lands with its own dedicated staff.

In 1983, there was an additional acquisition of 250,000 acres from International Paper Co. in Northern and Eastern Aroostook County. In 1985, Irving purchased land from Great Northern Paper in the northeastern part of Maine. Finally, in March of 1999, JDI acquired 1,023,000 acres of lands in northern Maine from Bowater Incorporated (Great Northern Paper, Inc Woodlands). In 2005, the company sold approximately 350,000 acres of their non-strategic Maine lands, bringing the present ownership to 1,255,000 acres.

Aside from commercial timber harvesting within the general forest, the other principal land uses on the JDI Maine woodlands include: (1) outdoor recreation, such as motorized vehicle trails (ATVs) and camp leases; (2) permitted small-scale firewood cutting and the collection of non-timber forest products; (3) protected areas for cultural resources, especially sensitive environments and important wildlife habitats such as deer wintering areas; and (5) active research in resource management issues such as silvicultural productivity and integrated pest management.

1.3.2 Land Outside the Scope of Certification

The parent company of J.D. Irving Woodlands LLC (JDI) 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 JDI Maine operating district within the State of Maine are within the scope of this certification evaluation. That is, all Canadian lands are outside the scope of this certification evaluation. 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. Irving has been actively engaged in the Maritime standards development process and remains committed to re-engaging FSC 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. Chain-of-custody procedures are in place to ensure that only wood from the Maine lands is counted as FSC certified. Additionally, any claims that JDI makes about its FSC status will be specific to the Maine lands being certified.

1.4 Management Plan

The JDI management plan is comprised and/or is built upon several components, including: a documented strategic management plan, an environmental management system (EMS) and geographic information system (GIS).

The primary purpose of the strategic management plan is to determine an ecologically sound, economically appropriate, and socially responsible management strategy for the local area (i.e., the Maine management district). The plan establishes habitat and biodiversity objectives and constraints. The strategic management plan also determines the sustainable harvest level for each of the major tree species groups, along with levels for harvest and intensive silviculture treatment. A strategic management plan has been adopted by JDI for a twenty-five year period from 2007 to 2031, exclusively for the Northern Maine Woodlands. According to Irving managers and planners, the plan will be reviewed and revised every five to seven years, or when there is a significant change to business management assumptions. JDI has committed to respecting the harvest and silviculture levels and other major provisions of their strategic management plan. However in response to annual variations due to market conditions, mill schedules, or other economic constraints, JDI may balance planned harvest and silviculture levels over a longer (e.g., ten year) time frame.

Reflecting Irving's longstanding engagement in ISO 14001, the company has a well-established environmental management system (EMS). The EMS is used to track the mitigation of environmental incidents and non-conformities. The GIS is used to track management decisions, update forest inventories and plan forest management activities. Both the EMS and the GIS are computerized systems.

1.4.1 Management Objectives

The overarching, stated objective for JDI is to practice "sustainable forest management." Specifically, this means to maximize the long-term sustainable flow of quality timber products from the lands the company manages. In this regard, JDI practices sustainable forest management by maintaining and enhancing the biological productivity and diversity of the forest, with the goal of assuring both an economic and ecological future for the forest and the people of Maine and the broader region surrounding Maine. The management strategies and policies implemented by JDI are designed to meet these objectives and goals, utilizing the best scientific knowledge and insights, as well as practical experience. These strategies are employed daily over a complex set of conditions and circumstances, constantly re-examining and adjusting practices in order to meet the company's objectives. Several key strategies are outlined by JDI to meet their core objectives. The following excerpt from the JDI management plan succinctly describes these strategies:

- "Align our management with the criteria set out in the Outcome Based Forestry Approach of the Maine Forest Service. These criteria are:
 - Soil productivity

- Standard operating procedures have been established for all harvest and road construction operations to avoid significant reduction to site productivity.
- Water quality, wetlands and riparian zones
 - Standard operating procedures have been established to protect water quality and aquatic habitats during our harvest and road construction operations. These procedures meet or exceed current regulatory guidelines.
- Timber supply and quality
 - Our timber supply objective is to maximize the long-term sustainable flow of quality timber products from the lands we manage.
 - Our timber quality objective is focused on growing high quality, saw log and veneer products. Our definition of quality timber comes from our own market experience, combined with reasonable expectations of future consumer needs and processing technologies. Specifically, our focus on quality timber production includes:
 - Spruce and Balsam Fir trees of sufficient soundness and stem size will be directed to the manufacturing of dimensional lumber, hardwood saw logs from; Sugar Maple, Yellow Birch, White Birch, Ash, and Red Maple, veneer logs from; Yellow Birch, White Birch, Sugar Maple, and Red Maple, and White Pine and Cedar capable of making solid wood products.
- Aesthetics
 - We will consider and incorporate aesthetics in our management activities where visual impacts may be of concern.
- Biological diversity
 - Maintain an appropriate balance of forest cover types and age class distribution.
 - We have reviewed all of our lands for the occurrence of rare or outstanding features, representing important key habitats. These sites have been catalogued and best management strategies have been developed to protect their unique characteristics.
 - Our harvesting operation sites are screened to identify special wildlife habitats, rare plants and other unique landscape features for retention during harvesting operations.
 - All identified Deer Wintering Areas (DWA) are managed consistent with habitat objectives developed in consultation with Maine’s Inland Fisheries and Wildlife Department.
 - All clear-cutting activities are conducted for sound silvicultural reasons, and will be ecologically appropriate for the site.
- Public accountability
 - We maintain independent third party certification on the lands we manage.
- Economic and social considerations
 - Our management activities will provide wood to our mills and other regional mills at costs allowing for competitive manufacturing.
 - We have an established stakeholder committee made up of a wide spectrum of public interest groups.
 - We will continue to provide historic and traditional recreational opportunities that do not conflict with our management objectives and values.
- Forest health

- Protecting the forest from fire, insects, and disease is a fundamental component of our management program.
- We are committed to investments in tree planting, pre-commercial thinning (PCT), and silvicultural stand improvement treatments to ensure the long term health and sustainability of the lands we manage.”

1.4.2 Forest Composition

The JDI Maine Woodlands are located in the transition zone between the northern hardwood region (dominated by beech, birch, and maple) and the boreal spruce-fir forest. This transition zone, called by some the Acadian Forest, is rich in species diversity and micro-site variation. Boreal species, such as balsam fir, white and black spruce, tamarack, and white birch, tend to be at the southern end of their range in this area, while species such as red spruce, hemlock, and white and red pine tend to be at the northern end of their ranges. The area in northern Maine west of the Allagash River and extending to the top of Maine is dominated by purer spruce-fir types with hardwoods and mixed forest types prevalent on better-drained sites. Indicative of the transition zone in which the property lies, however, most all townships will contain stands in the full continuum from softwoods to mixed types and hardwoods. This continuum is represented in the productive land base which spans four major forest cover types: 37% northern hardwood, 29% mixed wood stands (softwood and hardwood), 24% spruce-fir and 10% cedar.

1.4.3 Silvicultural Systems

JDI has developed a series of silvicultural treatment categories as the basis for planning, modeling, and communications. These are generalized categories, and therefore are subject to modification based on conditions for each individual site. These modifications occur under the direction of the supervising forester. JDI’s timber management objective is to increase the sustainable growth and yield of quality timber from the forest. Therefore, the overall goal in designing prescriptions is the identification of healthy, quality growing stock to leave as residual stand components while directing removals at lower quality, slow growing, and unhealthy stems. These treatments are also modified with respect to wildlife and biological considerations, according to the company policy for retention of islands and patches in clearcut areas, and unique site specific features identified in all harvest areas. The silvicultural prescriptions utilized by JDI sort into two distinct groups. From the Irving management plan:

“**Even-aged management** - prescriptions where the forest stand is managed as predominantly one age-class, and where the stand is ultimately replaced with a young age-class. This grouping includes the regeneration systems of clear-cutting, overstory removal and shelterwood harvest, as well as intermediate treatments such as commercial thinning. Even though these treatments are categorized as even-aged, they often include the management and maintenance of two-storied or three-storied stands. Below is the array of prescriptions under this grouping:

Clear-cuts: Any timber harvesting on a forested site greater than 5 acres in size that results in

a residual basal area of less than 30 square feet per acre of trees greater than 4.5 inches dbh, unless the following condition exists: after harvesting, the site has a well-distributed stand of adequate stocking with density greater than 450 trees/acre of well distributed softwood and hardwood stems greater than 3 feet or 5 feet, respectively. The treatment is generally applied in mature to over-mature stands and leads to the creation of new, even-aged stands through either natural regeneration, planted trees, or a combination of both. Operational variations include leaving residual islands or patches of standing timber largely for wildlife purposes and defining block boundaries and shapes to be less square and angular and better fitting to natural stand boundaries. JDI describes these modifications under the term – variable retention clear-cuts. Unless necessitated by forest health emergency or other natural catastrophe, clearcut sizes will not exceed:

- 125 acres for softwood and/or intolerant hardwood types,
- 75 acres for tolerant hardwood and mixed wood types,
- 25 acres for stands dominated by Cedar and/or Hemlock.

Openings greater than those listed above should not be enlarged by an adjacent clearcut until the regeneration is 6 feet in height or 10 years old.

Shelterwood/Over Story Removal: This treatment refers to both the preparatory harvest in a shelterwood system and the over story removal harvest. It is most often applied to softwood and mixed wood types, but can also be applied to hardwood forest types. These treatments are conducted to ensure the species, distribution and full establishment of natural regeneration. The residual basal area after the first entry of shelterwood harvests is from 40 to 90 square feet/acre. The desired final condition is a well-distributed stand of adequate stocking with density greater than 450 trees/acre of well distributed softwood and hardwood stems greater than 3 feet or 5 feet, respectively.

Maintenance Selection: The purpose of this prescription is to capture imminent mortality in any stand (usually applied in mixed wood stands). This treatment typically targets mature softwood and hardwood that are at risk of mortality over the next 20 year time horizon.

