



Maine's Perspective on the Future of Forestry

2017 Annual General Meeting & Industry Forum

March 1, 2017

Patrick Strauch, Executive Director,

Maine Forest Products Council

WHO WE ARE

Since 1961, the Maine Forest Products Council has been the voice of Maine's forest economy.

The Council has more than 300 members companies, including landowners, loggers, truckers, paper mills, tree farmers, foresters and lumber processors, but our members also include bankers, lawyers and insurance executives.

We feel we represent anyone who has an interest in seeing the Maine woods remain a viable, sustainable resource.



MAINE SNOWMOBILE ASSOCIATION
MSA
Machias Savings Bank

Acadia INSURANCE
 Closer Coverage.™

Prentiss & Carlisle

ROBBINS WHITE PINE
 MADE IN U.S.A.

Eaton ATTORNEYS AT LAW
 Fletcher, Selser & Devine
Peabody

HUBER
 HUBER RESOURCES CORP.

KeyBank
CIANBRO

Anderson EQUIPMENT COMPANY

Richard WING & SON

RUDMAN • WINCHELL

LP PRODUCTS

WAGNER DREST MANAGEMENT, LTD.

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Northwoods Management

FONTAINE

TRG

STRATTON

FARM CREDIT EAST
 Auburn 800.831.4230
 Presque Isle 800.831.4640

THE LYME TIMBER COMPANY

PERKINS THOMPSON
 ATTORNEYS & COUNSELORS AT LAW
 ESTABLISHED 1871

Milton CAT

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 Employee Owned, Community Driven

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CLP Certified Logging Professional

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ISLANDS LAND COMPANY

Progress Engineering, LLC
 Innovation - Control - Integration

MFG MAINE FINANCIAL GROUP
 A Katahdin Trust Company Affiliate

columbia FOREST PRODUCTS

LandVest

MAINE FOREST PRODUCTS COUNCIL

THE MAINE WOOD TREATERS, INC.

PretiFlaherty

COBANK
 COOPERATIVE. CONNECTED. COMMITTED.

TIMBERLINE

MAINE MADE AMERICA'S BEST

Varney Agency INSURANCE & BONDING
 Protecting You Is What We Do.
 varneyagency.com

PIERCE ATWOOD

QUIRK CHEVROLET

MAINE WOOD CONCEPTS

Verrill Dana, LLP
 Attorneys at Law

WHITTEN'S 2-WAY

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HANCOCK LAND
 A SIXTH GENERATION TIMBERLAND STEWARD
 Est. 1846

TWO TREES FORESTRY

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 Where security meets strength.

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Maine Wood Concepts

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 America's Most Convenient Bank®

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MWC Maine Woods Company

KATAHDIN CEDAR LOG HOMES

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Wadsworth WOODLANDS
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Brantner, Thibodeau & Associates
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Fountains Land AN FAW COMPANY

HUBER ENGINEERED WOODS

CES INC.

AFM American Forest Management
Family Forestry

LIMINGTON LUMBER
 Select all from EAST BALDWIN, MAINE

MCT Truck Tire specialists
 Maine C. Open in new tab. Open in new window.

New England Forestry Consultants, Inc.
 SERVING YOUR LOGS

Hammond Lumber Company

QUANTUM UTILITY GENERATION

Cousineau
 Family Owned & Maine Made Since 1959

Conservation Forestry

JAMES W. SEWALL COMPANY
 ESTABLISHED 1880
E. J. Carrier, Inc. Jackman - Logging Companies

VIKING

SOUTHERN MAINE FORESTRY SERVICES, INCORPORATED
 CLIENT PARTNERS IN FOREST MANAGEMENT

Land Ownership Map Unorganized Towns

Department of Conservation
Maine Forest Service
Forest Policy & Management Division



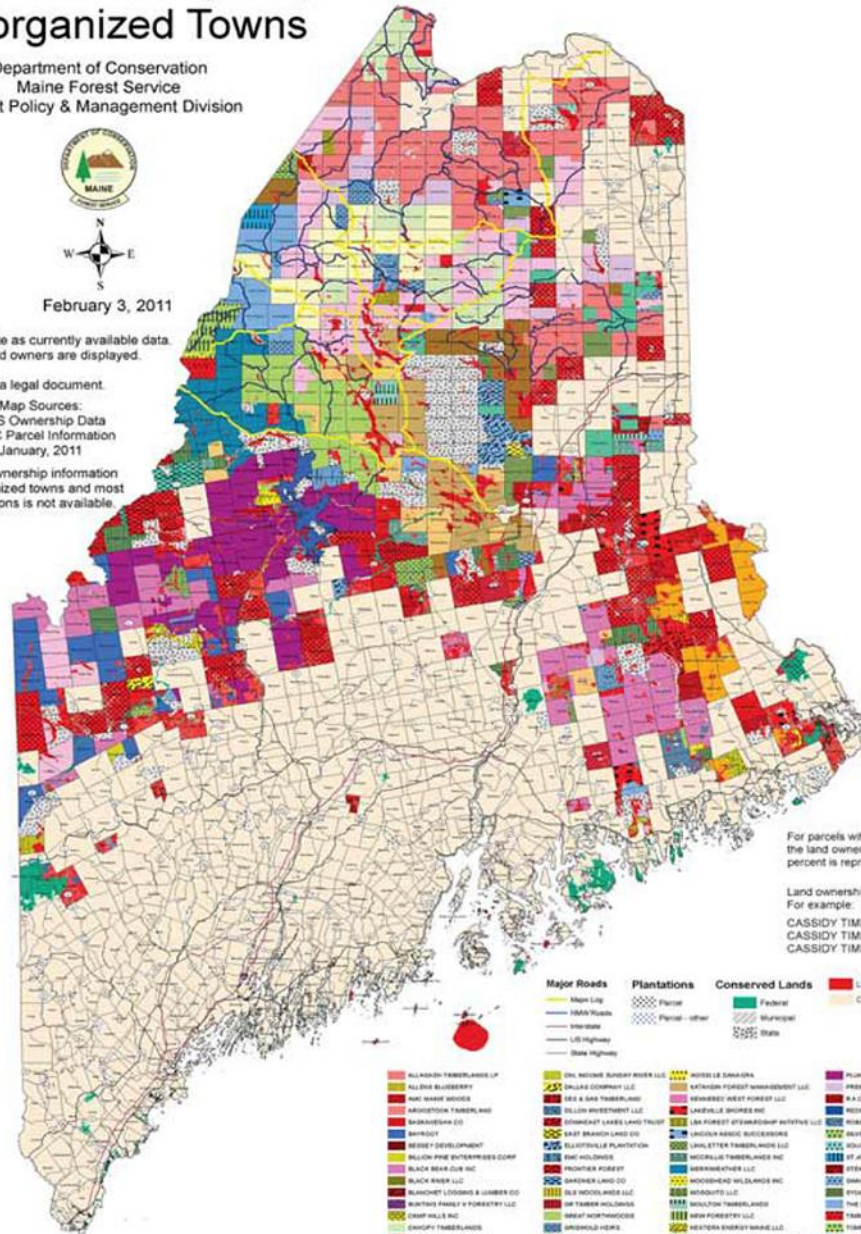
February 3, 2011

Map as accurate as currently available data.
Not all land owners are displayed.

Not a legal document.

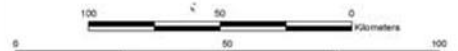
Map Sources:
MRS Ownership Data
LURC Parcel Information
January, 2011

Land ownership information for
organized towns and most
plantations is not available.



For parcels with percentage ownership,
the land owner with the largest
percent is represented on the map.

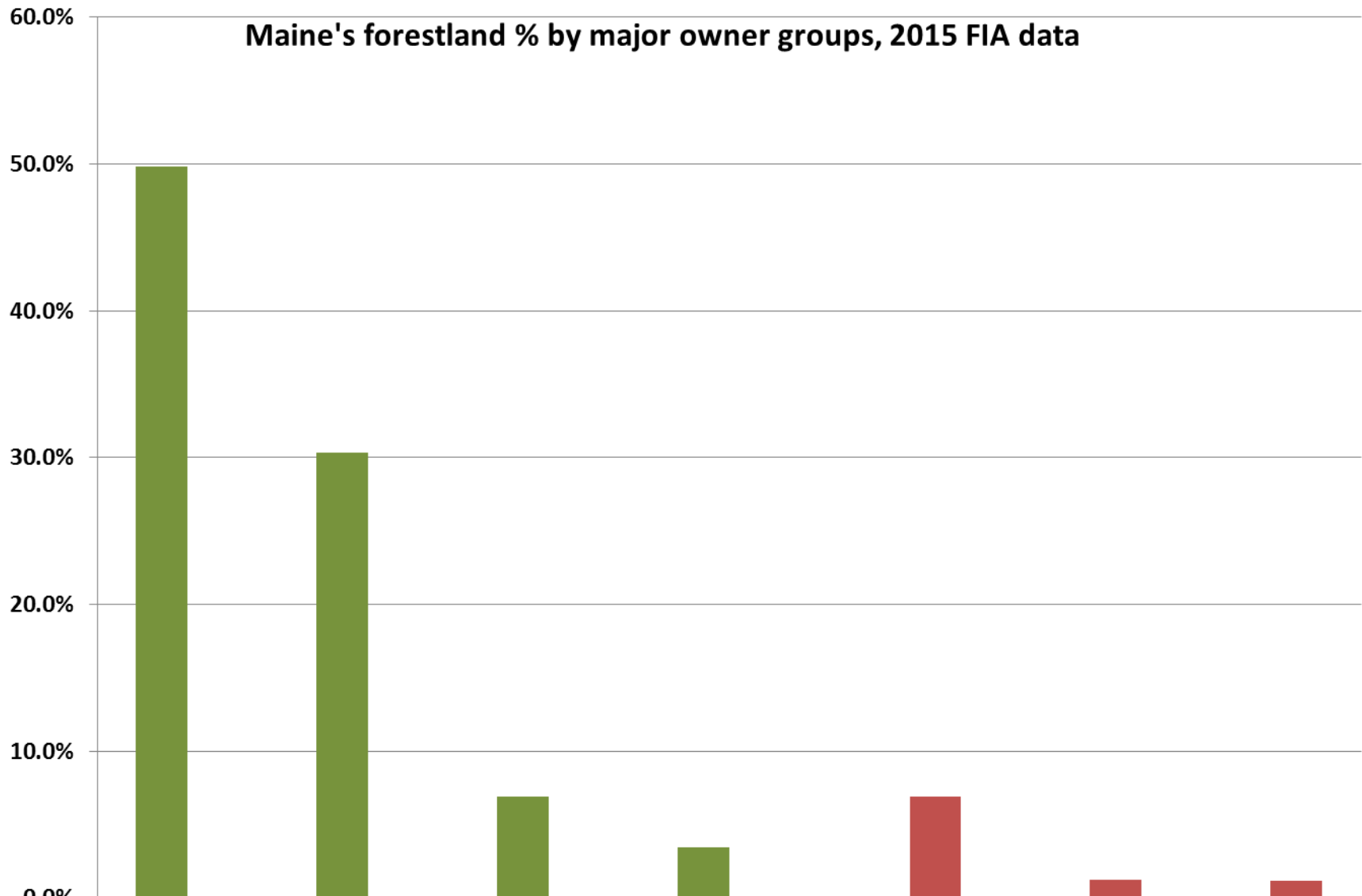
Land ownership names are combined
For example:
CASSIDY TIMBERLANDS ET AL
CASSIDY TIMBERLANDS LLC
CASSIDY TIMBERLANDS LLC ET AL



