



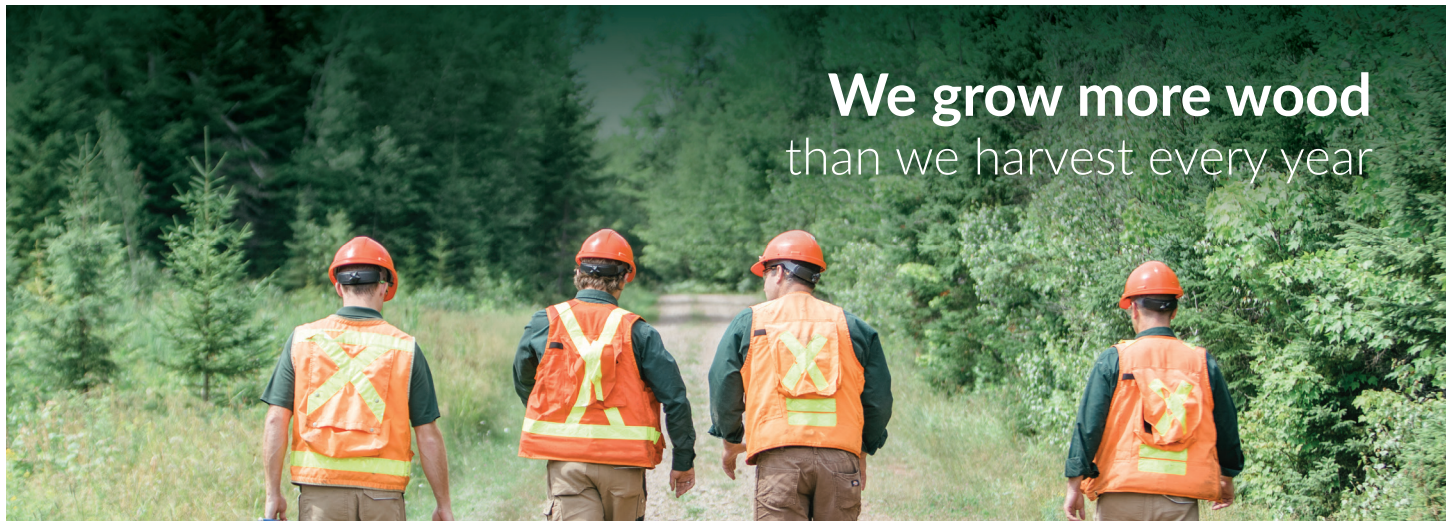
OUTCOME BASED FORESTRY IN MAINE

2022 From Seed to Shelf:
Our Commitment to
Customers & Community



WOODLANDS
SINCE 1882

IRVING WOODLANDS IN MAINE



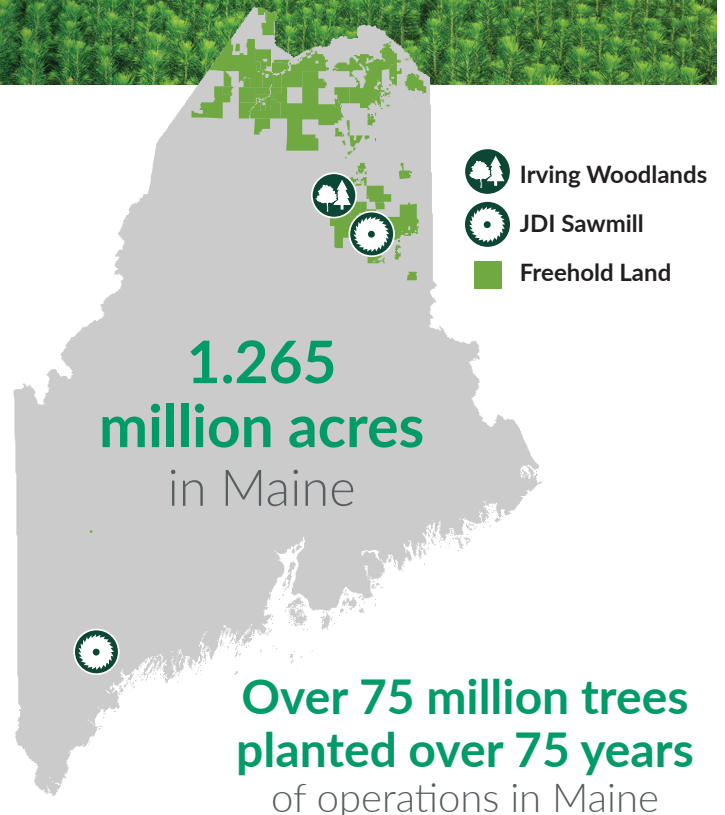
We grow more wood
than we harvest every year