Commercial Thinning: Commercial thinning treatment objectives are to promote growth of both volume and diameter on residual trees and to pre-salvage tree mortality due to suppression and other forest dynamics. These treatments have been rare due to the lack of forest stands suitable for this prescription, but future applications of commercial thinning will be substantial in both natural and planted forests.

Uneven-aged management - prescriptions where the forest is managed to maintain and expand several age classes with an objective to retain a forest canopy indefinitely. This grouping typically includes individual tree selection and riparian zone treatments. Where a truly balanced uneven aged forest can be created, it will be pursued. But some forest conditions under these prescriptions will indefinitely maintain a dominant development. The array of prescriptions under this grouping includes:

Riparian – Selection Harvest: The purpose of selection harvesting in riparian stands is to

regenerate and maintain an uneven-aged forest structure. This prescription typically occurs in riparian zones, but may also occur in areas deemed special management zones.

Hardwood – Selection Harvest: The purpose of selection harvesting in hardwood stands is to regenerate and maintain quality, tolerant hardwood trees. This operation will promote hardwood stands towards an uneven-aged condition.

Cedar - Selection: Forest stands that are predominately Cedar by stocking are managed to maintain the Cedar and the forest canopy. This objective is principally to satisfy wildlife habitat objectives. Harvests are anticipated to occur on a 25-year cycle.”

1.4.4 Management Systems

The headquarters of JDI Maine Woodlands is located outside Fort Kent, Maine, with corporate headquarters in Saint John, New Brunswick, Canada. Management operations in Maine are directed independently of other regions with support from corporate specialists. Specifically in Maine, JDI employs management personal in the areas of scaling, forest operations administration, trucking, productivity improvement, road building, silviculture, forest operations planning and wood procurement. Key support functions are provided by personnel based in the corporate headquarters in New Brunswick.

Every five-year period, the allowable harvest is re-calculated based on inventory, growth estimates and an operational net down. Based on an averaged allowable cut over a fifteen year time period, the planning forester and logging planners work to create a continuous blocked management plan. The blocking process entails grouping forest stands into operational harvest blocks and incorporating on-the-ground realities which were not considered at the non-spatial level, in addition to the rules governing the allowed opening size and delay between harvesting adjacent openings. During this processes, access to future spatial blocks is planned for the subsequent five-year period.

Harvest operations are directly administered by the harvesting supervisors and the operations superintendents. Most logging operators are independent contractors though a few are employed directly by JDI. All wood transport operations are administered by JDI trucking supervisors; roughly 20% of harvest wood is trucked by company-owned trucks and the other 80% is trucked by contractors.

Road construction and access is planned by the Planning Forester to support forest management. With regard to construction and access, JDI’s objective is to build high quality, environmentally appropriate roads and to maintain roads to such standards. Some key objectives that direct the road building program are; 1) minimize area in roads, 2) maximize safety for Irving operations and the general public, 3) minimize watercourse and wetland crossings, 4) utilize current best practices for forest road construction. It is JDI’s opinion that these objectives are best served with carefully planned, straight road systems. Road construction right-of-way widths are 60’-70’ with narrower widths at brook crossings.

Forest health and protection is maintained in conjunction with corporate-level specialists and the Maine Forest Service. Preventing and extinguishing forest fires is the highest priority protection activity. Each spring, prior to the earliest risk of fire, all staff receives training and practice on fire detection and fighting techniques. Equipment, fully functional and in top condition, is cached across JDI's land holdings, and aerial support is on standby in New Brunswick. Specifically in Maine, forest fire protection strategy includes a strong partnership with the Maine Forest Service (MFS).

With regard to insects and diseases, corporate specialists and the MFS Health and Monitoring Division conduct insect and disease monitoring on JDI woodlands. Spruce budworm is the dominant forest health issue and specific strategies are employed to mitigate its potential effects. These strategies focus on reducing the Balsam Fir component in future stands and reducing the landscape level concentration of mature fir. JDI is prepared to use insecticides in future outbreaks, if necessary, although these outbreaks are difficult to anticipate or forecast. The most certain priority in a spray program is the protection of young forest stands that are growing vigorously, both planted and natural stands.

The management of biodiversity and special areas is directed by the wildlife biologist and naturalist, who reside at the corporate level, in partnership with the logging planners and forester. Special attention is paid to older successional stages as well as the area of all successional stages of forest communities.

1.4.5 Monitoring System

Four main types of monitoring occur with regard to JDI Maine woodlands: Forest Development Surveys (FDS), continual harvest updates, Sustainable Forest Management (SFM) Scorecard and IQ200 auditing. There are also several informal systems for monitoring social and socio-economic impacts (see CAR 2009.9).

The FDS is scheduled on a ten-year cycle; maintaining conformance with this cycle is the subject of a corrective action request (see CAR 2009.8). Initially in 1996, the Maine Woodlands were delineated into stands and strata for management and modeling. FDS plots were established within a sample of stands, serving as a snapshot of the forest structure at a distinct point in time. In total, 829 stands were cruised on the Maine land base from 1996 to 2006, although mostly in 1996 (see CAR 2009.8). The FDS is supplemented by a permanent sample plot (PSP) network that provides detailed data on the stand dynamics (growth and mortality) for different components of the forest. Continually, harvest updates are made to redefine stand delineations and maintain a current inventory.

The SFM Scorecard is produced quarterly using self assessments, oversight audits, and the Environmental Management System (EMS). The score card records/measures performance against selected indicators for sustainable, ecologically sound and socially acceptable forest management. IQ200 is a program and scorecard that measures the cost, productivity and efficiency of forest management. Monitoring includes financial, customer, internal and business growth metrics.

1.4.6 Estimate of Maximum Sustainable Yield

Maximum sustained yield (MSY) is estimated using the forest inventory, growth models and a linear programming (LP) based harvest scheduling model. Each operational planning cycle, the yield as estimated from the updated forest inventory and stratum-specific projection tables (derived from growth models) are optimized over a twenty-five year planning period, subject to management constraints. The LP model, Woodstock (a widely-used, purchased forest management planning software), is constrained using sets of possible restrictions on management activities. Based on the results from multiple sets of possible constraints, the most conservative and reasonable estimate of MSY for the planning period is selected.

The results for MSY are netted down for inoperable lands within the FMU to determine the allowable annual cut (AAC). Prior to net-downs, the average MSY (X1000m³/yr) in the current 5-year planning period for the four major forest types are: 548 for spruce-fir, 600 for hardwood, 155 for cedar and 25 for white pine. After net down, the AAC for the four major forest types are: 492 for spruce-fir, 516 for hardwood, 61 for cedar and 15 for white pine.

JDI refers to the preceding estimates as non-spatial. A highbred area/volume-control method is used during the blocking process to ensure spatial constraints are met – such as size, adjacency and green up requirements. The blocking process assumes a three period, 15-year horizon for balancing actual harvest to the AAC. No formal process has been enacted to compare actual harvest volumes to predicted harvest volumes derived from the blocking process (see OBS 2009.13).

1.4.7 Estimated, Current and Projected Production

Current production, relative to the AAC, is estimated as period 1 in Tables 1.4.7.1 – 4 while projections are estimated subsequently by five-year period, by forest type.

Table 1.4.7.1. Estimated production for 2007 – 2031, spruce-fir.

Period	Total Harvest (m ³ /yr)	Clearcut	Overstory Removal	Shelter-wood	Selection Cut	Commercial Thin
1	452,000	51%	7%	36%	6%	0%
2	387,000	62%	22%	11%	5%	0%
3	471,000	62%	24%	6%	7%	1%
4	470,000	70%	22%	4%	3%	1%
5	475,000	81%	11%	1%	5%	2%

Table 1.4.7.2. Estimated production for 2007 – 2031, hardwood.

Period	Total Harvest (m3/yr)	Clearcut	Overstory Removal	Shelter-wood	Selection Cut	Commercial Thin
1	587,000	39%	5%	46%	10%	0%
2	512,000	43%	22%	26%	9%	0%
3	534,000	37%	20%	18%	25%	0%
4	430,000	23%	44%	21%	12%	0%
5	430,000	20%	61%	2%	17%	0%

Table 1.4.7.3. Estimated production for 2007 – 2031, cedar.

Period	Total Harvest (m3/yr)	Clearcut	Overstory Removal	Shelter-wood	Selection Cut	Commercial Thin
1	62,000	53%	7%	33%	7%	0%
2	58,000	55%	23%	12%	10%	0%
3	69,000	42%	46%	5%	7%	0%
4	45,000	55%	36%	5%	4%	0%
5	35,000	66%	15%	1%	18%	0%

Table 1.4.7.4. Estimated production for 2007 – 2031, white pine.

Period	Total Harvest (m3/yr)	Clearcut	Overstory Removal	Shelter-wood	Selection Cut	Commercial Thin
1	14,000	55%	8%	30%	7%	0%
2	10,000	56%	22%	12%	10%	0%
3	8,500	44%	44%	6%	6%	0%
4	5,200	56%	32%	8%	4%	0%
5	3,100	68%	16%	4%	12%	0%

1.4.8 Chemical Pesticide Use

Chemical pesticides are used on some planted stands, following an evaluation of woody competition and non-chemical alternatives. Two chemicals are applied by aerial application during appropriate weather conditions: Accord (glyphosate, 53.8%) and Chopper Gen 2 (imazapyr), the latter used experimentally in 2008. These chemicals are not on the FSC prohibited herbicide/pesticide list.

2.0 GUIDELINES/STANDARDS EMPLOYED

As the applicant forest property is located in Maine, the certification evaluation that is the subject of this report was conducted against the duly-endorsed Northeast Region of the USA Regional Standard (Version NE Final v9.0, 2/10/05). The standard is available at the FSC-US web site (www.fscus.org) or is available, upon request, from Scientific Certification Systems (www.scscertified.com).