- Major Roads**
 - Map Log
 - Main Road
 - Interstate
 - US Highway
 - State Highway
- Plantations**
 - Parcel
 - Parcel - other
- Conserved Lands**
 - Federal
 - Municipal
 - State
- LURC Parcels**
 - Organized Towns

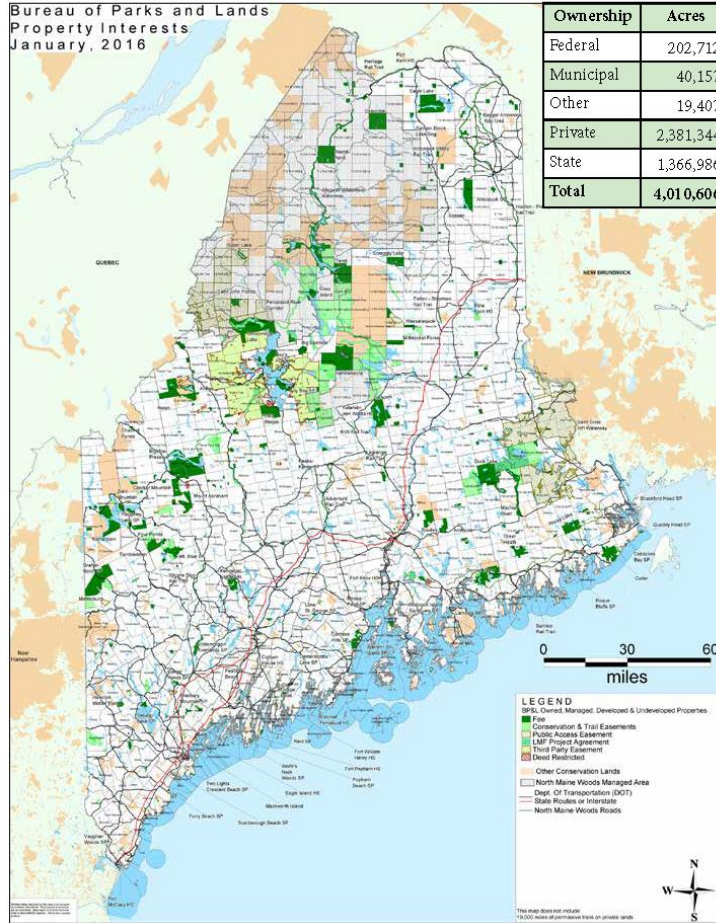
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|---|
| <ul style="list-style-type: none"> ALLANBY TIMBERLANDS LP ALLIANCE BLUEBERRY AND WOOD MOORS ARISTOCRAT TIMBER, INC BARBARA WOOD CO BARRETT BEES - DEVELOPMENT BELDON PINE BY PRODUCTS CORP BLACK BEAR CLUB INC BLACK BEAR LLC BLANCHET LOGGING & LUMBER CO BONITA FAMILY OF FORESTRY LLC CAMP HILLS INC CAMPY TIMBERLANDS CARRON TIMBERLANDS CHANDLER TIMBERLANDS CENTRAL WIND POWER CO CHERRYFIELD PROPERTIES CHURCHILL HILLMAN TIMBER HOLDINGS CLAYTON LANE WOODLANDS CLYDE WOODS SUNSHINE ACRES LLC CLYDE WOODS COMPANY LLC COE & SONS TIMBERLAND COLEBY WOOD PRODUCTS LLC CONQUEST LAKES LAND TRUST CORNER BRANCH LAND CO ELM HOLLOW PLANTATION EMM HOLLOW FRONTIER FOREST FRONTIER LAND CO GREAT WOODLANDS LLC GREAT NORTHWOODS GREENWOOD HEIRS SUFFOLK LYS LLC H & H WOODS HEARTWOOD FORESTLAND HOLTON TIMBERLAND HOLTON WOODS HUNTER TIMBER HUNTER LE ZONAIDA KATHAM FOREST MANAGEMENT LLC KENNEBEC WEST FIBRE OF LLC LANEFIELD SHORES INC LAN FOREST OF WOODS&PARKS INC LANGLISH RANGIC BUCKEBORE LINCOLN TIMBERLANDS LLC LOCKSWATER LLC MOOSEHEAD WOODLANDS INC MONROVIA LLC MOUNTAIN TIMBERLANDS NEW FORESTRY LLC NORTON ENERGY MARK LLC NORTH WOODS WOOD PRODUCTS LLC OPEN INC PASSANABUSSON WOOD RESERVATION PENOBSCOT FOREST LLC PENOBSCOT WOOD NATION PINNEY ASSOCIATES INC PINE CREEK WOODS TIMBERLANDS LLC PRODIGE & CARVILLE CO INC R.A. CAMPBELL & SON LAND AND TIMBER INC RESTORATION OF WOODPOWER LLC ROBERT LUMBER INC SILVER RIDGE LAND CO SOUDAN LAKE LLC ST JOHN TIMBER LLC STEADY TIMBERLANDS LLC SWAN PROPERTIES LLC SYRINA TIMBERLANDS LLC THE NATURE COOPERATIVE TIMBERQUEST PARTNERS LP TIMBERMAN WOODLANDS INC TRELLUM IN WINDFELL ME LLC TIMMONS LLC WESLEY TIMBERLANDS ET AL WINDFELL INVESTMENTS LLC WINDFELL WOODLANDS LLC |
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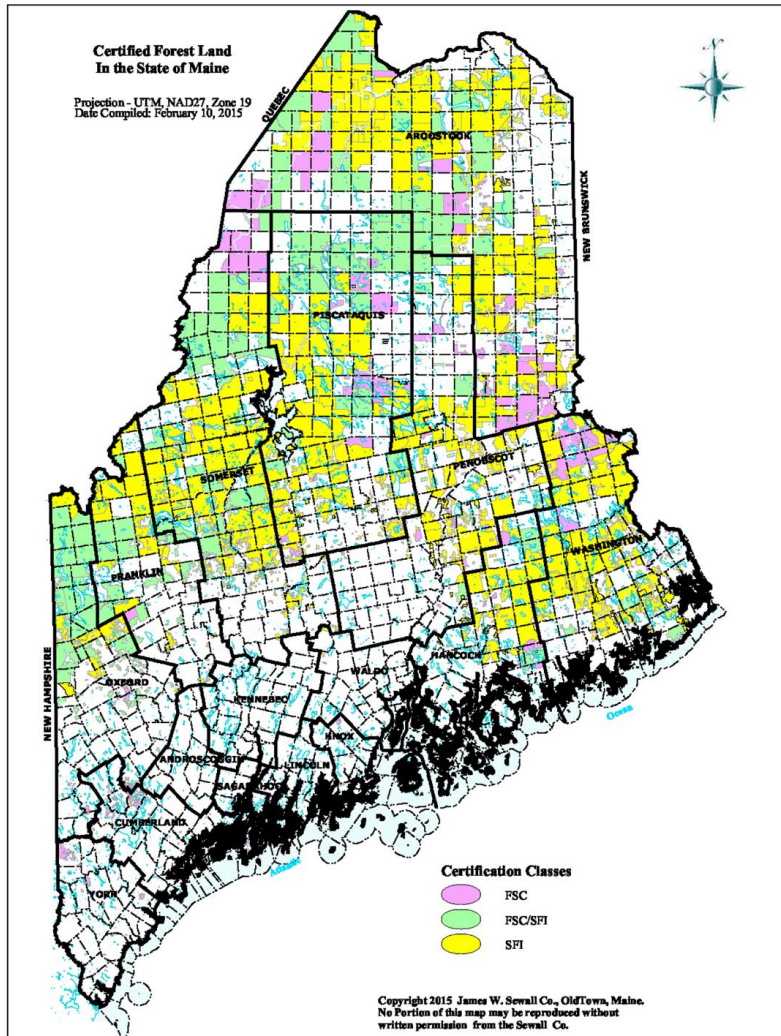
Maine's forestland % by major owner groups, 2015 FIA data



	Corporate Investors	Family Forests	Forest Industry	Misc. Large Private	State Gov't	Federal Gov't	Local Gov't
Private %	49.8%	30.4%	6.9%	3.5%			
Public %					6.9%	1.3%	1.2%