3.5 million
trees planted in 2022



A team of
50+ forestry
professionals





2022 ECONOMIC IMPACT

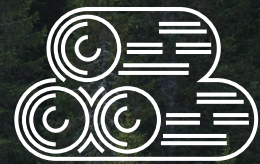
Forestry & Forest Products in Maine



Over 2,600 Jobs
(direct, indirect,
induced, and forestry
contractors)



\$62 Million
in total wages
(direct, indirect and induced
- including payments to
forestry contractors)



Providing a dependable
and sustainable
Wood Supply
to numerous customers
throughout the State of
Maine



\$76 Million
in Capital Investment
(2018-2022)



\$100 Million
in local Maine purchases



CONSERVING OUR NATURAL WONDERS

Healthy and productive forests are more than just trees

We know that healthy and diverse forests are foundational to their productivity and long-term success. That's why we're committed to conserving many unique forest attributes as part of our conservation program. Our team of foresters receive annual training to identify and protect a range of conservation values, including but not limited to old forests, nesting sites, rare plants, late succession forests and important archaeological areas.

RESEARCH PARTNERS

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

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

Dr. Neil Thompson is the Irving Chair in Applied Forest Management at UMaine Fort Kent.

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





DISCOVER
THE GIFT OF
NATURE

279

TOTAL # OF SITES

TOTAL HECTARES: 6,727

TOTAL ACRES: 16,623



- 92** PLANTS
- 59** BIRDS & MAMMALS
- 24** REPTILES & INVERTEBRATES
- 25** UNIQUE FOREST STANDS
- 34** HISTORIC
- 9** LAKES & WETLANDS
- 11** AESTHETICS
- 22** HIGH CONSERVATION FOREST
- 3** GEOLOGICAL & FOSSIL
- 0** FISH

MAINE - 2022

Learn more about our conservation program at: www.jdirvingconservation.com



WE'RE COMMITTED TO HEALTHY AND DIVERSE FORESTS FOR TODAY AND TOMORROW

We're proud to have conducted a wide-scale study comparing forest birds from six different habitats in three landscapes.

SONGBIRD STUDY

- Focused on understanding how forest birds are impacted by habitats with different levels of management intensity.
- We sampled 42 sites in each landscape – one in Maine and two in New Brunswick – using autonomous recording units.
- Researchers found significant differences in bird communities between landscapes, but none of these differences suggest a negative impact from more intensively managed forests.
- The study showed more intensively managed forests actually had more species and individual songbirds than other landscapes, including species that prefer mature interior habitats.

HIGH BIRD DIVERSITY AND RICHNESS IN MANAGED FORESTS

PROJECT PARTNERS



We're proud to partner with best-in-class organizations since 2016 on this five-year songbird habitat research project.

458 SITES
sampled with
90 BIRD SPECIES
identified from the recordings
in the laboratory.



Canada warbler

Initial comparison shows that the **HIGHEST DIVERSITY OF SPECIES (77)** was found in the most intensively managed forest.

Results suggest that the **MANAGED LANDSCAPES** have not changed the ability of mature forest stands to supply habitat to forest bird species. We look forward to the full results of this study.



OUTCOME BASED FORESTRY OVERVIEW

WE ARE IN THE PROCESS OF CONDUCTING A FIVE-YEAR REFRESH OF OUR MANAGEMENT PLAN UTILIZING THE LATEST STATE-OF-THE-ART PRECISION FORESTRY TECHNOLOGY.