3.0 THE CERTIFICATION ASSESSMENT PROCESS

3.1 Assessment Dates

The field and office assessment was conducted from 28 September through 2 October 2009. Stakeholder consultations continued through 5 November 2009. Prior to and following the field audit, members of the audit team engaged in other evaluative activities, including: stakeholder consultation, discussions with the Maine state forester and other Maine Forest Service staff, review of the management plan and appurtenant documents, and quantitative analysis of the JDI harvest scheduling/AAC methodology.

3.2 Assessment Team

The certification assessment was conducted by a five-person team. Dr. Robert Hrubes, Senior Vice-President of Scientific Certification Systems and principal architect of the SCS Forest Conservation Program, was the assessment team leader. As team leader and an experienced forester, Dr. Hrubes ensured the JDI Maine Woodlands were completely assessed to the Northeast Regional Standard. Team members included Katie Fernholz, Mike Thompson, Mike Dann and Kyle Holland. Ms. Fernholz conducted the stakeholder consultation in addition to participating in the field assessment. Mr. Thompson provided his expert judgment in the area of wildlife biology while Mr. Dann in forest management, especially regional expertise. Mr. Holland provided expertise in forest measurement, modeling and management.

Robert J. Hrubes, Ph.D.

Dr. Hrubes is a California registered professional forester (#2228) and forest economist with over 30 years of professional experience in both public and private forest management issues. He is presently Senior Vice-President of Scientific Certification Systems. Dr. Hrubes was fundamental in his work to develop the programmatic protocol that guides all SCS Forest Conservation Program evaluations. Dr. Hrubes has previously led numerous SCS Forest Conservation Program evaluations of North American public forests, industrial forest ownerships and non-industrial forests, as well as operations in Scandinavia, Chile, Japan, Malaysia, Australia and New Zealand.

Dr. Hrubes holds graduate degrees in forest economics, economics and resource systems management from the University of California-Berkeley and the University of Michigan. His professional forestry degree (B.S.F. with double major in Outdoor Recreation) was awarded from Iowa State University. He was employed for 14 years, in a variety of positions ranging from research forester to operations research analyst to planning team leader, by the USDA Forest Service. Upon leaving federal service, he entered private consulting from 1988 to 2000. He has been Senior V.P. at SCS since February, 2000.

Katie Fernholz

Ms. Fernholz is Executive Director of Dovetail Partners, a non-profit organization based in Minneapolis that works on issues related to sustainable forestry and responsible trade. She is

a forester with training and experience in silviculture, forest management in the Lake States region, and private lands forestry. Ms. Fernholz has been working with family forest owners and related forest management interests since 1999. Her work has included projects throughout the Upper Midwest and has ranged from assisting with the development of forestry cooperatives and the growth and development of landowner associations to supporting a variety of family forest certification efforts. She has been a leader within the forestry community in the Upper Midwest through her service as Chair of the Minnesota Society of American Foresters and her appointment to the Minnesota Forest Resources Council. Ms. Fernholz is a member of the Advisory Board for the Blandin Foundation's Vital Forests/Vital Communities Initiative, and she is also a member of the Board of Directors for the Minnesota Environmental Partnership and the College of Food, Agricultural and Natural Resource Sciences Alumni Society. Ms. Fernholz has a B.S. in Forest Resources from the University of Minnesota, College of Natural Resources and also studied at the College of Saint Benedict in St. Joseph, MN and Sheldon Jackson College in Sitka, Alaska.

Mike Thompson, Penobscot Environmental Consulting, Inc.

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 10 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. Mr. Thompson has over 25 years of experience in ecology, wildlife management, wetland science, and rare species conservation.

Mike Dann

Mr. Dann graduated from the University of Maine at Orono with a BS in Forest Management in 1968 and served 3 years in the US Naval Reserve as an officer. He is a Maine Licensed Forester (#285) and Licensed Wood Scaler. Mr. Dann has 36 years experience with the Seven Islands Land Company where he served as District Manager, Chief Forester and for 15 years until retirement in 2007, Woodlands Manager. He now works part-time for the Small Woodland Owners Association of Maine as their Land Trust Forester.

Kyle Holland

Mr. Holland is a Certified Forester with an extensive background in forest management, modeling and assessment. Prior to joining SCS in 2009, Mr. Holland worked a Resource Supervisor with the Potlatch Corporation. He is currently a Ph.D. candidate in forest biometrics and statistics at the University of California, Berkeley. Mr. Holland holds graduate and undergraduate degrees in remote sensing, forest biometrics and forest management from the Berkeley, the University of Minnesota and the University of Idaho. He holds numerous certifications from the Society of American Foresters, the American Tree Farm System, State of Minnesota, State of Wisconsin and the State of California. He also holds professional memberships with the Society of American Foresters, the American Society for Photogrammetry and Remote Sensing, the Institute of Mathematical Statistics and the International Environmetrics Society. Kyle has conducted numerous verification and validation activities under FSC, CCX, CAR, CCB and VCS. Kyle is also an approved

AFOLU expert for IFM and REDD projects under VCS.

3.3 Assessment Process

3.3.1 Itinerary

The following activities comprised the field and office phase of the FSC assessment:

- 10 September – 5 November:** Fernholz conducted special stakeholder consultation and interviews; Hrubes interacted with Maine Forest Service personnel; all team members reviewed written materials supplied by JDI.
- 28 September:** The audit team convened in Fort Kent, Maine; conducted an opening meeting with JDI managers, followed by a field visit to the Blackstone Area. The field visit included a stop at an HC VF area for scenic value, planted stands, herbicide application site and clear cut site. Team members present: Hrubes, Fernholz, Thompson, Dann and Holland.
- 29 September:** The audit team split into two groups for field visits; one team went to the northern holding while the other to the south holding. The northern team visited a shelterwood harvest area, HVCF burial ground area, Musty Blackbird HC VF area, culvert replacement, modified over story removal, bottomless culvert crossing and a bridge crossing. The southern team likewise visited numerous harvest and HC VF areas. Northern team members present: Thompson, Fernholz and Holland. Southern team members present: Hrubes and Dann.
- 30 September:** The audit team split into two groups: one team went to the north and the other south, to the Blackstone area. The northern team visited numerous harvest and retention areas while the Blackstone team visited several harvest areas, an HC VF protected bog and planted stands. Both teams interviewed operators on active harvests. That evening, Fernholz lead the stakeholder meeting in at the Northern Door Inn, Fort Kent. Northern team members present: Thompson and Dann. Blackstone team members present: Hrubes, Holland and Fernholz.
- 1 October:** The audit team participated in a short meeting with JDI management and then split into multiple groups. One team reviewed inventory procedures, AAC estimates and the strategic planning process. Another team conducted employee interviews and a reviewed the EMS. Mr. Thompson visited several field sites, including a selection harvest area with special features. The entire team reconvened for deliberations in the afternoon. Team members present: Hrubes, Thompson, Dann, Fernholz and Holland.
- 2 October:** The audit team completed deliberations and conducted a closing meeting. Team members present: Hrubes, Thompson, Dann, Fernholz and Holland.

3.3.2 Evaluation of Management System

The process by which Scientific Certification Systems evaluated the system employed by JDI in managing the Maine Woodlands entailed the following components:

- Empanelment of an interdisciplinary team with demonstrated credentials and expertise in forest certification, auditing protocols, forest management, wildlife ecology, and social science, as well as a working knowledge of forest types found in Maine and a general knowledge of Maine private industry.
- Review of reports and publications pertinent to JDI forestlands, the web site for JDI, and many file documents provided by JDI personnel.
- Extensive interviews with a broad cross-section of JDI employees, contractors and other stakeholders.
- Field reconnaissance of a broad array of forest conditions and past and present management activities.

3.3.3 Selection of FMU's to Evaluate

The Maine Woodlands are generally divided into north and south sub-FMUs or management districts. Within each sub-FMU, some groups of forestland have assigned special names by township name or natural feature. This is evidenced by the responsibilities of operations superintendents and logging planners, attached to each of the sub-units. Both the north and south units were selected and visited during the assessment.

3.3.4 Sites Visited

The following field sites were visited:

28 September:

- Long Lake, smelt watershed. The watershed is important, as a smelt spawning area as identified by Inland Fish and Wildlife, for its visual qualities, as viewed by camp owners on Long Lake, and because of a unique seep habitat identified by the Maine Natural Heritage Program (MNAP). The site has been designated to Unique Areas Program for about 8-10 years. Limited selection harvests in older hardwood stands were used to protect water quality and scenery.
- Planted Norway spruce stand. This particular stand was interplanted with non-native Norway spruce. Monitoring has revealed no negative ecological effects as supported by scientific literature.
- Planted stand. The stand was recently released using an aerial application of herbicide. All documentation on the application of herbicides seemed to be adequate.
- Clearcut with variable retention. The harvest was recently completed and retention islands were clearly visible. The area will be replanted using a mix of native and Norway spruce.

29 September:

- Active shelterwood harvest, block 6231. The prescription, a modified over story removal was confirmed. Retention policies and leave tree species for shelterwood management were discussed. Contractors were interviewed and onboard GPS operating systems were reviewed. Policies regarding vernal pool management were discussed.
- HCVF site along river. Reviewed how unique areas program incorporates and manages burial grounds. Also observed a bridged stream crossing and discussed maintenance policies.
- HCVF site on Dam Road. A unique areas site established to protect a Rusty Blackbird nest. Discussed training on unique area identification and management.
- Culvert upgrade. Discussed culvert installation and maintenance. Also discussed right-of-way considerations for stream crossings.
- Active shelterwood harvest, block 6894. Interviewed contractor, discussed buffering of unmapped stream and skid trail reuse during over story removal.
- Bottomless culvert installation. Discussed culvert choice, installation, maintenance and right-of-way.
- West Twin Brook bridge replacement. Observed a new bridge and erosion control measures.