4 million acres are now conserved statewide





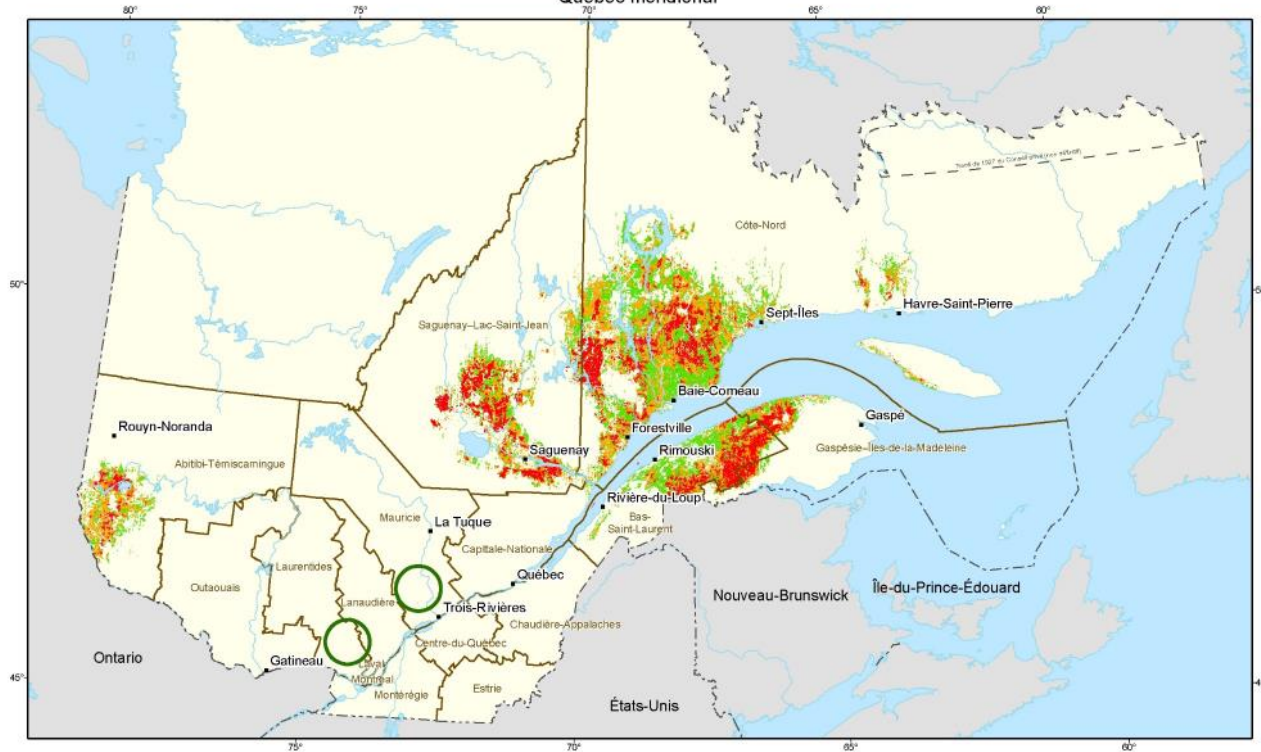
SUSTAINABLE FOREST CERTIFICATION IN MAINE

- 9 million certified acres
- Nearly half of state's forestland
- National leader in forest certification
- First-in-the-nation Master Logger Certification program has certified >100 loggers

Acres Defoliated by Spruce Budworm in the Province of Quebec 2003-2016



Défoliation causée par la tordeuse des bourgeons de l'épinette Québec méridional



Défoliation annuelle 2016

- Légère
- Modérée
- Grave

Organisation territoriale

— Limite de région administrative

Frontières

- - - Frontière interprovinciale
- - - Frontière internationale
- - - Frontière Québec - Terre-Neuve-et-Labrador (non définitive)

Métadonnées

Projection cartographique

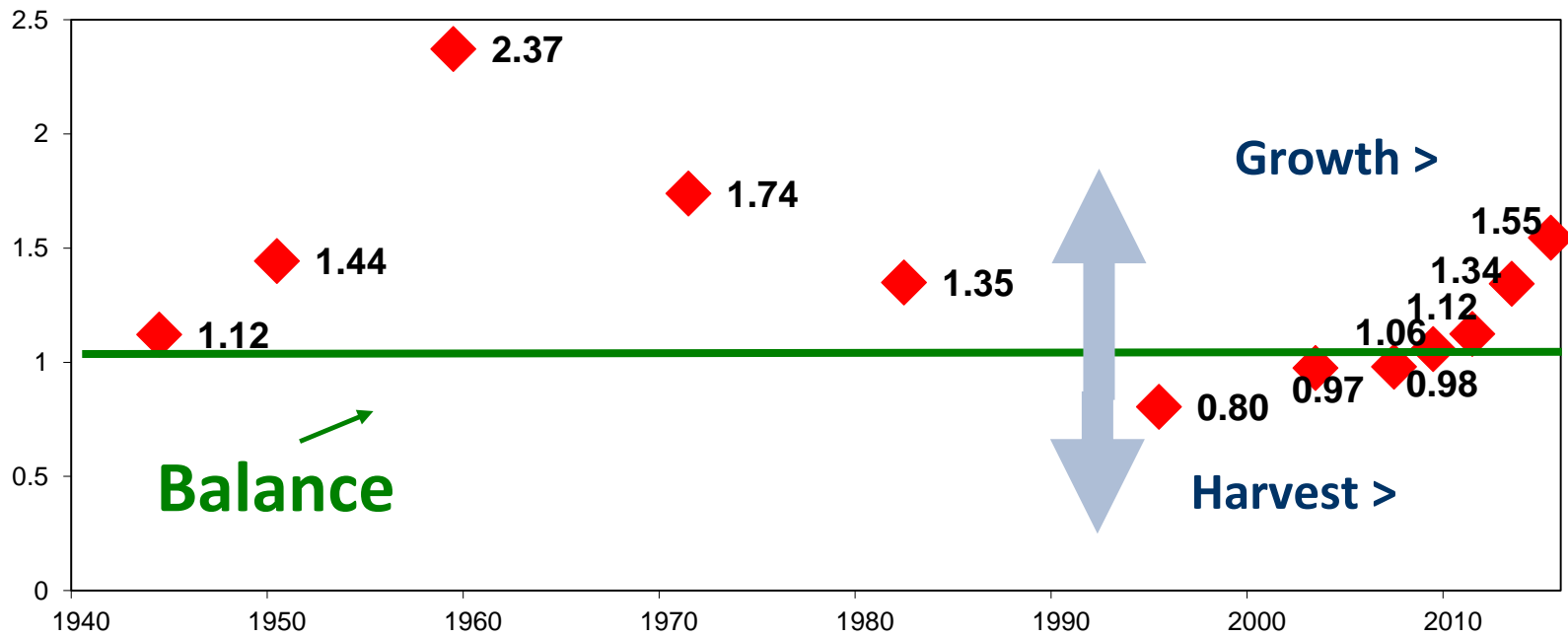
Conique conforme de Lambert avec deux parallèles d'échelle conservée (46° et 50°)

Réalisation

Ministère des Forêts, de la Faune et des Parcs
 Direction de la protection des forêts
 © Gouvernement du Québec, 2016