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

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

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



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

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



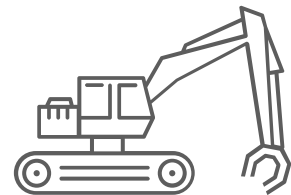
BENEFITS OF OUTCOME BASED FORESTRY



A competitive wood supply for Maine mills



Improved forest health overall and a reduction in mortality and forest loss due to disease and wind damage



Science-based harvesting prescriptions leading to better forest management



Building 31% fewer roads



35% reduction in watercourse crossings associated with new road construction



More efficient operations



ON AVERAGE, 80% OF THE ACRES THAT WE TREAT ON AN ANNUAL BASIS ARE IMPLEMENTED WITH NON CLEARCUT PRESCRIPTIONS SUCH AS SELECTION, SHELTERWOOD AND COMMERCIAL THINNINGS

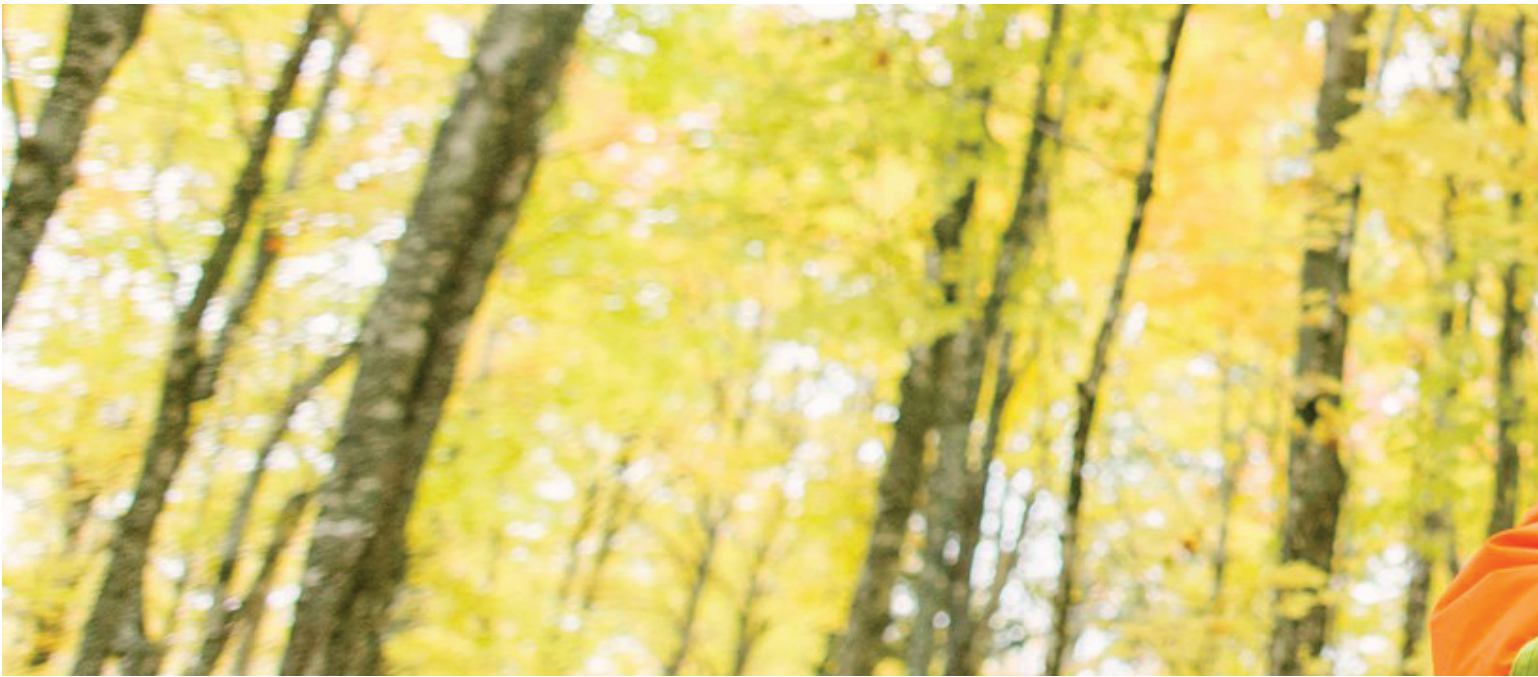


Science Based Harvest Prescriptions



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

Jeremy Fournier
Ironwood Logging
Eagle Lake, ME



IRVING WOODLANDS DETAILED SCORECARD

From the Auditor's Report

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

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

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



The mark of
responsible forestry



**0 NON-CONFORMANCES
IN 2022**



MAINE WOODLANDS DETAILED SCORECARD

SUSTAINABLE FORESTRY	2022 MAINE DATA
Resource holdings (freehold - Maine)	1,265,000 acres
Land base harvested	1.7%
Trees planted – # of seedlings	3.5 million
Forest lost from disease	0 acres
Forest lost from windthrow	0 acres
Forest lost from fire	0 acres
Forest lost from all causes	0 acres
Mapped watercourse buffers (total)	94,000 acres
Forestry road building (new roads)	45 miles
Pre-commercial thinning & planted stand cleaning completed	10,324 acres
Tree planting completed	4,818 acres
Sustainable Forestry Initiative Certification (SFI)	100% of Maine holdings
Environmental Management System Registration (ISO 14001)	100% of Maine holdings
Forest Stewardship Certification® (FSC®)	100% of Maine holdings