30 September:

- Cut-to-length operation, block 6179. Selective harvesting in a riparian buffer zone. Observed and discussed equipment choice and residual basal area.
- Shelterwood harvest, block 6179. A first entry shelterwood harvest in a tolerant hardwood stand. Discussed operation and HCVF.
- Recent harvest, Deer Wintering Area (DWA). Discussed cooperative agreement with MDIFW. Discussed the protection of rare natural communities, rare wildlife habitat and rare plants.
- Clearcut with variable retention. Approximately a 60 acre clearcut with a 5-7 acre island of uncut, mature tolerant hardwood.
- Selection harvest in an un-zoned DWA. Observed and discussed an area that the community identified as a DWA although it un-zoned by the State. Removed dead, dying and poorly formed spruce.
- Shelterwood harvest, illegal firewood harvesting. Observed shelterwood in a tolerant hardwood stand. Discussed landing size, slash and chipping. Observed and discussed illegal harvesting of firewood and firewood policies.
- Single tree selection, block 6465. A 140 acre harvest in an incorporated township. Discussed the implications of harvesting in a populated area, prescription, machinery selection and access issues.
- Active cut-to-length harvest, block 6428. Site will be converted from a poplar dominated stand to a planted stand. Discussed the selected prescription, timing of market conditions and rutting. Also interviewed contract operator and COC procedures.
- Planted Norway spruce stand. Discussed harvest and block planning.
- HCVF, Orchard Bog. Discussed management practices for rare and endangered ecosystems.
- Modified shelterwood, block 6428. Observed a cut-to-length operation and interviewed contract operator. Observed minor sedimentation of stream crossing. Inspected health

management strategies.

- Pre-commercial thinning of a mixed softwood stand. Observed the results from a 1994 thinning on a stand that was naturally regenerated in 1985 from an over story removal.
- Planted white spruce stand. Observed the structure of a planted stand, 1985. Discussed forest structure and ecological function.
- Natural white spruce stand. Observed forest structure compared to the planted white spruce stand.

1 October:

- Shelterwood and selection harvest, block 6325. Meet with contractor and discussed harvest layout. Also discussed the installation of water bars on skid trails.

3.3.5 Stakeholder Consultation

Pursuant to SCS protocols, consultations with key stakeholders were an integral component of the evaluation process. Consultation took place prior to, concurrent with, and following the field evaluation. The following were distinct purposes to the consultations:

- To solicit input from affected parties as to the strengths and weaknesses of the J.D. Irving Woodlands LLC - Maine Operations, relative to the standard, and the nature of the interaction between the operations and the surrounding communities; and
- To solicit input on whether representatives of the forest management operation have consulted with stakeholders regarding identifying any high conservation value forests.

Principal stakeholder groups of relevance to this evaluation were identified based upon lists of stakeholders from the operations being evaluated and additional stakeholder contacts from other sources (e.g., members of the regional FSC working group, prior contacts made by SCS auditors on other projects within the region). JDI has an established stakeholder committee made up of a wide spectrum of public interest groups with meetings held at least quarterly and with agenda items that include a review of planned activities and an open request for any new issues or concerns. JDI also has a Forest Research Scientific Advisory Committee that provides more technical as well as policy level input to management. Members of these committees were included in the stakeholder contacts for this certification evaluation.

The following types of groups and individuals were determined to be principal stakeholders:

- J.D. Irving Woodlands LLC - Maine Operations employees and contractors;
- Members of JDI's stakeholder committee and Forest Research Advisory Committee
- Adjacent property owners;
- Pertinent Tribal members and or representatives;
- Members of the Regional FSC Working Group/National Initiative;
- FSC International;
- Local and regionally-based environmental organizations and conservationists;
- Local and regionally-based social interest organizations;

- Forest industry groups and organizations;
- Purchasers of logs harvested on forestlands enrolled in the program;
- Local, State, and Federal regulatory agency personnel;
- User groups, such as hikers, hunters, ATV users, and others; and
- Other relevant groups.

Prior to, during, and following the site evaluation, a wide range of stakeholders were consulted in regard to their relationship with the J.D. Irving Woodlands LLC - Maine Operations and their views on the management of the forests. Stakeholders included FSC contact persons, government and non-government organizations involved in forest management, local citizens and groups, employees, contractors, and others. Stakeholders were contacted with notification mailings soliciting comments and inviting participation in the public meeting. Notifications were distributed primarily via email. Phone contacts were also made. Stakeholders representing diverse environmental, social and economic interests were contacted during the process and invited to provide comments. Comments were received via meetings and personal interviews (“face-to-face”), phone interviews (“Interview”), and through written responses. Entities contacted but providing no comments and those who did not respond to the request for input are indicated as “No Response” (NR). Individuals providing comments were asked to provide permission to be listed in the report and additional comments were received from individuals not wishing to reveal their identities and/or requesting that their names not be listed in the report.

Name	Affiliation	Consultation
Laura Audibert	Consulting Forester	Interview
Colin Bartlett	Logging Contractor	Interview
Cole Bernier	Logging Contractor	Face-to-Face
-----	Maine Audubon	NR
-----	Land Use Regulatory Commission (LURC)	NR
Andy Cutko	Maine Natural Areas Program	Interview
Robert Daigle	Trucking Contractor	Face-to-Face
Jeff Dube	Univ of Maine – Fort Kent	Interview
Stephen Follette	Domtar Industries, Inc.	Written
Alec Giffin	Maine Forest Service	Interview/Written
Grey Francis	Town Manager – Danforth	Interview
Dave Hobbins	Univ of Maine – Fort Kent	Interview
Richard Hoppe	Maine Dept of Inland Fish & Wildlife	Interview
-----	Maine Tree Foundation	NR
Sen. Troy Jackson	Senator	Interview
James Jandrau	Logging Contractor	Face-to-Face
Kathy Johnson	Natural Resources Council of Maine	Interview/Written
Ryan Kelly	Logging Contractor	Face-to-Face
Ken Lausten	Maine Forest Service	Interview
Josh Lewin	Logging Contractor	Face-to-Face
Don Mansius	Maine Forest Service	Interview/Written
Jerry McLaughlin	Aroostook County Conservation Association	Interview
Sarah Medina	Seven Islands Land Co.	Written

-----	Prentiss & Carlisle	NR
Mike Nadeau	Logging Contractor	Face-to-Face
Joe Pelletier	Logging Contractor	Face-to-Face
Vinal Porter	Store Owner	Interview
Tom Rumpf	The Nature Conservancy	Interview
Rivard Sebastian	Logging Contractor	Face-to-Face
-----	Penobscot Indian Nation	NR
-----	Maine Forest Products Council	NR
-----	Forest Resources Association	NR
Jennifer Vacshon	State of Maine	Interview
Robert Wagner	University of Maine	Interview
Kenneth White	Seven Islands Land Co.	Interview
Andy Whitman	Manomet Center for Cons Sciences	Written/Interview
Tom Whitworth	Maine Forest Services	Written/Face-to-Face

3.3.5.1 Summary of Stakeholder Concerns and Perspectives and Responses from the Team Where Applicable

The following tables provide a summary of the comments received from stakeholders related to major perspectives, concerns and commendations regarding the management of the Irving Maine Woodlands.

Social Concerns

Comment/Concern	Response
<ul style="list-style-type: none"> Irving has been gracious to allow trapping and provides good information to their stakeholder group. 	Duly noted
<ul style="list-style-type: none"> Irving has provided financial support for the local dogsled race and fund raising in response to flood damage. 	Duly noted
<ul style="list-style-type: none"> Irving contributes to public education and cooperates with local schools and others to provide tours, training and education events. 	Duly noted
<ul style="list-style-type: none"> Irving needs a better dispute resolution process. 	The audit team concluded that there are opportunities to improve relationships with contractors, see CAR 2009.2 and OBS 2009.4
<ul style="list-style-type: none"> Maine is better off having Irving as the landowner as a family business rather than having a TIMO or REIT. 	The audit team found that socio-economic impacts are not consistently monitored, see

	CAR 2009.9
<ul style="list-style-type: none"> • Irving staff and foresters are well trained. 	Duly noted
<ul style="list-style-type: none"> • Irving is collaborating on deer management and wintering areas. 	Duly noted
<ul style="list-style-type: none"> • Forest Practices Act regulations are baseline performance measures and should be enforced, even if an operation is FSC certified. 	The audit team notes that enforcement of applicable laws and regulations occurs independent of the FSC certification process. FSC requirements generally exceed regulatory requirements
<ul style="list-style-type: none"> • Irving can't be FSC certified because they don't meet the social criteria; they don't allow their workers to organize. 	The audit team found room for improvement in regards to community relations and workers' rights. See CAR 2009.2, OBS 2009.3, OBS 2009.4, OBS 2009.5, OBS 2009.6. However, the audit team does not conclude that Irving does not allow their workers to organize; notably, preventing workers from organizing would be a violation of federal and state laws.
<ul style="list-style-type: none"> • Double shifting doesn't work well; especially when equipment breaks down at night and parts aren't available or an accident isn't discovered. 	The audit team investigated the use of double shifting and found opportunities for improvement in contractor

	negotiations, see CAR 2009.2
• Irving needs to develop relationships with contractors.	See CAR 2009.2
• Irving has the best and safest roads in the state.	The audit team observed a well constructed and well maintained road system.
• Irving hires a lot of students from the local University.	Duly noted
• There is too much pressure on the workers and contractors to meet productivity goals; too much stress.	See CAR 2009.2

Economic Concerns

Comment/Concern	Response
• Irving does not pay contractors in a timely manner with payments often delayed more than 30 days.	See CAR 2009.2
• Don't like having harvesters operating at night – too aggressive and work is sloppy.	Duly noted. This matter was discussed with Irving personnel and we were informed of instances where night logging has been modified in order to accommodate concerns over noise by neighbors. Further, we were unable to discern any pattern where night logging was demonstrably more impacting than day logging.
• There is a lot of turnover with Irving employees and it makes it difficult to build relationships.	The audit team did not find evidence that turnover exceeds regional norms.
• Irving makes people work for nothing and is putting people out of business.	See CAR 2009.2
• Irving does a good job of making investments and spending money when there is an opportunity.	Duly noted

emphasis on maximizing timber revenues.	Duly noted
<ul style="list-style-type: none"> Spruce rotations for sawlog production should be 100 to 120 years rather than 80. 	The audit team found that the land manager must review the approach being taken to defining and targeting old forests, see CAR 2009.4
<ul style="list-style-type: none"> They are the only land manager in Maine doing intensive silviculture; demonstrates what northern forests are capable of. 	Duly noted
<ul style="list-style-type: none"> Irving is a steadfast supporter of forestry and wildlife research. 	Duly noted
<ul style="list-style-type: none"> The Irving family is committed to Maine and investments stay in the state. 	Duly noted

Environmental Concerns

Comment/Concern	Response
<ul style="list-style-type: none"> Irving has provided GIS maps and management plan information to support research about preferred lynx habitats. 	Duly noted
<ul style="list-style-type: none"> Irving harvests result in high blowdown risks because they cut too hard. 	The audit team found that a more robust green tree retention policy is needed, see CAR 2009.5
<ul style="list-style-type: none"> Irving focuses too much on softwood management; waste of hardwoods, and big machines damage hardwoods. 	The audit team found that a process for updating the inventory is needed, see CAR 2009.8. We observed no systematic evidence of poor management of hardwoods
<ul style="list-style-type: none"> Irving should do more with natural regeneration rather than planting and plantations. 	The audit team did not find evidence that planting is being used to the exclusion of natural regeneration.