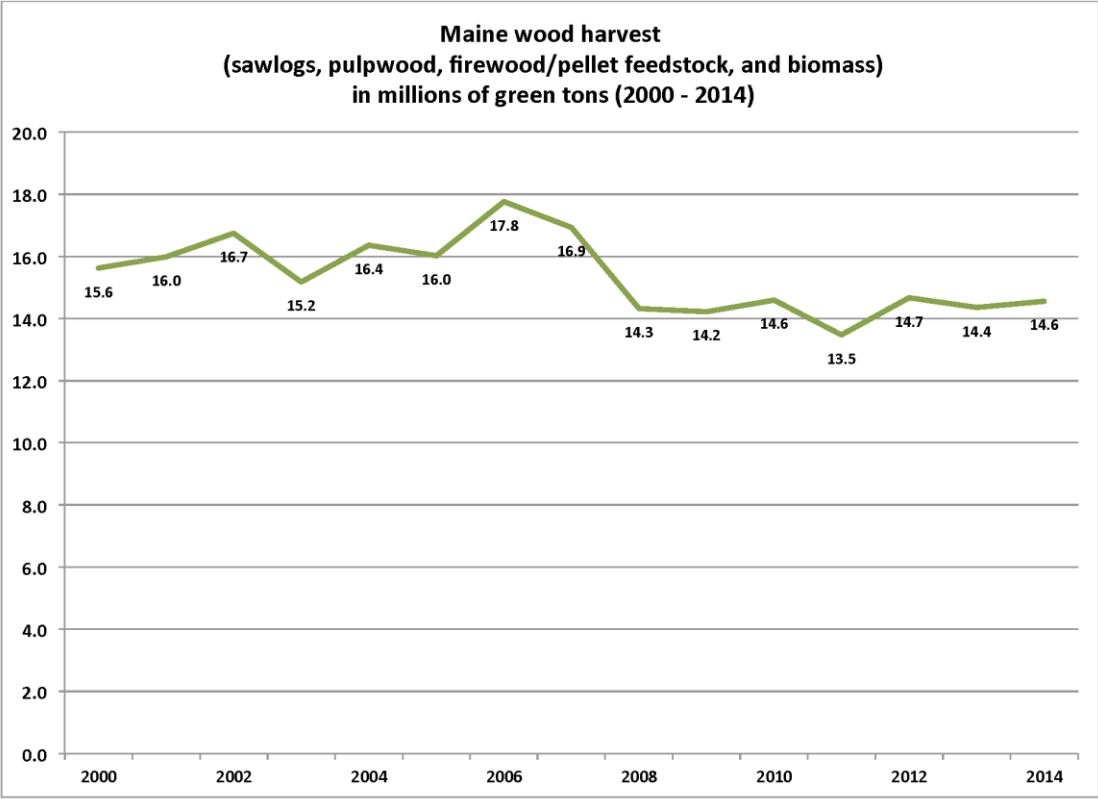
0 100 km

Historic Trend in Net Growth to Removals Ratio



Source: Department of Conservation. Maine Forest Service

MAINE'S WOOD HARVEST IS SUSTAINABLE



Maine's Forest Economy



Est. 2016 Economic
impact: \$8.5 billion



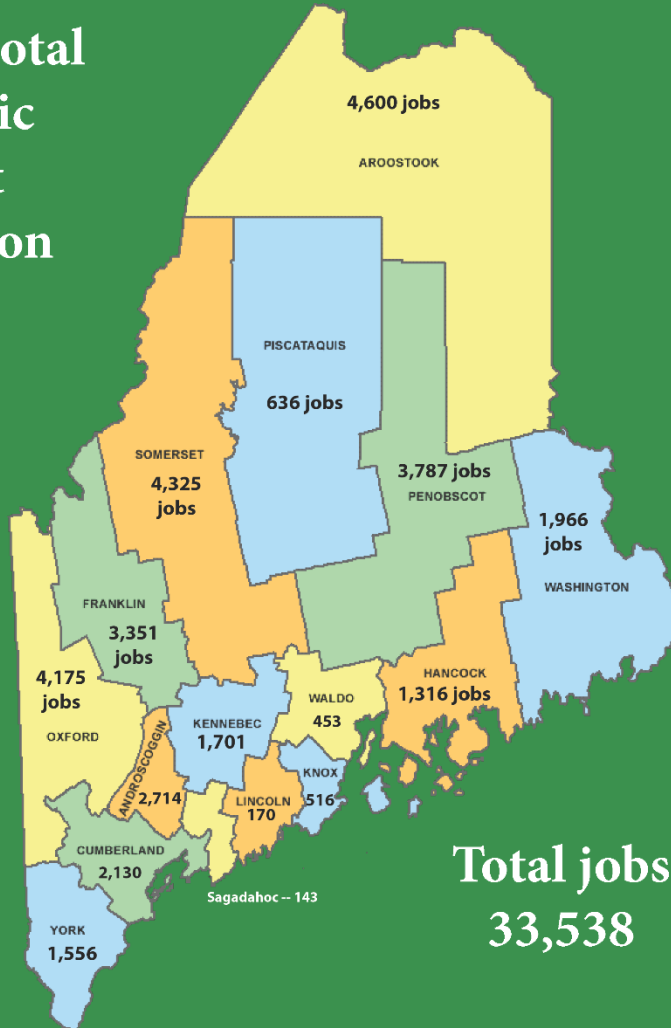
Wood is the most
environmentally
sound building
material on earth



Millions of acres
of working forest
open for recreation



**Est. 2016 total
economic
impact
\$8.5 billion**



*Source: Economic
contribution of
Maine's forest
products industry
2014 and 2016
(estimated)*

**Total jobs
33,538**

Economic Impact of the Forest Products Industry in Maine

Summary information from:
*Economic Contribution of Maine's Forest Product Industry,
2014 and 2016 (estimated)*

A report prepared for the Maine Forest Products Council, June 2016

By James L. Anderson III, Ph.D. Student

and Mindy S. Crandall, Ph.D.

Assistant Professor, Forest Economics and Management

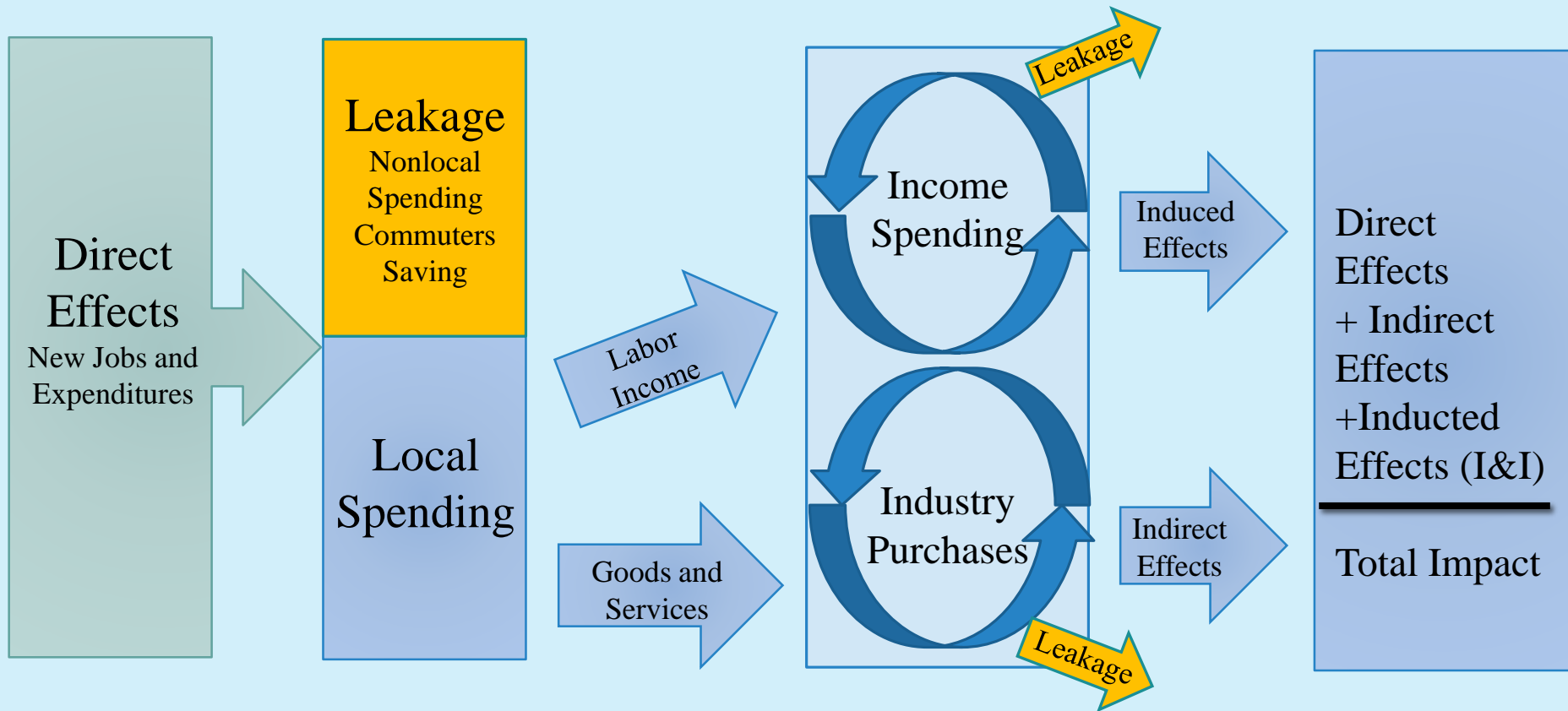
School of Forest Resources

University of Maine

mindy.crandall@maine.edu



IMPLAN and Economic Impact



2014 and 2011 Results

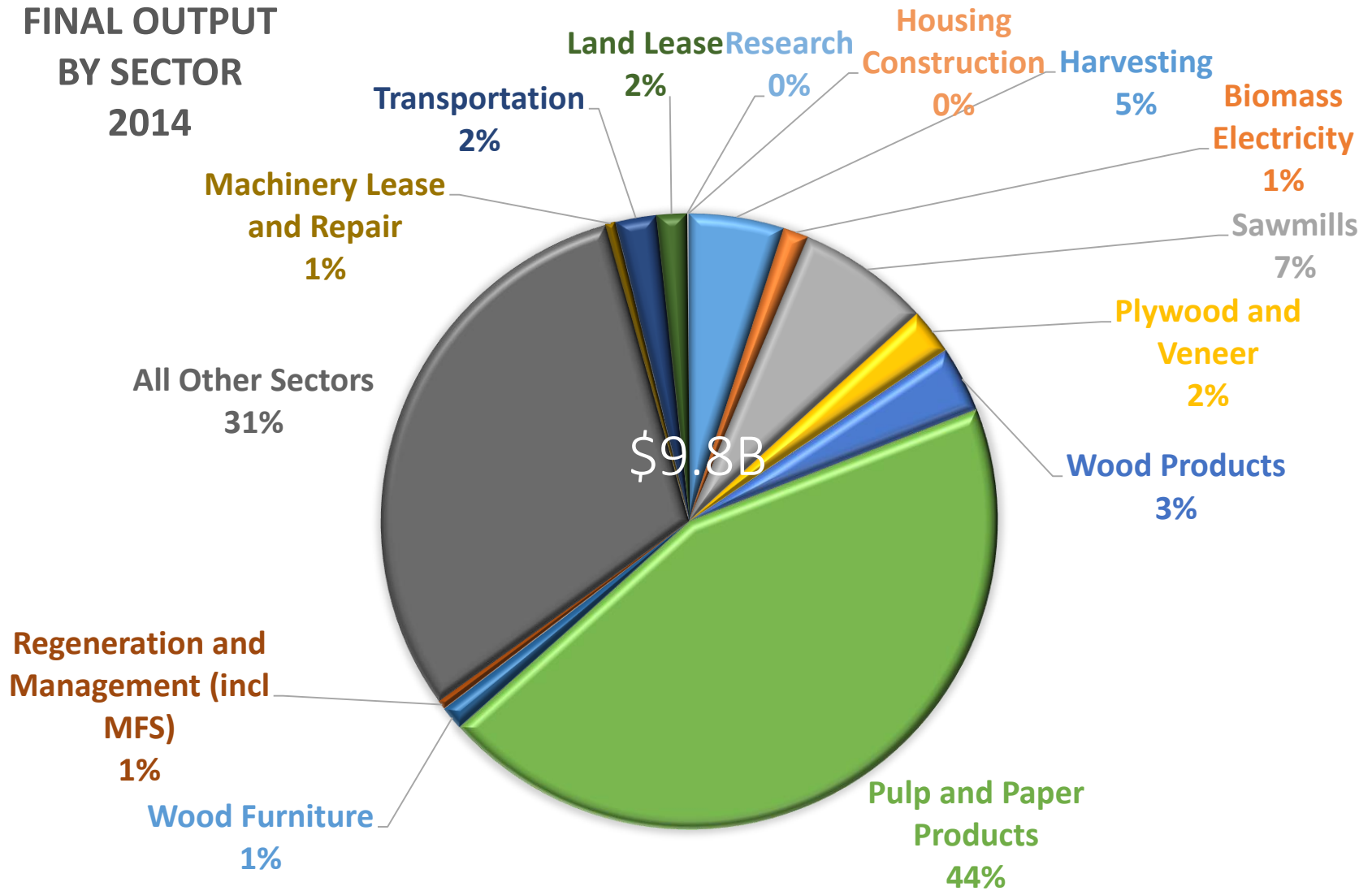
2014 (in 2016 \$USD)	Direct Contribution	Multiplier Effects			Total Impact
	FPI	FPI	FPI Support	non-FPI	Total
Output	\$5,642,301,353	\$676,974,725	\$467,789,920	\$2,987,544,490	\$9,774,610,488
Employment	14,370.4	2,180.5	1,222.6	21,182.4	38,955.9
Compensation	\$763,642,873	\$99,596,923	\$57,577,968	\$852,493,180	\$1,773,310,944
Prop Income	\$94,749,775	\$56,326,942	\$36,989,988	\$108,411,044	\$296,477,749
2011 (in 2011 \$USD)	Direct Contribution	Multiplier Effects			
	Forest Products	Forest Products	Non-Forest Products		Total
Output	\$5,063,915,031	\$643,676,568	\$2,267,788,190		\$7,975,457,789
Employment	12,003	5,072	21,714		38,789
Labor Income*	\$721,541,907	\$184,150,509	\$960,935,289		\$1,866,637,705