Certification Non-Conformances (FSC®, SFI & ISO 14001)	0
Volunteer Conservation areas on JDI land # of unique areas set aside	16,623 acres + 279 sites



SUSTAINABLE FOREST MANAGEMENT

Driving Results Through Accountability

We have a long-standing philosophy to exceed quality and performance standards. When your business is based on a sustainable natural resource, it is the socially and environmentally responsible way forward. This unwavering core value helps us find a better way, every day.

On the lands we own and manage, we are committed to transparency and accountability when it comes to our management practices. As early adopters of third-party certification, we have held a Sustainable Forestry Initiative® certificate since 2003. We take our responsible management seriously. We achieve environmental certification by ensuring 100 per cent of our operations are annually and independently audited according to ISO 14001 environmental standards and certified under the Sustainable Forestry Initiative® (SFI®) forest certification.

In Maine, 100 per cent of our woodlands are also certified under the Forest Stewardship Council® (FSC® C041515) program. You can learn more about these certifications through the links below.

Our Supply Chain works with international leaders in third-party certification and assurance. Third-party audits are carried out by the Maine Forest Service, KPMG and SCS Global Services. These audits are key to our continued improvement and our efforts toward being accountable forest land managers. We prioritize regulatory requirements and go above and beyond to ensure that we have an effective sustainable forest management strategy.

Learn more about our efforts in our Healthy Forest Report Card:
irvingwoodlands.com/jdi-woodlands-healthy-forest-report-cards-fsc.aspx



20 YEARS OF THIRD-PARTY FOREST CERTIFICATION

100%
of land
certified



**SUSTAINABLE
FORESTRY
INITIATIVE**

SFI-00032

forests.org

100% of
land certified
in Maine

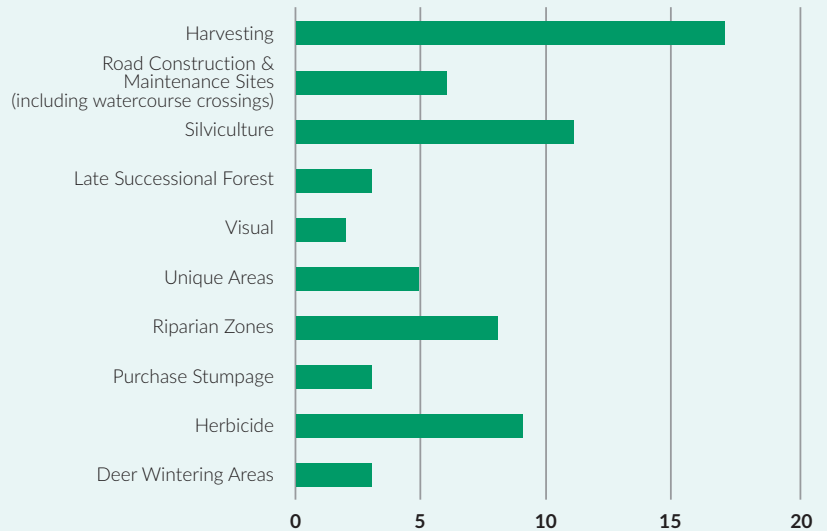


fsc.org

Environmental
management systems
certified for **100%** of
our land management
activities