<ul style="list-style-type: none"> Irving has been working on an HCVF review this summer, including a review of potential representative sample areas. 	See OBS 2009.15 regarding HCVF monitoring
<ul style="list-style-type: none"> Irving lacks a definition of “old forests” and needs a strategy for identifying and managing for them in compliance with the FSC standard. 	The audit team found that the land manager must review the approach being taken to defining and targeting old forests, see CAR 2009.4
<ul style="list-style-type: none"> Would like to see Irving do more partial cuts for wildlife benefits with 30-45% removal rather than total overstory removal. 	Duly noted
<ul style="list-style-type: none"> The landscape has changed and there are lots of 15-20 year old even-aged softwoods now. The landscape is fragmented. 	The audit team found that a process for updating the inventory is needed, see CAR 2009.8
<ul style="list-style-type: none"> Irving’s road system has fragmented wildlife habitats and created water quality and beaver control problems. Irving needs to look at the full costs of this road system. 	The audit team found an opportunity to improve the review of management outcomes, see OBS 2009.13
<ul style="list-style-type: none"> Irving should reduce the use of pesticides, they use too much. 	The audit team found the forest management operation to be in compliance with the FSC Pesticide Policy
<ul style="list-style-type: none"> Irving is overharvesting with cutting levels exceeding growth. 	The audit team found that a process for updating the inventory is needed, see CAR 2009.8
<ul style="list-style-type: none"> Irving has a fantastic GIS system 	The audit team observed the use of the GIS system in the office and in the field by employees and contractors.
<ul style="list-style-type: none"> Irving’s management reduces deer habitat and puts 	See CAR 2009.3

<p>pressure on other land managers to provide this habitat.</p>	<p>regarding the development of habitat for non-RTE species. Irving maintains numerous deer yards in the Maine Woodlands; it is our sense that Irving is doing its fair share with respect to deer habitat</p>
<ul style="list-style-type: none"> • Irving doesn't coordinate harvesting with adjacent landowners. 	<p>We observed instances where coordination with adjacent landowners is, in fact, taking place. See CAR 2009.7 regarding the publicly available summary of the management plan.</p>

3.3.6 Other Assessment Techniques

No other assessment techniques were deemed necessary. Most of the audit team members are quite familiar with forest practices in Maine. Also, two team members had participated in past certification assessments of JDI's forest management. A public meeting was noticed and scheduled, but no one from the surrounding community (Fort Kent area) attended the meeting.

3.4 Total Time Spent on audit

In total, the five members of the audit team and SCS staff spent 27 person days on the assessment.

3.5 Process of Determining Conformance

FSC accredited forest stewardship standards consist of a three-level hierarchy, principle, then the criteria that make up that principle, then indicators that make up each criteria. Consistent with SCS Forest Conservation Program evaluation protocols, the team collectively determines whether or not the subject forest management operation is in conformance with every applicable indicator of the relevant forest stewardship standard. Each non-conformance must be evaluated to determine whether it constitutes a major or minor non-

conformance at the level of the associated criterion or sub-criterion. Not all indicators are equally important, and there is no simple numerical formula to determine whether an operation is in non-conformance. The team must use their collective judgment to assess each criterion and determine if it is in conformance. If the forest management operation is determined to be in non-conformance at the criterion level, then at least one of the indicators must be in major non-conformance.

Corrective action requests (CAR's) are issued for every instance of non-conformance. Major non-conformances trigger Major CAR's and minor non-conformances trigger Minor CAR's

Interpretations of Major CAR's (Preconditions), Minor CARs and Recommendations

Major CARs/Preconditions: Major non-conformances, either alone or in combination with non-conformances of other indicators, result (or are likely to result) in a fundamental failure to achieve the objectives of the relevant FSC Criterion given the uniqueness and fragility of each forest resource. These are corrective actions that must be resolved or closed out prior to award of the certificate. If major CAR's arise after an operation is certified, the timeframe for correcting these non-conformances is typically shorter than for minor CAR's.

Certification is contingent on the certified operations response to the CAR within the stipulated time frame.

Minor CARs: These are corrective action requests in response to minor non-conformances, which are typically limited in scale or can be characterized as an unusual lapse in the system. Corrective actions must be closed out within a specified time period of award of the certificate.

Observations (OBS): These are suggestions that the audit team concludes would help JDI move even further towards exemplary status. Action on the recommendations is voluntary and does not affect the maintenance of the certificate. Recommendations/observations can be subsequently changed to CARs if performance with respect to the criterion triggering the recommendation/observation falls into non-conformance.

4.0 RESULTS OF THE EVALUATION

Table 4.1 below, contains the evaluation team's findings as to the strengths and weaknesses of the subject forest management operation relative to the FSC Principles of forest stewardship. The table also presents the corrective action request (CAR) numbers related to each principle.

TABLE 4.1 NOTABLE STRENGTHS AND WEAKNESSES OF THE FOREST MANAGEMENT ENTERPRISE RELATIVE TO THE P&C

Principle/Subject Area	Strengths Relative to the Standard	Weaknesses & Observations Relative to the Standard
<p>P1: FSC Commitment and Legal Compliance</p>	<ul style="list-style-type: none"> • There are SOPs for riparian buffers allocation. • A clear chain of command has been established for security purposes. • Staff members demonstrate appropriate understanding of LURC regulations and apply for appropriate permits • No evidence of broad non-compliance with applicable regulations • Analysis of treaties, international agreements, and ILO conventions related to forest management completed • Cooperation with North Maine Woods, and other internal efforts, minimizes the potential for illegal harvesting • Company has made a demonstrated commitment to adhere to FSC Principles and Criteria • Rationale for seeking certification of only the Maine holdings provided 	<ul style="list-style-type: none"> • Analysis of applicable ILO Conventions, such as <i>ILO Code of Practices on Safety and Health in Forestry Work</i>, could be improved • (see OBS 2009.1)

P2: Tenure & Use Rights & Responsibilities	<ul style="list-style-type: none"> • Culturally appropriate consultation with tribes resulted in protection of burial site • Consulted with Town of Allagash on Deer Wintering Area Management • Stakeholders group issues are member –driven • ATV trail system established • Rolled over leases when lands acquired from other owners 	<ul style="list-style-type: none"> • No formal plan for maintaining ownership boundaries • Should consult with minority landowners where there is common-and-undivided ownership regarding inclusion in pool of FSC-certified lands • (see CAR 2009.1)
P3: Indigenous Peoples' Rights	<ul style="list-style-type: none"> • Culturally appropriate effort to contact tribes • Sites of special cultural significance are protected • Confidentiality of disclosures regarding culturally significant sites is maintained 	<ul style="list-style-type: none"> • (see OBS 2009.2)