* Labor Income = Employee Compensation + Proprietor Income

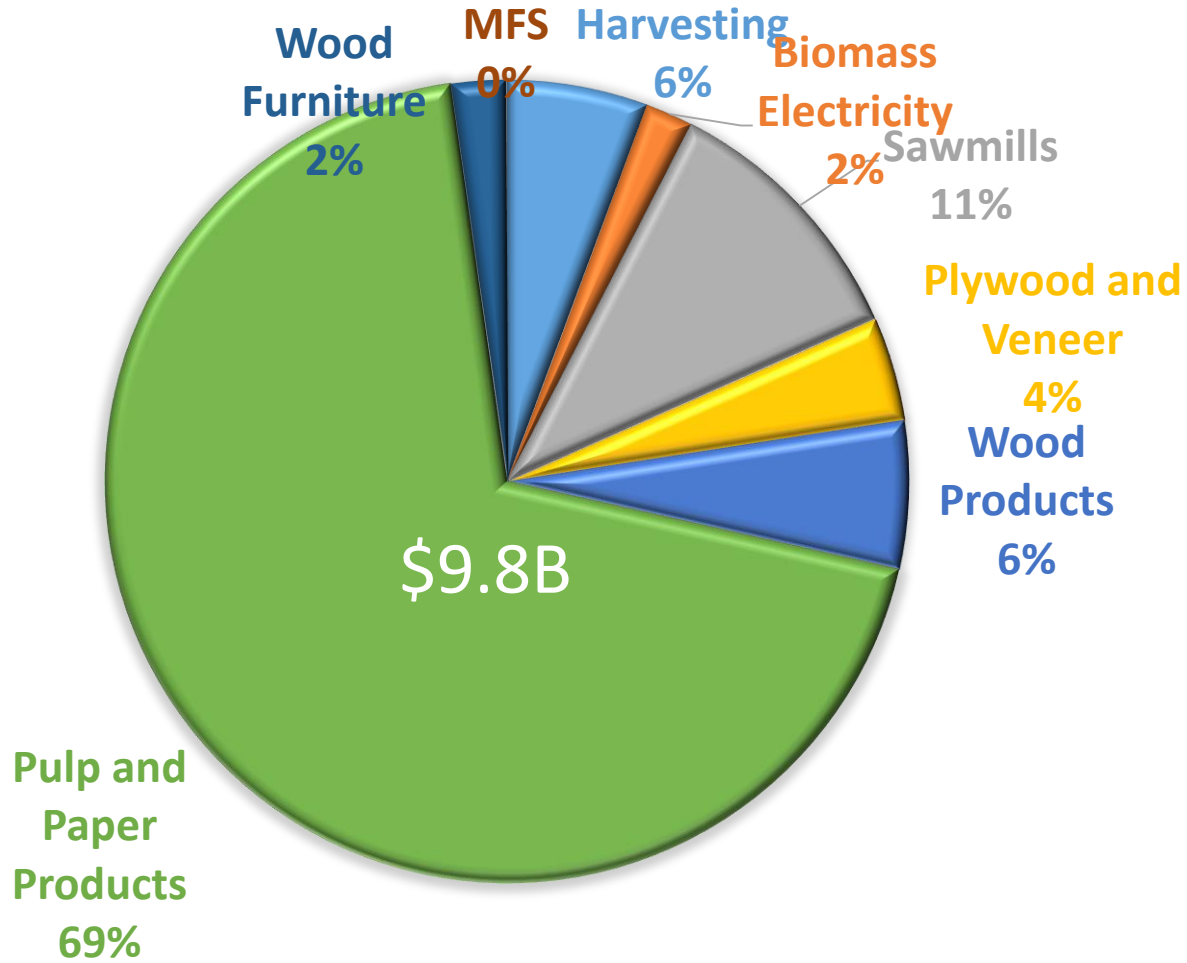
2014 Results: FPI's Contribution to Maine

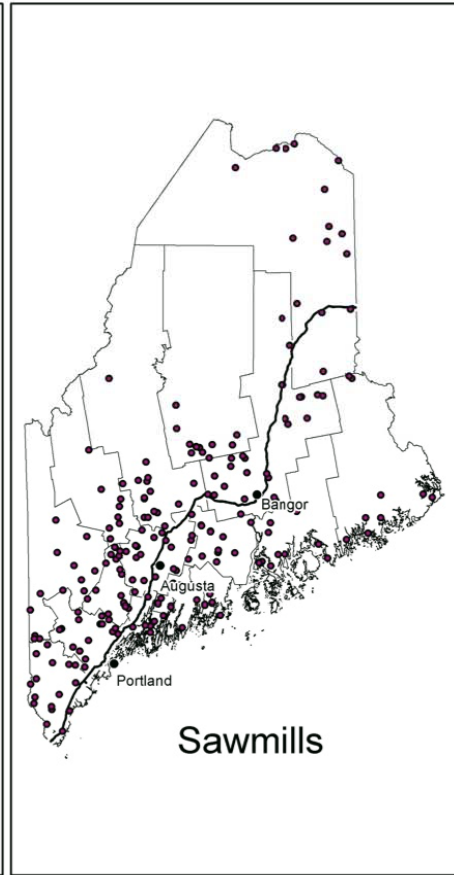
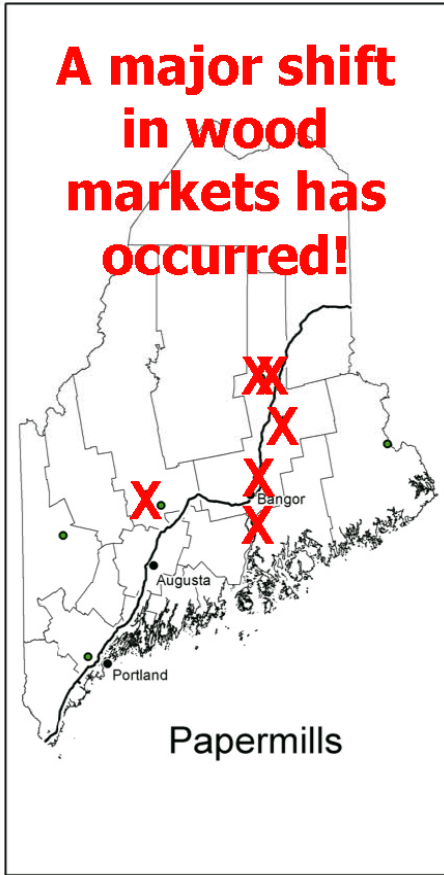
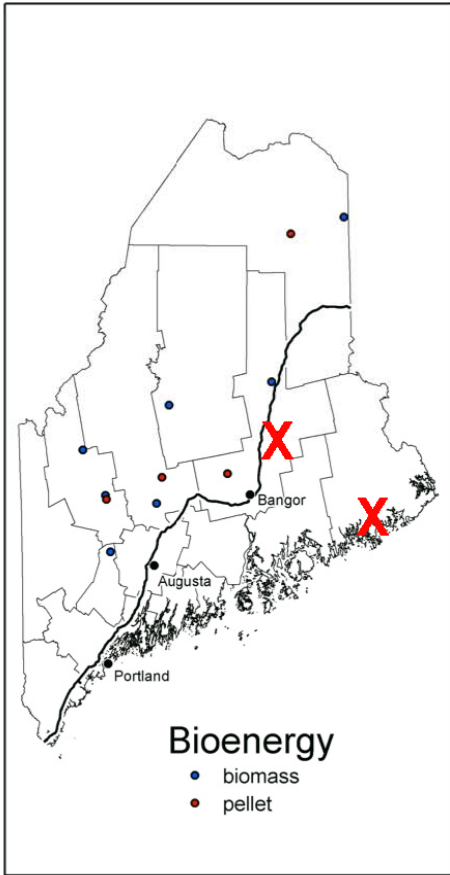
2011 to 2014	2011 (in 2014 \$USD)	2014 (in 2014 \$USD)
Maine GDP	\$55.1B	\$55.8B (1.3%) ¹
FPI Value Added	\$3.5B	\$3.1B (-11.4%) ²
Percent of GDP	6.38% (1 out of 15.7)	5.56% ³ (1 out of 18.0) (-12.9%) ⁴
Total Economic Impact	\$8.5B	\$9.8B (+15.3%) ⁶
All Maine Jobs	794,279	810,672 (+2.1%)
FPI Jobs	38,789	38,956 (+0.4%) ⁷
Percent of Employment	4.88% (1 out of 20.5)	4.81% ⁹ (1 out of 20.8) (-1.5%) ¹⁰
Total Payroll	\$1,978.9M	\$2,069.8M (+4.6%) ¹¹
Total State & Local Taxes	\$320.1	\$318.5M (-0.5%) ¹⁷