2022 FOREST CERTIFICATION FIELD SAMPLES





OPERATIONS REPORT

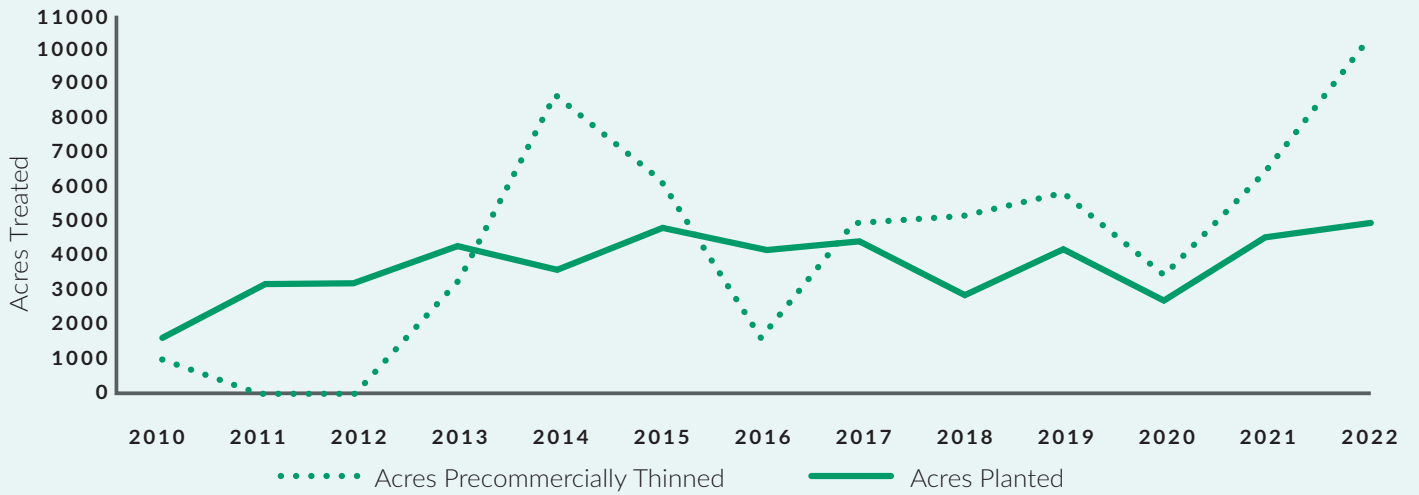
2022 was an unprecedented year and pushed our operations and our people to be fast and flexible due to the complex environmental, market and economic conditions. Our team of foresters worked diligently to deliver and execute an operating plan that met our sustainable forest management strategy under Outcome Based Forestry. Due to the flexibility afforded by the OBF, the team was able to properly plan and deliver a successful operating year.

We continue to focus on securing the wood supply in Maine for generations to come; that's why we plan 80 years ahead for healthy forests.

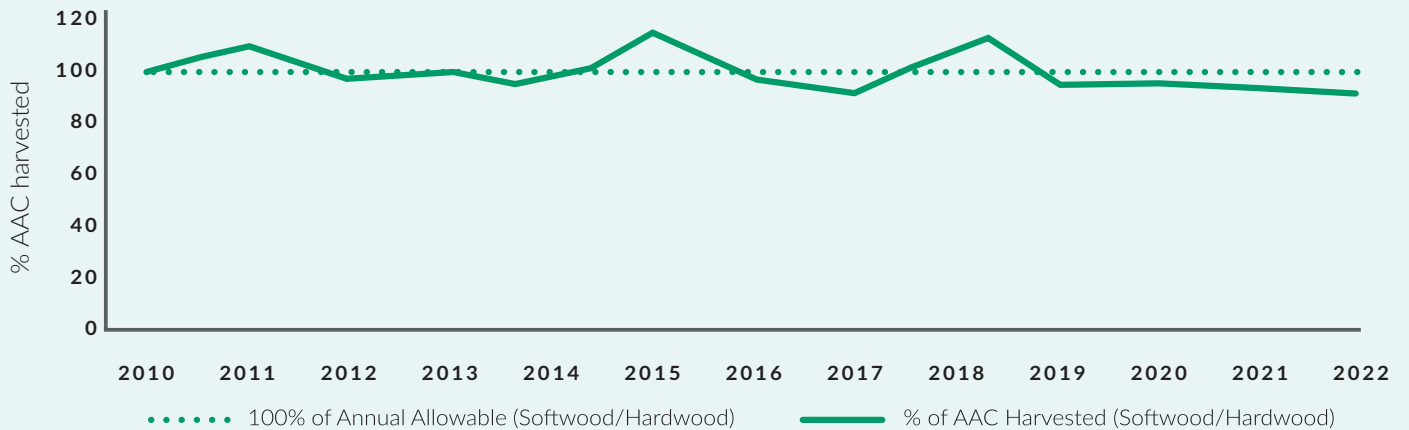




SILVICULTURE - GROWING A HEALTHY FOREST



SUSTAINABLE HARVESTING OF FOREST PRODUCTS





FOREST MONITORING RESULTS

As part of our commitment to improve the health, growth and long-term yield from our lands, we continuously monitor forest health, development and growth and yield (often in cooperation with the MFS). Monitoring is achieved through staff training and observation, stakeholder consultation and input, regular aerial reconnaissance, and an intensive ground sampling program that measures growth and yield dynamics for long-term planning needs. The following provides a sample of our 2022 monitoring program.