<p>P4: Community Relations & Workers' Rights</p>	<ul style="list-style-type: none"> • Consulted with Town of Allagash on Deer Wintering Area Management • Stakeholders group issues are member –driven • ATV trail system established • Rolled over leases when lands acquired from other owners • A long list of money, time, and people committed to community projects • The company meets regularly with contractors regarding how work is packaged • Salary and benefits packages for company employees meet or exceed industry norms • Qualified local foresters and contractors are used • Goods and services are procured locally whenever possible • The company contributes to public education regarding forestry practices • The company supports research at the University of Maine at Orono • The company actively supports training activities for employees and contractors • The company is working with the Maine State Historic Preservation Office to identify sites with a high likelihood for containing pre-historic artifacts 	<ul style="list-style-type: none"> • Room for improvement remains regarding how work is packaged (e.g, payment rates, hours of operation, number of shifts) to ensure that quality work opportunities are available to logging contractors • Additional training in small business management should be offered to logging contractors • Policies regarding land-disturbing activities (e.g., road construction) in areas with a high likelihood for containing pre-historic artifacts should be clarified • More effort could be made to identify sites related to the history of settlement and logging in the region • (see CAR 2009.2) • (see OBS 2009.3) • (see OBS 2009.4) • (see OBS 2009.5) • (see OBS 2009.6)
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<p>P5: Benefits from the Forest</p>	<ul style="list-style-type: none"> •The company has demonstrated a commitment to long-term forest management •The company reinvests in forest management as evidenced by expenditures related to road maintenance, inventory, stand improvement, and staff training •New markets, including markets for low-grade logs, are continually explored •Local processing of value-added products •Maine Natural Areas Program retained to screen landscape for rare and unique natural communities and rare plants •Specific protocols and training regarding conservation of biodiversity in cut blocks •Riparian buffer zones exceed regulatory requirements •The company cooperates with the Maine Department of Inland Fisheries and Wildlife concerning Deer Wintering Area management •Specific protocols and monitoring regarding ensuring that road culverts pass fish •Explicit quantitative wood supply analysis 	<ul style="list-style-type: none"> • Have not achieved pre-commercial thinning targets in the last 3 years • Rules for leaving structural diversity discourage leaving larger, older trees ;especially hardwood • Protocols for retaining islands in clearcut blocks could be applied to shelterwood harvests • Protocols for retaining advanced hardwood regeneration in planting blocks could be enhanced • Landscape-scale analysis of the impacts of intensive even-aged forest management are not explicit • Inventory data used to support wood supply analysis are dated and may not fully support AAC calculations for all strata • (see CAR 2009.8) • (see OBS 2009.7)
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<p>P6: Environmental Impact</p>	<ul style="list-style-type: none"> • Riparian zone policy exceeds state law • Assessment of total ownership by MNAP • Unique Areas Program is responsive to this Principle • Cooperation with MNAP regarding Representative Sample Areas • The analysis conducted by MNAP is complete but JDI should periodically follow-up with MNAP on an on-going basis • Road construction BMP manual and on-going assessment of maintenance needs • Good procedures for chemical handling and use. • Use of exotics – Norway Spruce- well researched. • A Scientific Advisory Committee, consisting of outside experts, is used to guide company's environmental policies • Specific policies regarding retention of old and very old age classes • Forest managers have a good understanding of historical influences, such as budworm, fire, and past high-grading • Company actively supports CFRU and sponsors a forestry faculty position • Working with federal agencies to ensure timely completion of soils mapping • Existing soil information (e.g., hydrology) used to characterize site potential • Many prescriptions are aimed toward restoring more natural stand conditions • Detailed digital mapping of features such as small wetlands, headwater streams, and vernal pools is used to plan harvests and minimize environmental impacts • Local softwood seed sources used to develop planting strains 	<ul style="list-style-type: none"> • Current impacts and avoidance monitored but cumulative impacts not evaluated • While invasives are not a big problem, Standard calls for a policy; there is none. • The company has not explicitly evaluated current habitat conditions across the ownership • Outside experts should be consulted regarding the company's definition of old and very old age classes in forested communities • Assessment of historical ecosystem conditions should be more explicit • Consideration of landscape-scale patterns is not explicit (e.g., the spatial distribution of younger age classes) • Representative Sample Areas are not adequately described in the management plan • Protocols and training needed regarding the identification and conservation of small patches of remnant old growth • Specific protocols needed regarding the potential future conversion of forests to non-forest uses • (see CAR 2009.3) • (see CAR 2009.4) • (see CAR 2009.5) • (see CAR 2009.6) • (see OBS 2009.9) • (see OBS 2009.10)
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P7: Management Plan	<ul style="list-style-type: none"> • Long-term objectives are clearly stated in the management plan • Description of the timber resource is comprehensive • Management plan includes a detailed long-term wood supply analysis • Monitoring programs are adequately described • Plans for the identification of rare, threatened, and endangered species are comprehensive • Forest mapping system is detailed and kept up-to-date • Digital resource maps are downloaded into computers within harvesting equipment • Company workers receive regular training regarding plan implementation 	<ul style="list-style-type: none"> • Many of the elements required in the Plan are in supporting documents that should be referenced in the Plan. • No information on soils in the management plan, but existing soils information does inform harvest planning operations • (see CAR 2009.7) • (see OBS 2009.11)
P8: Monitoring & Assessment	<ul style="list-style-type: none"> • System to monitor cost, productivity and efficiency is excellent • Comprehensive system for monitoring harvest operations • Results of monitoring efforts are routinely used to update the management plan 	<ul style="list-style-type: none"> • Protocols for monitoring changing in flora and fauna should be more explicit • Protocols for monitoring the social impact of forest management should be more explicit • (see CAR 2009.8) • (see CAR 2009.9) • (see CAR 2009.10) • (see OBS 2009.12) • (see OBS 2009.13) • (see OBS 2009.14)

<p>P9: Maintenance of High Conservation Value Forest</p>	<ul style="list-style-type: none"> • MNAP assessment of the total land base complete and this information was used to identify HCVF • The use of an outside expert party (MNAP) ensures that up-to-date, objective science was used to identify potential HCVF • Database used to record efforts made to manage and conserve HCVF • Company has in-house expert ecologists to ensure implementation of the company's HCVF conservation program 	<ul style="list-style-type: none"> • Protocols for monitoring HCVF and determining appropriate management options should be more explicit • Forest managers should receive additional training in HCVF concepts so that they more fully understand the FSC's definition of these resources • (see OBS 2009.15)
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4.2 Major Correction Action Requests (Pre-conditions)

Pre-conditions are Major Corrective Action Requests (CARs) that are placed on a forest management operation after the initial evaluation and before the operation is certified. Certification cannot be awarded if open preconditions exist.

No Major Corrective Action requests resulted from the certification evaluation.

4.3 Status of Extant Conditions

As this was an initial assessment, there were no pre-existing and outstanding (i.e., not closed out) Corrective Action Requests.

5.0 CERTIFICATION DECISION

5.1 Certification Recommendation

As determined by the full and proper execution of the SCS *Forest Conservation Program* evaluation protocols, the evaluation team hereby recommends that the J.D. Irving LLC – Maine Woodlands be awarded FSC certification as a “Well-Managed Forest” subject to the corrective action requests stated in Section 5.2 . J.D. Irving LLC – Maine Woodlands has demonstrated that their system of management is capable of ensuring that all of the requirements of the Northeast Region of the U.S.A. Forest Stewardship Standard are met over the forest area covered by the scope of the evaluation. J.D. Irving LLC – Maine Woodlands has also demonstrated that the described system of management is being implemented consistently over the forest area covered by the scope of the certificate.

5.2 Corrective Action Requests

Non-conformance: Some of the towns managed by JDI have multiple owners with common, undivided ownership. To avoid possible challenges or problems arising after award of certification, JDI needs to inform and seek the consent of these owners to include those towns within the scope of the FSC certification.	
CAR 2009.1	Written consent must be obtained from the 4 significant minor owners with undivided interest in towns managed by JDI that they acknowledge and agree to those shared-ownership towns being included in the scope of the certification audit. JDI should consider informing all additional minority owners of towns managed by Irving that are part of this certification evaluation.
Deadline	60 days after award of certification
Reference	FSC Regional Indicator 2.1.a
JDI Response, as of 11/15/09	Letters have been sent to the following minority landowners: <ul style="list-style-type: none"> - Town of Dyer Brook – has replied with consent - Town of Portage – has replied with consent - Huber – has replied with consent

	<ul style="list-style-type: none"> - Prentice and Carlisle – has replied with consent - Haynes – has replied with consent - Orion – has replied with consent - State of Maine – has replied with consent <p>The seven largest minority landowners have now provided written consent that the townships with undivided shared ownership can be included in the scope of the Irving Maine Woodlands certification. Responsible party: Ked Coffin</p>
Auditor comment (11/19/09)	The requested actions and results have been completed.
Status of CAR:	CAR Closed

Non-conformance: While relations with contractor loggers and truckers have improved in recent years, there still remain points of tension and less than full satisfaction on the part of contractors and the terms and modes of interaction with JDI. Without further progress in finding the optimal balance between productivity/efficiency and contractor satisfaction, we cannot conclude that there is full conformity to the FSC requirements that forest work is packaged and offered in ways that create quality work opportunities for contractors, where quality is defined (in Regional Indicator 4.1.a) to include: a mixture of diverse tasks, opportunities for advancement, a comprehensive package of benefits, participation in decision making.	
CAR 2009.2	JDI must review the current state and terms of relations with contract loggers and truckers in order to identify and implement actions that would lead to improved contractor satisfaction with the terms of their relationships with JDI.
Deadline	Six months after award of certification
Reference	FSC NE Regional Indicators 4.1.a and 4.1.c
JDI Response, as of 11/15/09	JDI will meet one on one with each contractor to ask for ideas of what JDI needs to do to improve contractor satisfaction. The ideas will be prioritized and an action list will be created and implemented, by 30 April 2010. Responsible party: Peter Tabor
Auditor comment (11/19/09)	To solicit input, mechanisms beyond one-on-one, face-to-face meetings would be helpful as the proposed format is perhaps going to prevent frank input. Additional mechanisms might include a group meeting or use of an on-line survey tool that would allow for anonymous comments. And aside from seeking further input from contractors, JDI would benefit from soliciting input from its own staff who have dealings with contractors.
Revised JDI Response, as of	JDI will meet one on one with each contractor to ask for ideas of what JDI needs to do to improve contractor satisfaction. The ideas will be prioritized

11/23/09	and an action list will be created and implemented. Additionally, JDI staff that deal directly with contractors will be solicited for input on improving contractor satisfaction. A survey will be conducted to allow contractors to give input anonymously.
Status of CAR:	Open

Non-conformance: JDI cannot, at present, provide objective evidence that it has conducted an FME-wide assessment of current conditions with regard to habitat for “other” (non-RTE) species and, on the basis of the conditions assessment, to develop and implement options to maintain and/or restore necessary habitat conditions/features.	
CAR 2009.3	Using cover type and inventory data, JDI must design and complete an assessment of current habitat conditions for non-RTE species and, based upon the outcome of the assessment, identify and implement actions aimed to addressing any identified habitat deficiencies.
Deadline	First annual audit
Reference	FSC NE Regional Indicators 6.1.a &e
JDI Response, as of 11/15/09	JDI will use our ground survey and forest cover type data to assess “Old Tolerant Hardwood”, “Old Mixed Wood”, “Old Cedar”, “Old Pine & Hemlock”, and “Old Softwood” forest types which we believe are the forest habitats most susceptible to be impacted by our management. We will review this assessment, consult with experts, and implement strategies to address any deficiencies of concern. Responsible party: John Gilbert
Auditor comment (11/19/09)	The focus of the CAR is not exclusively on “old” cover types (CAR 2009.4 focuses on old forest). Before acting upon its premise that only “old” cover types need to be considered, consultation with an outside ecologist before implementing this action plan would be advisable.
Revised JDI Response, as of 11/23/09	JDI will use our ground survey and forest cover type data to assess “Old Tolerant Hardwood”, “Old Mixed Wood”, “Old Cedar”, “Old Pine & Hemlock”, and “Old Softwood” forest types which we believe are the forest habitats most susceptible to be impacted by our management. Additionally, we will review “Habitats of Concern” and the results of our assessment with external experts, and implement strategies to address any concerns.
Status of CAR:	Open