FINAL OUTPUT BY SECTOR 2014



Percent of
Output Impact
Supported by
Each FPI sector





Accounting for closures

Mill	Location	Estimated employment loss	Date
Lincoln Tissue & Paper	Lincoln	180 (downsize)	November 2013
Katahdin Fuel & Fiber	East Millinocket	200	February 2014
Verso	Bucksport	500	December 2014
Lincoln Tissue & Paper	Lincoln	210	September 2015
Verso Androscoggin	Jay	300 (downsize)	October 2015
Expera	Old Town	200	November 2015
Covanta Energy (2)	West Enfield & Jonesboro	44	March 2016
Madison Paper	Madison	200	May 2016

Accounting for closures

- ❑ Five pulp and paper mills and two biomass plants have closed since late 2013
- ❑ The results presented are based on the loss of 1,805 direct pulp and paper positions and then regaining 51 positions at Rumford
 - ❑ We assume, on average, output per employee from the closed mills is only 65% of those which are still operating
- ❑ For the BioElectric closures, the 44 lost position are assumed to have equal per employee output to those that remain

Results with recent closures

2016 (in 2016 \$USD)	Direct Contribution	Multiplier Effects			Total Impact
	Pulp and Paper	FPI	FPI Support	non-FPI	Total
Output	(\$918,679,755)	(\$70,039,682)	(\$71,305,941)	(\$465,004,764)	(\$1,525,030,142)
Employment	-1,754.0	-163.9	-178.3	-3,115.5	-5,211.7
Compensation	(\$126,122,301)	(\$8,522,660)	(\$8,596,209)	(\$131,748,365)	(\$274,989,535)
Prop Income	(\$5,307,594)	(\$3,284,769)	(\$5,291,215)	(\$16,502,664)	(\$30,386,242)

2016 (in 2016 \$USD)	Direct Contribution	Multiplier Effects			Total Impact
	Bioelectric	FPI	FPI Support	non-FPI	Total
Output	(\$42,524,966)	(\$5,458,307)	(\$2,164,327)	(\$17,389,587)	(\$67,537,187)
Employment	-44	-26	-4	-127	-200
Compensation	(\$2,834,684)	(\$1,157,728)	(\$219,684)	(\$4,561,935)	(\$8,774,031)
Prop Income	\$0	(\$1,069,575)	(\$186,216)	(\$835,174)	(\$2,090,965)



2016 (in 2016 \$USD)	Direct Contribution	Multiplier Effects			Total Impact
	FPI	FPI	FPI Support	non-FPI	Total
Output	\$4,889,266,934	\$617,574,623	\$414,408,861	\$2,620,051,284	\$8,541,301,702
Employment	12,572.4	1,990.1	1,040.1	17,935.4	33,538.0
Compensation	\$664,056,504	\$93,717,637	\$50,976,529	\$748,919,925	\$1,557,670,595
Prop Income	\$93,099,947	\$54,106,618	\$32,933,481	\$95,226,720	\$275,366,766

Comparing 2014 and 2016

2014 to 2016	2014 (in 2016 \$USD)	2016 (in 2016 \$USD)
Maine GDP	\$56.4 B	\$55.4B (-1.8%)
FPI Value Added	\$3.2 B	\$2.7B (-15.6%)
Percent of GDP	5.67% (1 out of 17.6)	4.96% (1 out of 20.2) (-13.6%)
Total Economic Impact	\$10.1 B	\$8.5B (-15.8%)
All Maine Jobs	810,672	811,321 (+0.1%)
FPI Jobs	38,956	33,538 (-13.9%)
Percent of Employment	4.81% (1 out of 20.8)	4.13% (1 out of 24.2) (-14.1%)
Total Payroll	\$2,149.4 M	\$1,833.0M (-14.7%)
Total State & Local Taxes	\$330.5 M	\$278.4M (-15.8%)

Economic contributions of Maine's Forest Economy

Economic impact	2011*	2014	% Change	2016**	% Change
Total impact	\$8.5 billion	\$9.8 billion	15%	\$8.5 billion	-13%
Total payroll	\$2.0 billion	\$2.1 billion	5%	\$1.8 billion	-12%
Direct jobs	17,075	16,551	-3%	14,563	-12%
Total jobs	38,789	38,956	0%	33,538	-14%

*2014 dollars. ** 2016 dollars.

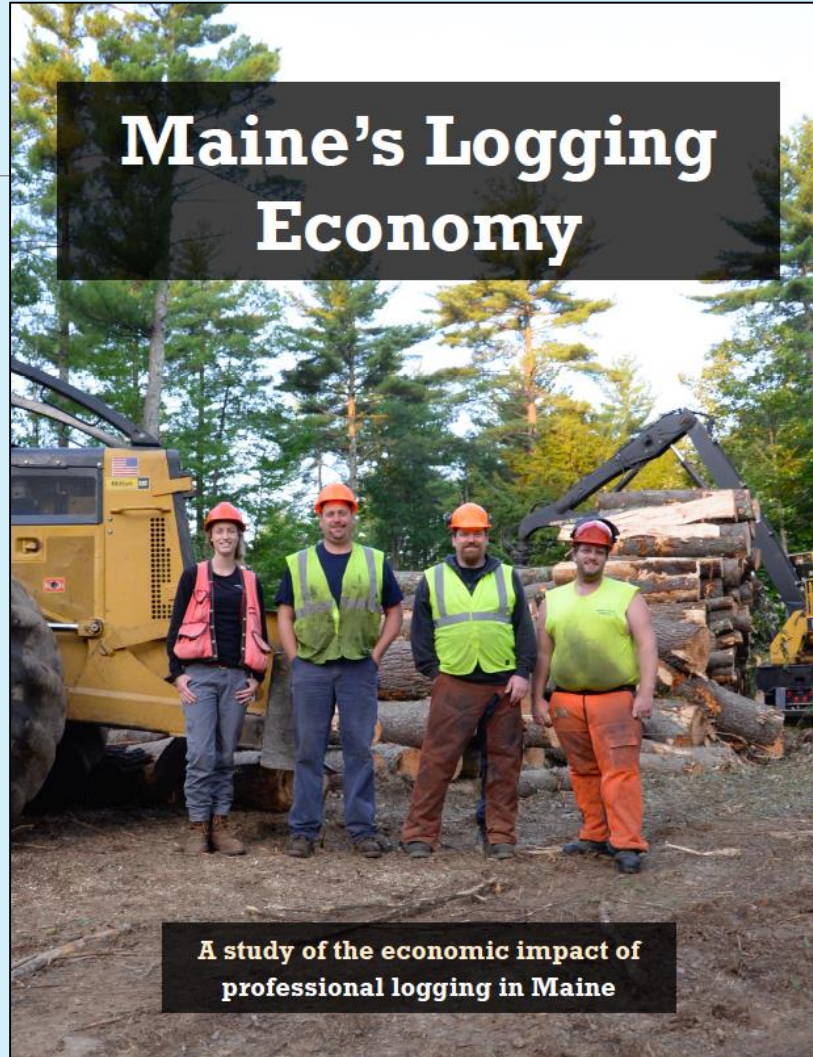
Source: Economic Contribution of Maine's forest products industry 2014 and 2016 (estimated)

Conclusions

- ❑ FPI is still an important and integrated part of Maine's economy
- ❑ \$8.5B in total output impact
- ❑ The share of FPI as part of the total state GDP has slightly declined
 - ❑ \$1 out of every \$20 of state GDP is associated with the FPI
- ❑ 1 out of every 24 jobs in Maine is associated with the FPI
 - ❑ Employment in sawmills, plywood/veneer, and other wood products increased by 363 (from 4376.6 to 4739.6)



Maine's Logging Economy



A study of the economic impact of professional logging in Maine

Logging: Economic Impact 2014

Logging companies employed 4,632 workers

Average capital expenditures per company were \$626,000

Worker wages and proprietor income exceeded \$296 million

Logging created an additional 2,710 indirect jobs

Logging timber production value was \$493 million

Workers earned an average of \$42,795/year

Maine logging contributed **\$882 million** to the state's economy in 2014

This study is printed on FLO Glass Digital Text paper produced in Maine by Sappi North America.





OUR CHALLENGES

Increased Operational Costs – Minimal Rate Increase

Reduced Markets

Low Profitability = Tight margins = Running on Equity

Longer hauls

High Workforce Demand = Low Workforce Supply

Contractors are going out of business and increased fiber costs are not a result of contractor wealth.