In addition to monitoring forest health and growth, we are obligated and required to measure our impact on the environmental and social aspects of our operations. We strive to protect our environment with programs to improve operations, lessen our impacts on water resources and improve our handling of dangerous goods such as fuel.

Operations improvement is the focus of our daily work. It covers all of our operations from planning to reforestation of harvest areas. Programs to improve operations include sustainability of wood supply, public education and communication in forest management affairs, soil conservation by controlling equipment rutting, conservation of biodiversity by protection of habitat, respecting forest cover type distribution and site specific and forest level habitat protection.

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



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

No Non-conformances were issued in 2022. In 2022, six public complaints were received and action plans to address those concerns were completed.

FOREST SURVEYS

1st Year Planted Stand Survival Plots	> 95%	Survival issues are mostly related to weather.
2nd Year Planted Stand Survival Plots	> 95%	Survival issues are related to competition and weather.
5th Year Planted Stand Survey	2,964 acres	Were surveyed and were found to be free from significant competition.
10th Year Planted Stand Survey	3,171 acres	Were surveyed and found to have significant natural competition that now requires intermediate thinning treatments.
High Conservation Value Forest (HCVF) Survey	8 areas	No observed risks to HCVF attributes.
Invasive Species Monitoring	All	Glossy buckthorn, garlic mustard and dog strangling vine are invasive species of particular concern; at this time monitoring has not detected evidence of establishment in the woodlands.
Insect Monitoring	188 plots	Irving foresters assisted MFS personnel with insect monitoring, primarily looking for spruce budworm activity (see: MFS website for regional results of findings).






STAKEHOLDER ENGAGEMENT

We are committed to developing and maintaining strong relationships with many different stakeholder groups. We make time to listen to their questions and concerns and work collaboratively to find solutions and communicate transparently about our operations.

Our approach is a combination of both formal and informal interactions, and we are increasing our traditional engagement efforts with additional presentations, tours, community events, donations and volunteering while expanding our range of stakeholders. We are also using social media to extend our reach. We communicate with our followers through a variety of social platforms, including Facebook, LinkedIn and Instagram.

In 2022, we donated over \$150,000 in Maine to a variety of community groups, focusing on youth, recreation, food security and outdoor experiences.

VISIT OUR PAGES AT:

-  www.facebook.com/irvingwoodlands
-  www.instagram.com/irvingwoodlands
-  www.linkedin.com/irving-woodlands





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

IN 2022 WE ALSO MET OR CORRESPONDED WITH THE FOLLOWING:

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



DISCOVER THE GIFT OF NATURE

Recreational use for unlimited adventure

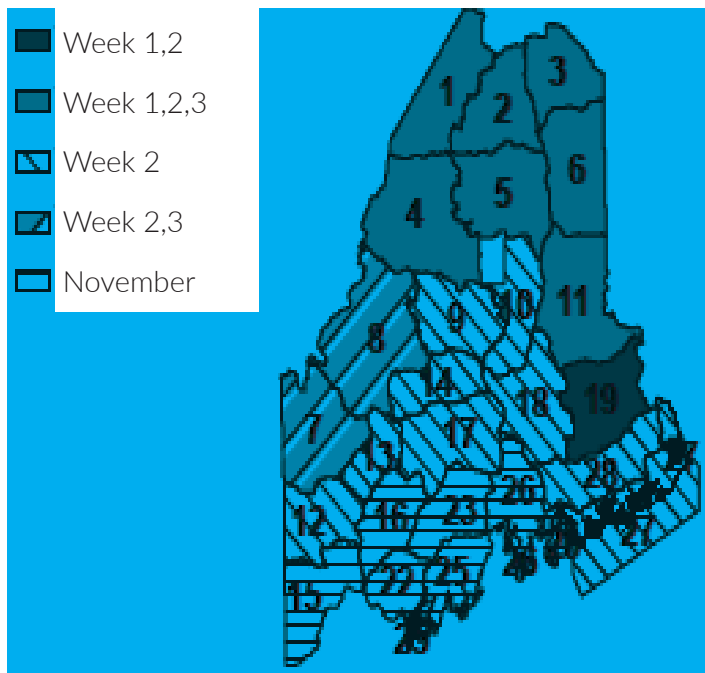
We know the importance of experiencing the great outdoors and have dedicated public access to private land for historic and traditional recreational opportunities for public use both inside and outside of the North Maine Woods framework of Aroostook County.