Non-conformance: While JDI has promulgated a policy for retaining a defined proportion of the Maine forest estate in old forest and very old forest cover, the numerical targets (7% old and 3% very old) as well as the chronological definition of “old” and “very old” without the benefit of consultation with appropriate scientific experts. As such, JDI presently cannot adequately justify the ecological appropriateness and adequacy of its old forest policy.	
CAR 2009.4	JDI must formally seek and duly consider scientific advice on the ecological appropriateness/adequacy of the 7%/3% targets for old forest and very old

	forest cover as well as the definition (age delineations) for “old” and “very old.”
Deadline	First annual audit
Reference	FSC Regional Indicator 6.3.a.5
JDI Response, as of 11/15/09	We will review our “Late-Successional Forest” policy with our Forest Research Advisory Committee and other local experts, and consider their advice. Yes, the committee does include forest ecologists with pertinent expertise. Responsible party: John Gilbert
Auditor comment (11/19/09)	Make sure that input received is adequately documented.
Status of CAR:	Open

Non-conformance: JDI’s even-aged regeneration harvest green tree retention policy is to leave retention only for cut blocks greater than 25 acres (10 hectares). In practice, then, there is no retention for even-aged cut blocks less than 25 acres and typically one island or periphery reserve for cut blocks greater than 25 acres. This “yes/no” retention policy can, at best, be considered to be tenuously responsive to the NE Standard’s requirement that “retention of live tgress and native vegetation within the harvest unit is based on an analysis of surrounding stand and landscape conditions” and that “the level of retention increases with the size of the management unit,”	
CAR 2009.5	JDI must develop and implement a more robust green tree retention policy for all types of even-aged regeneration harvest systems and to assure that retention levels are more clearly scaled to the size of harvest unit as well as being influenced by surrounding stand and landscape conditions.
Deadline	First annual audit
Reference	FSC NE Regional Indicator 6.3.a.8
JDI Response, as of 11/15/09	We will revise our present “Structural Diversity” policy prior to the 2010 spring start-up to address additional even-aged regeneration harvest treatments of all area size classes.
Auditor comment (11/19/09)	Duly Noted
Status of CAR:	Open

Non-conformance: JDI has not provided objective evidence that its management activities on the Maine forest estate assures conformity with NE Regional Indicator 6.4.c which requires that all known areas of intact old-growth forests are designated as representative sample areas and are reviewed for designation as High Conservation Value Forests. Further, known areas of un-entered stands of old-growth will be carefully reviewed, screened for uniqueness and considered as potential representative sample areas.	
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CAR 2009.6	JDI must survey/analyze its Maine forest estate for the presence of intact old growth forests and un-entered old growth stands (as defined by the Regional Standard). Any areas found to meet the definition of un-entered or intact old growth must be managed in conformity to NE Regional Indicator 6.4.c.
Deadline	First annual audit
Reference	FSC NE Regional Indicator 6.4.c
JDI Response, as of 11/15/09	JDI will extend our "Rare Plant Pre-Screening Program" to include elements of HCVF. We will develop risk maps to aid our block layout staff in identifying areas with high HCVF probabilities. We will train our layout staff to recognize the characteristics of "intact" and "un-entered" old-growth forest stands. When such stands are found on the ground, they will be further assessed and reviewed for potential designation as High Conservation Value Forest and inclusion in the JDI Unique Areas Program. Responsible party: John Gilbert
Auditor comment (11/19/09)	This planned response to the CAR looks to be appropriate.
Status of CAR:	Open

Non-conformance: The management plan for the JDI Maine forest estate does not presently address all subject areas stipulated in FSC Criterion 7.1. The publicly available summary of the management plan, if the entire plan is not made publicly available, must also address all stipulated subject areas.	
CAR 2009.7	JDI must carefully compare the content of the management plan for its Maine forestlands against the content requirements stipulated in FSC Criterion 7.1. and in Criterion 7.4. The management plan, and the public summary thereof in the event that the entire management plan is not publicly available, must be augmented to incorporate any missing elements, such as the requirement that the plan identifies relevant cultural and socioeconomic issues, conditions, and areas of special significance.
Deadline	First annual audit
Reference	FSC NE Regional Indicator 7.1.b.3; 7.1.b4
JDI Response, as of 11/15/09	JDI will post the existing public summary of the Maine Management Plan on the company website by Jan 1 st 2010. The Management Plan will be rewritten to address any missing elements from FSC Criterion 7.1. A new public summary based on the rewritten Management Plan will be posted on the company website by June 1st 2010. Responsible party: Scott MacDougall
Auditor comment (11/19/09)	This planned response to the CAR looks to be appropriate.

Status of CAR:	Open
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Non-conformance: At the time of the exit meeting on October 2nd, the audit team had tentatively identified the following Corrective Action Request:

“JDI must assess the accuracy of the Maine forestlands inventory to determine if it requires updating in order to assure its adequacy for supporting the annual allowable harvest (AAC).”

Subsequent to and on the basis of additional information supplied after the field visit, the audit team examined the precision of JDI’s forest inventory for its Maine forestlands. Our analysis of the current forest inventory leads us to conclude that:

- The intended sampling design was a two-stage cluster, and the strata were developed into yield curve projections by productivity classes.
- The sample consisted of 829 stands (first stage) and approximately 6700 plots (second stage).
- The provided estimates of standard error could not be verified assuming the supposed sampling design.
- The provided estimates of standard error were downwardly biased and overly conservative assuming the supposed sampling design.
- Independent estimates of standard error (also downwardly biased and conservative) were greater than the provided estimates assuming the supposed sampling design.
- Generally, independent estimates of standard error were greater than 10% SE of the mean at the 95% confidence level within most strata.
- The true standard error is most likely larger than either the provided or independent estimates because plot-level data are “censored.”⁵ This occurrence arises from the definition of an unbiased estimate of standard error for the two-stage cluster sample; the variances of first and second stage estimates are additive.
- The plot-level inventory for the entire Maine woodlands has not been completely updated in 11 years.

In order to support the Maine forestlands’ allowable annual cut, JDI must update their inventory and provide uncensored estimates of inventory precision. That is, estimates should be within 10% SE of mean at the 95% confidence level given the plot data (as opposed to only the stand data).

As such, we have substantially revised and strengthened this Corrective Action Request as

⁵ “Censoring” is a statistical term pertaining to sampling circumstances where the value of an observation is only partially known. Such situations may arise, for instance, when the true value of an observation lies outside of the range of the measurement device. Censoring, in the vernacular of statistics, is not a pejorative term

compared to how it was provisionally specified on October 2 nd .	
CAR 2009.8	<p>a)JDI must develop and commit to an inventory update plan which details how they will bring their inventory up to national standards within a reasonable amount of time, which we consider to be 5 years and which would coincide with the term of the FSC certification of the Maine forest estate.</p> <p>b)The inventory update plan must include benchmarks to which they will be evaluated during annual surveillance audits following award of certification.</p> <p>c)The framework for the inventory update should be designed to achieve a reasonable level of precision and should include procedures to maintain all plot-level data.</p>
Deadline	Three months after award of certification for submittal of the plan for updating the inventory, including specification of annual progress benchmarks for completing the inventory update within the 5-year term of certification.
Reference	FSC NE Regional Indicators 5.6.a & 8.2.b.1
JDI Response, as of 11/15/09	<p>2010 - JDI will acquire new imagery of our Maine land base.</p> <p>2010-2011 - photo interpretation of the Maine land base.</p> <p>2011-2012 – ground survey plots will be measured at an intensity that will be statistically valid, and consistent with industry norms for the region.</p> <p>2013 – a new Management Plan will be finalized for the Maine Lands.</p> <p>Responsible party: Walter Emrich</p>
Auditor comment (11/19/09)	<p>A written inventory update plan needs to be prepared and submitted to SCS within 3 months of award of certification.</p> <p>The proposed benchmarks look to be consistent with the CAR.</p>
Revised JDI Response, as of 11/23/09	<p>A written inventory update plan will be prepared and submitted to SCS by Jan 31st, 2010 that will include the following:</p> <p>2010 - JDI will acquire new imagery of our Maine land base.</p> <p>2010-2011 - photo interpretation of the Maine land base.</p> <p>2011-2012 – ground survey plots will be measured at an intensity that will be statistically valid, and consistent with industry norms for the region.</p> <p>2013 – a new Management Plan will be finalized for the Maine Lands.</p>
Status of CAR:	Open

Non-conformance: JDI does not, at present, have a procedure in place for systematically monitoring the socio-economic impacts—both positive and negative—of its management programs and activities on the regional, cross-border economy.	
CAR 2009.9	JDI must develop and implement an impact monitoring protocol that tracks trends in pertinent socio-economic metrics, many of which are already

	being addressed to varying degrees of informality.
Deadline	First annual audit
Reference	FSC NE Regional Indicator 8.2.d.2
JDI Response, as of 11/15/09	Our Human Resources and Community Resources Departments will help us develop socio-economic Key Performance Indicators by June 1 st 2010. These KPI's will be tracked continuously and reported annually. Responsible party: Peter Tabor
Auditor comment (11/19/09)	This planned response to the CAR looks to be appropriate.
Status of CAR:	Open