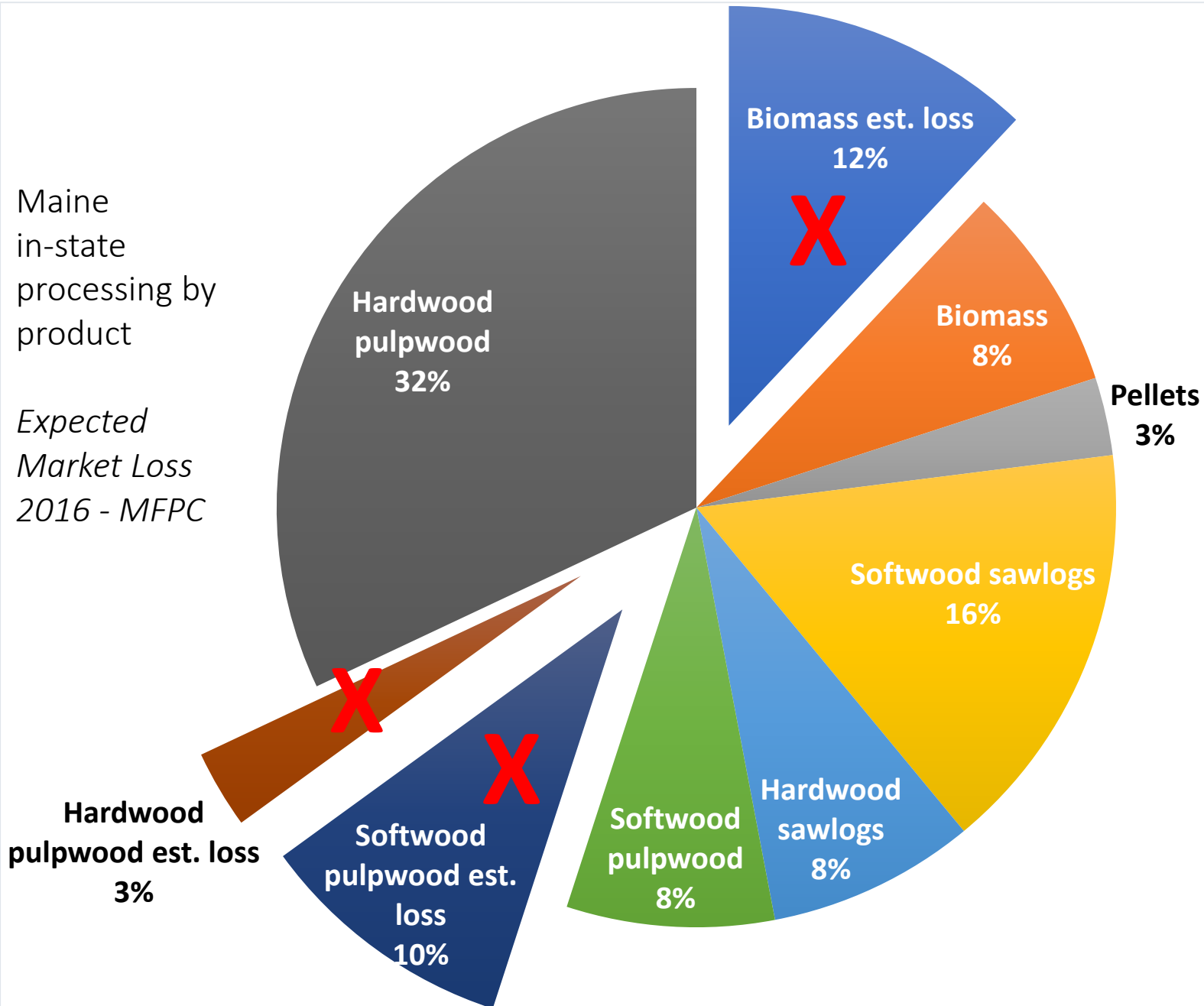


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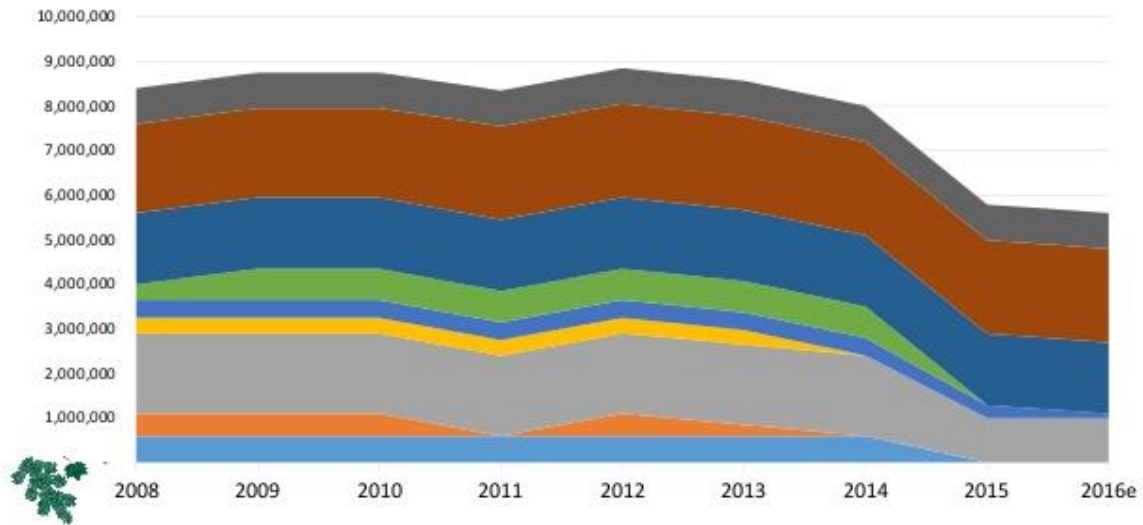
Maine
in-state
processing by
product

*Expected
Market Loss
2016 - MFPC*



Estimated Pulpwood Consumption by Maine Pulp Mills

Estimates Based Upon INRS Data



MISSED OPPORTUNITIES

- Canadian industry asks for \$200 million investment to develop game-changing products

FOREST SECTOR SEEKS FEDERAL PARTNERSHIP TO SUPPORT INNOVATION, JOBS & ENVIRONMENT

October 26, 2016 Press Releases

The Canadian forest products industry is asking for a formal partnership with the federal government to further the sector's ongoing

Ensyn breaks ground on new 10 million gallon advanced biofuels project in Quebec

• LP locating in Minnesota

Louisiana-Pacific has purchased a shuttered board-making plant near Cook and is eyeing the site for a possible siding plant there, instead of in Hoyt Lakes.

LP officials Friday confirmed reports that they had purchased the former Ainsworth waferboard plant along U.S. Highway 53 near Cook. The company has been renting the site as a "laydown" site to store wood for its Two Harbors and Hayward plants.

Company spokesman Mark Morrison said LP is now considering the Cook site for a new siding plant instead of the proposed Hoyt Lakes site.

The News Tribune first reported in June that LP was ready to use state and Iron Range Resources and Rehabilitation Board incentives to build an all-new siding facility at a Hoyt Lakes industrial park. The new facility would produce LP's hot-selling SmartSide composite wood exterior home siding product.

While Minnesota officials have known they are competing against other possible sites in the U.S. and Canada, LP confirmed that Friday by saying it had swapped board plants in Canada with another company. LP is swapping ownership of its Chambord, Quebec, mill for Norbord's Val-d'Or, Quebec, mill, which now is in the running for the new siding plant.



As part of the deal, Norbord, which held a covenant over the deed of the Cook plant, has agreed to drop a noncompete clause that previously prevented any buyer of the property from opening any kind of wood products plant there.

"Once that covenant was dropped, it opened the door for Cook, which they had been looking at before Hoyt Lakes," said Mark Phillips, IRRRB commissioner.

Phillips said LP now is focusing on Cook for the new siding plant and its potential 250 jobs.

Maine needs its own roadmap for forest products

Sweden

Swedish Forest Industries Federation Sustainable
THE FOREST INDUSTRY THE DRIVER FOR A SUSTAINABLE BIOECONOMY
English abridged version

Finland

FOREST CLUSTER RESEARCH STRATEGY

The world's leading forest cluster 2030

Forest-based Technology Platform
Horizons - Vision 2030 for the European Forest-based Sector

Report on the Competitiveness of Minnesota's Primary Forest Products Industry
December 2014
Submitted by the Minnesota Forest Resources Council

March 16, 2016



Coming Spruce Budworm Outbreak:

**Initial Risk Assessment and
Preparation & Response
Recommendations for
Maine's Forestry Community**

Jointly presented by:

**Cooperative Forestry
Research Unit (CFRU),
University of Maine**

Maine Forest Products Council

Maine Forest Service

Forest Industry Implementation Team



**MAINE
DEVELOPMENT
FOUNDATION**



Maine Forest Economy Growth Initiative

**Recommendations to Strengthen and Diversify
Maine's Forest Industry and Rural Economies**



December 2016



MAINE DEVELOPMENT FOUNDATION



- Patrick Strauch, Maine Forest Products Council
- Donna Cassese, SAPPI North America
- Steve Schley, Pingree Associates
- Charlotte Mace, Biobased Maine
- Tom Doak, Maine Woodland Owners
- Dana Doran, Professional Logging Contractors (PLC) of Maine
- Stephen Shaler, University of Maine
- Jake Ward, University of Maine
- Peggy Daigle, former Town Manager/Consultant
- Andy Hamilton, Eaton Peabody Attorneys at Law
- Charlie Spies, CEI Capital Management
- Yellow Light Breen, Maine Development Foundation

We envision a thriving and diverse forest products industry that provides good jobs in vibrant rural Maine communities.