Our working relationships with individuals and groups have been beneficial to all and we continue to support traditional uses of the land such as hunting, fishing, trapping and hiking.





Hunting Zones



Week 1: September 23 - September 28

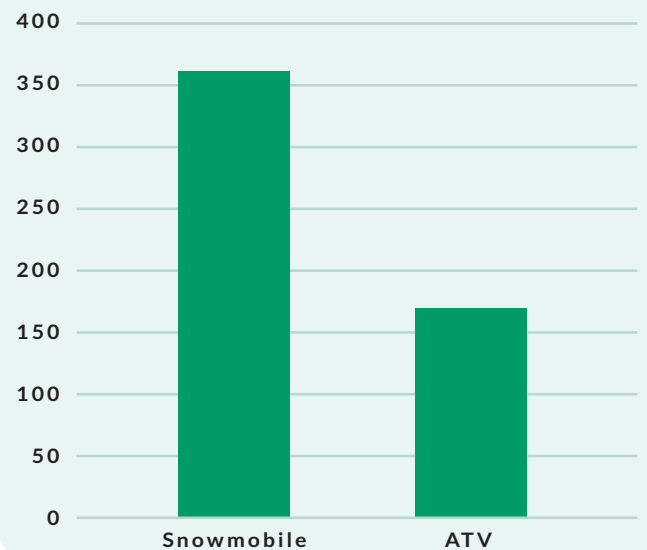
Week 2: October 14 - October 19

Week 3 November 4 - November 9

November Season: November 4 - November 30

November 2 (Maine Residents Only)

MILES OF TRAIL MANAGED IN COOPERATION WITH CLUBS





INVESTING IN MAINE

We are committed to continuously improving every aspect of our management and operations.

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

- In 2022 we worked with 30 commercial outfitters offering outdoor experiences in our woodlands
- Cooperative working relations with over 650 camp leases
- Recruiting, developing and training people internally, from our university system and our communities





2022 INVESTMENTS IN GROWING HEALTHY FORESTS

- 3,500,000 trees planted
- 10,324 acres of pre-commercial forest thinning
- \$5,000,000 silviculture investments in 2022

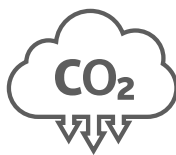
ADDITIONAL PROJECTS UNDERWAY

- Increased spruce budworm monitoring levels
- Recruitment of contractors and specialized equipment for working in the forest
- Updating our planning process, platforms and operational interface for staff and contractors in the field
- Development and use of precision forestry tools
- Watersheds in a changing climate study



JOBS & ECONOMY

Our wood supply is growing, facilitating investment and growth in our forest products industries



CARBON SEQUESTRATION

Planting superior trees sequesters four times more CO₂ than a naturally regenerated forest



CONSERVATION

Planting improved trees helps to achieve conservation objectives



COMMUNITIES GROW WITH TREES

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

- Columbia Forest Products
- H.C. Haynes
- JM Huber
- Katahdin Forest Products
- Louisiana Pacific
- Maine Woods Company
- Northeast Pellets
- Portage Wood Products
- Premium Log Yards
- Woodland Pulp LLC
- J and J Cedar Mill
- Aroostook Woodsmiths
- Sappi
- Michigan Veneer
- Pleasant River Lumber
- ReEnergy



480 New Hires
Between 2019 -2022!
(staff, hourly and student)

Over 600 New Hires
Planned Over the Next
Three Years!

Proudly working with over 100 Contractors in Maine.



WOODLANDS
SINCE 1882



SCAN TO
WATCH
OUR STORY!

Outcome Based Forestry – 2022

www.irvingwoodlands.com

www.jdirvingconservation.com

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