Non-conformance: JDI has not yet documented a “stump to forest gate” chain of custody control procedure for the delivery of logs from the Maine forest estate to customers, both internal and external to the company, wishing to source FSC-certified logs.	
CAR 2009.10	JDI must develop and document a “stump to forest gate” chain of custody control procedure that adequately covers all pertinent issues stipulated in the FSC chain of custody standard.
Deadline	Prior to the first sale of certified wood products
Reference	FSC Criterion 8.3 (there are no NE regional indicators for this Criterion)
JDI Response, as of 11/15/09	At the time of the field audit and again on 10/23/09, JDI conveyed to the audit team a document entitled: Transportation Certificate (Load Ticket) and Audit Processes.
Auditor comment (11/19/09)	Upon review of this document, the audit team members as well as the SCS Program Manager for Forest Management Certification concluded that the document provides a detailed description of the load ticket protocols and that these protocols are fully consistent with the FSC CoC requirements. However, there are additional subjects that are not adequately addressed in this document; it is necessary for JDI to augment/reformat this ticket to incorporate additional CoC subjects.
Revised JDI Response, as of 11/23/09	The JDI “Transportation Certificate Procedures” will be updated to meet the requirements of the FSC standard.
Auditor comment (11/23/09)	While partially responsive, the revisions to the Transportation Certificate Procedures is not deemed sufficient to meet the FSC CoC requirements for a documented control system.
Auditor comment (12/1/09)	On 11/25/09, JDI conveyed to SCS a new draft of their Documented Control System (DCS), revised in response to our comments of 11/23/09. Based upon those further revisions, SCS Program Director Wager determined that the DCS was now sufficient in scope and content to warrant closure of this CAR, as part of the finalization of the evaluation report. JDI was informed via email on 12/1/09.

Status of CAR:	Closed
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5.3. Observations

Background/Justification:	
OBS 2009.1	Due to ambiguity in FSC's regional guidance regarding labor requirements, Irving should consult with FSC-US
Reference	FSC NE Regional Indicator 1.1.a

Background/Justification: FSC Principle 3 calls for affirmative and culturally appropriate outreach to pertinent indigenous organizations or representatives and to seek their active involvement and joint planning for the identification and management of tribally significant sites and resources.	
OBS 2009.2	JDI should consider engaging in an effort to better formalize the process by which it interacts (consults, collaborates) with neighboring tribes
Reference	FSC NE Regional Indicator 3.3.a

Background/Justification: Many of JDI's contract loggers and truckers are relatively inexperienced in owning and running their own small business and could benefit from additional training	
OBS 2009.3	JDI should look for opportunities to support improved training opportunities for employees and, most notably, for contractors (e.g., broader engagement in the certified logger program, development of small business management skills, handling of day-to-day data demands)
Reference	FSC NE Regional Indicator 4.1.j

Background/Justification: The FSC NE Standard expects that a certified forest manager <i>negotiate</i> with contractors with a goal of developing relationships that are long-term and stable.	
OBS 2009.4	There are opportunities for JDI to improve the manner in which it arrives at terms of engagement with its contractors in order to more truly engage in bilateral negotiations arriving at mutual benefit.
Reference	FSC NE Regional Indicator 4.1.b

Background/Justification: FSC NE Regional Indicator 4.2.b requires a certified forest manager to demonstrate an on-going commitment to the health and safety of employees and contractors.	
OBS 2009.5	JDI should review its current health and safety programs for contractors in order to identify opportunities to further enhance the efficacy and utility of

	these efforts.
Reference	FSC NE Regional Indicator 4.2.b

Background/Justification: JDI has a less than fully formalized approach to identifying significant archeological sites and sites of cultural, historical, or community significance, including consultation with state authorities, Tribes, universities and local experts.	
OBS 2009.6	JDI should follow through and fully develop a corporate SOP for assuring systematic identification of significant archeological and cultural/historic sites on the Maine forest estate and to assure more robust consultation with outside experts as part of the process.
Reference	FSC NE Regional Indicator 4.4.d

Background/Justification: The FSC NE Standard requires that adequate amounts of woody debris are left on site after harvesting operations to provide nutrient capital and habitat.	
OBS 2009.7	JDI should develop and implement a policy to leave larger pieces of down woody debris (DWD) in clearcut blocks and with other even-aged management systems.
Reference	FSC NE Regional Indicator 5.3.c

Background/Justification: The FSC NE Standard requires that the forest owner or manager places aquatic and riparian resources, including water quality, above forest product objectives within designated riparian zones of adequate dimensions to assure resource protection.	
OBS 2009.8	JDI could retain more basal area within stands (particularly within or adjacent to riparian zones) to increase wind firmness
Reference	FSC NE Regional Indicator 5.5.b

Background/Justification: FSC certified forest managers are expected to develop and implement control measures for invasive exotic plants. JDI has done so, but not in as structured of a manner as would be optimal.	
OBS 2009.9	JDI should develop and implement a written policy on the control of invasive exotic plant species.
Reference	FSC NE Regional Indicator 6.9.b

Background/Justification: Conversion of forestland to non-forest uses must be limited in extent, must not occur on areas with high conservation values, and must enable clear, substantial conservation benefits. JDI engages in very limited conversion of forestland and none related to real estate subdivision, but it has a rather informal process for assuring that any land conversion does not adversely impact high conservation values.	
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OBS 2009.10	JDI should develop a more formalized screening to assure that any conversion to non-forest uses (limited as it may be) does not adversely impact areas possessing high conservation values.
Reference	FSC Criterion 6.10 (there are no NE regional indicators for this Criterion)

Background/Justification: While providing the public summary of the management plan upon request meets the letter of the FSC requirement, a more affirmative and transparent approach would be to post the summary on the company's web site.	
OBS 2009.11	JDI should consider posting the public summary of the management plan on the company's web site rather than merely being prepared to provide a copy upon request ⁶
Reference	FSC Criterion 7.4 (there are no NE regional indicators for this Criterion)

Background/Justification: JDI does not formally/explicitly engage in periodic monitoring of the Maine forest estate for changes in major habitat elements.	
OBS 2009.12	JDI should develop a metric and mechanism for more systematically monitoring change in major habitat elements, over time, such as through more in-depth and repetitive use of stand type data.
Reference	FSC NE Regional Indicator 8.2.c.1

Background/Justification: The FSC NE requires that discrepancies between outcomes and expectations are appraised and taken into account in subsequent revisions to the management plan.	
OBS 2009.13	There are opportunities for JDI to develop a structured protocol for identifying discrepancies between planned and actual outcomes and to incorporate this protocol into the management plan update process.
Reference	FSC NE Regional Indicator 8.4.a

Background/Justification: A public summary of monitoring activities and results must be made publicly available, on request.	
OBS 2009.14	There is an opportunity to enhance the content of the public summary of monitoring activities and results. It could also be posted on the company's web site.
Reference	FSC NE Regional Indicator 8.5.a

Background/Justification:

⁶ As described in JDI's response to CAR 2009.7, the company intends to post the public summary on the web site in January 2010 with a revised and more current summary posted in June 2010.

OBS 2009.15	JDI should develop and implement a HCVF monitoring SOP/protocol in order to better confirm/assure that management prescriptions for areas possessing high conservation values are achieving the intended results.
Reference	FSC Criterion 9.4 (there are no NE regional indicators for this Criterion)

6.0 SURVEILLANCE EVALUATIONS

If certification is awarded, surveillance evaluations will take place at least annually to monitor the status of any open corrective action requests and review the continued conformance of J.D. Irving LLC – Maine Woodlands to the Northeast Region of the U.S.A. Forest Stewardship Standard. Public summaries of surveillance evaluations will be posted separately on the SCS website (www.scscertified.com).

7.0 SUMMARY OF SCS COMPLAINT INVESTIGATION PROCEDURE

The following is a summary of the SCS Complaint and Appeal Investigation Procedures; the full versions of the procedures are available from SCS upon request. The SCS Complaint and Appeal Investigation Procedures are designed for and available to any individual or organization that perceives a stake in the affairs of the SCS Forest Conservation Program and that/who has reason to question either the actions of SCS itself or the actions of a SCS certificate holder.

A **complaint** is a written expression of dissatisfaction, other than **appeal**, by any person or organization, to a certification body, relating to the activities of staff of the SCS Forest Conservation Program and/or representatives of a company or entity holding either a forest management (FM) or chain-of-custody (CoC) certificate issued by SCS and duly endorsed by FSC, where a response is expected (ISO/IEC 17011:2004 (E)). The SCS Complaint Investigation Procedure functions as a first-stage mechanism for resolving complaints and avoiding the need to involve FSC.

An “**appeal**” is a request by a certificate holder or a certification applicant for formal reconsideration of any adverse decision made by the certification body related to its desired certification status. A certificate holder or applicant may formally lodge an appeal with SCS against any adverse certification decision taken by SCS, within thirty (30) days after notification of the decision.

The written Complaint or Appeal must:

- Identify and provide contact information for the complainant or appellant
- Clearly identify the basis of the aggrieved action (date, place, nature of action) and which parties or individuals are associated with the action
- Explain how the action is alleged to violate an SCS or FSC requirement, being as specific as possible with respect to the applicable SCS or FSC requirement
- In the case of complaints against the actions of a certificate holder, rather than SCS itself, the complainant must also describe efforts taken to resolve the matter directly with the

certificate holder

- Propose what actions would, in the opinion of the complainant or appellant, rectify the matter.

Written complaints and appeals should be submitted to:

Dr. Robert J. Hrubes, Senior Vice-President⁷
Scientific Certification Systems
2200 Powell Street, Suite 725
Emeryville, California, USA94608
Email: rhrubes@scscertified.com

As detailed in the *SCS-FCP Certification Manual*, investigation of the complaint or appeal will be confidentially conducted in a timely manner. As appropriate, corrective and preventive action and resolution of any deficiencies found in products or services shall be taken and documented.

⁷ Because Dr. Hrubes served as the Lead Auditor for this project, any appeal lodged against the actions of the audit team would be handled by another senior-level employee of SCS.