Goal 1. Sustain Maine's existing forest products businesses

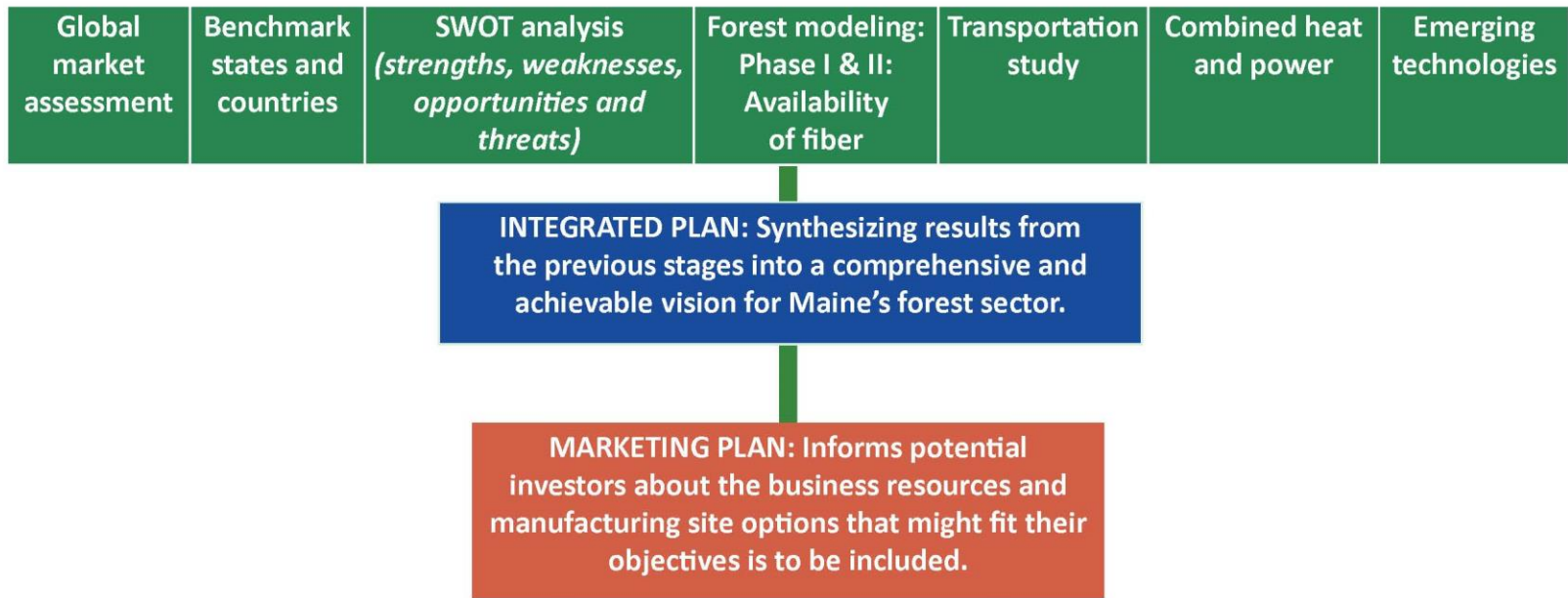
Goal 2. Attract capital investments and develop greater economic prosperity in the forest products sector across the State for both existing and new businesses

Goal 3. Support the revitalization of Maine's rural communities as places where people want to live, work and visit.

9 Priorities

- A. Conduct a global market assessment to assess future demand for Maine wood products.
- B. Conduct a statewide wood supply analysis to attract new markets.
- C. Conduct a transportation analysis to determine where infrastructure improvements are necessary to increase profitability for the forest products value chain.
- D. Support and grow markets for low-value, underutilized wood and biomass utilizing state-of-the-art Combined Heat and Power (CHP) biomass plants, micro-grids, and modern thermal systems.
- E. Invest in the research, development, and commercialization of emerging wood technologies such as forest bioproducts as an opportunity for the utilization of low value fiber.
- F. Support small landowners who want to grow and harvest more wood.
- G. Invest in logger and forest products workforce development with high-tech and automation
- H. Redevelop and reutilize or repurpose Maine's closed mill industrial sites.
- I. Diversify and strengthen Maine's rural economy.

Maine Forest Economy Growth Initiative



DRAFT

Executive Committee

10-12 people, including Industry co-chairs, MFPC, Biobased Maine, MWO, PLC, University of Maine, Maine Forest Service, and Task Team Chairs

Roadmap Advisory Group

30 people, including at least 2 each from landowners, pulp and paper, sawmills, logging and trucking, biomass/wood energy, also University of Maine, Governor's office, legislators, MTI, MITC

Global Market and Benchmarking Subcommittee

Donna Cassese, SAPPI
Charlotte Mace, Biobased Maine
Steve Schley, Pingree Assoc.

Wood Fiber Availability Subcommittee

MFS
Aaron Weiskettle, U Maine
Peter Triandafilou, Huber Resources
Jim Contino, VERSO
Tom Doak, MWO

Subsector Analysis Subcommittee

Aaron Weiskettle, U Maine
Patrick Strauch, MFPC

Transportation Subcommittee

Dana Doran, PLC
Tony Lyons, Catalyst

CHP Subcommittee

Bob Linkletter
Jim Robbins Sr.
Dana Doran, PLC
Sarah Boggess, ReEnergy

Emerging Technologies Subcommittee

Jake Ward, U Maine
Steve Shaler, U Maine
Charlotte Mace, Biobased Maine
Jim Robbins Sr.

Integration Subcommittee

Marketing Plan Subcommittee

Biomass energy

- Stored Solar
- PUC contract
- Movement toward

Combined Heat and

Power (CHP)



Low-grade wood

- Panel

manufacturing

- Medium density

fiberboard (MDF)



Dimension lumber

- Housing starts increase
- Capacity to expand sawmills
- New products, such as cross-laminated timber



When complete, 475 West 18th, a 10-story residential building, will be the first structural timber building in New York City. The design by SHoP Architects was one of two winners of the U.S. Tall Wood Building Prize, sponsored by the Department of Agriculture.

**LOOKING UP:
TALL WOOD BUILDINGS AROUND THE WORLD**

17 TALL WOOD BUILDINGS HAVE BEEN BUILT IN THE PAST 5 YEARS AND COUNTING

Building Name	Location	Stories	Year
Breck Commons	Vancouver, Canada	18	2017
TREET	Bergen, Norway	16	2016
Ford	Melbourne, Australia	10	2012
Banyan Wharf	London, UK	10	2015
Centri di Comunità	Milano, Italy	10	2013
Svanbjörnen	Stockholm, Sweden	8	2014
Puutalo	Jyväskylä, Finland	8	2015
Wood Innovation Design Centre	Waterloo, Canada	8	2014
St. Die-des-Vivages	St. Die-des-Vivages, France	8	2014
Pennon II	Oslo, Norway	8	2013
LifeCycle Tower One	Bonmore, Australia	8	2012
Hotel	Saal-Allenburg, Germany	8	2011
Centralinaka	Helsinki, Spain	8	2014
Bridport House	London, UK	8	2010
Wagramstrasse	Vienna, Austria	7	2013
Panorama Giustinelli	Trieste, Italy	7	2012
Maison de l'Inde	Paris, France	7	2012

TO FIND OUT MORE VISIT:
WOOD WWW.RETHINKWOOD.COM/TALLWOOD

JD Irving announces \$30 million investment in Aroostook County mill, to create 60 jobs

Paper mills

Grade switches:

- Tissue
- Labels
- Box board
- Fluff pulp



The Woodland Mill in Baileyville spent \$150 million to purchase and bring online on two new tissue machines — work that lasted for more than two years. *Photo by Bangor Daily News*

Sappi to pump \$165 million into Skowhegan mill

Next 1 of 2



Potential biobased opportunities

- Nanocellulose (papermaking, cosmetics, foam insulation, thickening foods)
- Bioplastics (food containers, packaging, 3D printing)
- Advanced biofuels (for planes and ships)

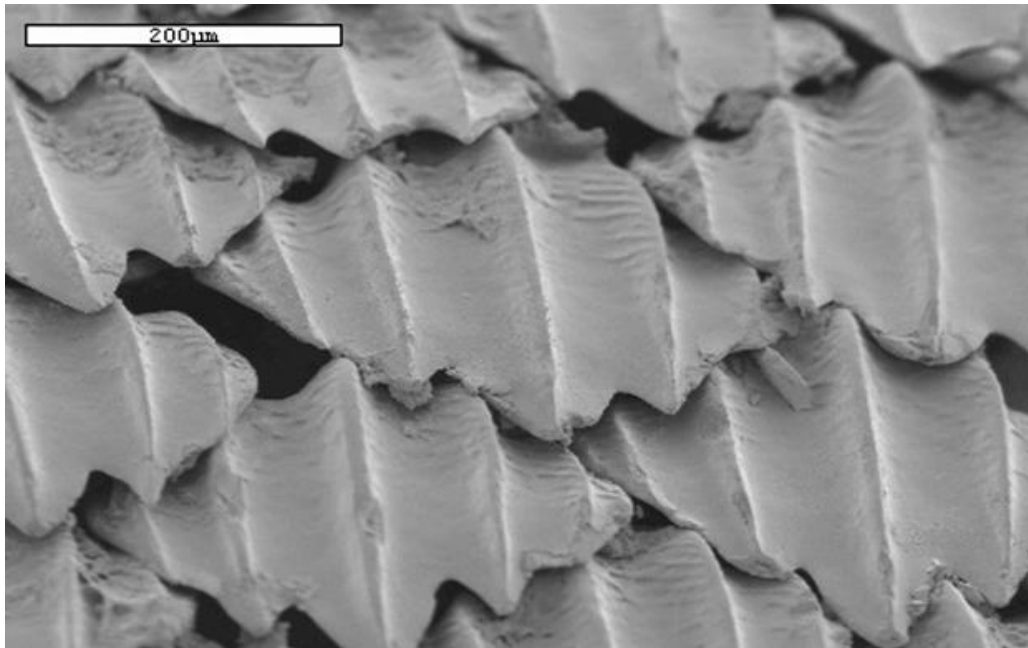


This Shelby Cobra was 3D printed at the Department of Energy's Manufacturing Demonstration Facility at the Oak Ridge National Laboratory.

Sappi North America launches paper inspired by shark skin

Mainebiz September 14, 2016

Magnified shark skin. Sappi North America has launched a “first of its kind” casting and release paper inspired by the texture of shark skin which will be made at Sappi's Westbrook mill. The product creates surfaces that inhibit bacterial growth without the use of toxic additives or chemicals.





Thank you.

