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# **TREES PLUS: WEYERHAEUSER ECOSYSTEM SERVICES REPORTING PROJECT**

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**2014 Agricultural Outlook Forum**  
**The Economics of Conservation**

**Cassie Phillips**  
**Vice President, Sustainable Forests & Products**  
**Weyerhaeuser**

**February 20, 2014**

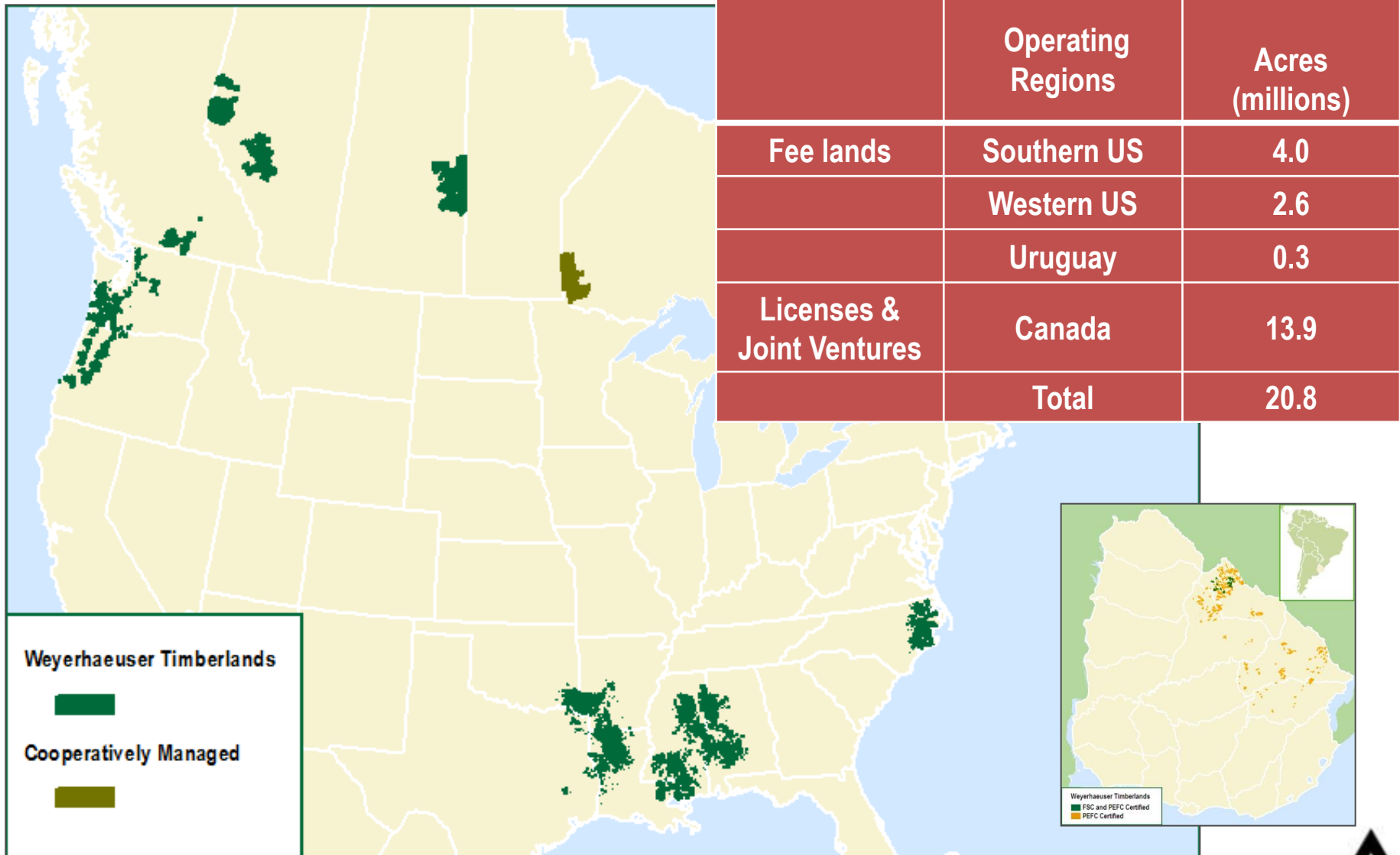


# THE PROJECT

- In 2010 Weyerhaeuser's senior managers directed the businesses to propose sustainability goals for 2020
- The Timberlands business offered to test a key hypothesis:  
**We maintain or enhance the other ecosystem services provided by the lands we manage for timber production**
- Our first lesson: be careful what you ask for
  - The literature is full of good ideas on what this means – way more than we can afford to measure and report reliably
  - Our scientists were critical, but so were the operating managers who had to collect and report the data
  - Context matters: ours is forests managed for timber production, and recognizing the global need for intensification
  - The reporting units needed to be readily available (i.e., publically available or already collected internally) and not proprietary in the reported form



# THE SCOPE



# THE FRAMEWORK



## PROVISIONING SERVICES

Products or goods such as water, fish and timber



## REGULATING SERVICES

Ecosystem functions such as flood control and climate regulations



## CULTURAL SERVICES

Non-material benefits such as recreational, aesthetic, and spiritual benefits



## SUPPORTING SERVICES

Fundamental processes such as nutrient cycling and photosynthesis that support the other three categories



# THE CHOSEN METRICS

- **Ecosystem services measurements (18 total)**

SUPPORTING	PROVISIONING	REGULATING	CULTURAL
<ul style="list-style-type: none"><li>• Habitat-protected</li><li>• Habitat-managed</li><li>• Formal habitat mgmt. zones</li><li>• Habitat – fish/habitat aquatics</li><li>• Soil productivity</li></ul>	<ul style="list-style-type: none"><li>• Fiber – roundwood</li><li>• Food – mushrooms/berries</li><li>• Greenery</li><li>• Livestock – grazing</li><li>• Honey production</li><li>• Biochemical – wood extractives</li><li>• Fur production</li><li>• Genetic resources</li></ul>	<ul style="list-style-type: none"><li>• Water regulation</li><li>• Fire resistance</li></ul>	<ul style="list-style-type: none"><li>• Hunting</li><li>• Special sites</li><li>• Education</li></ul>





# PROVISIONING SERVICES

Ecosystem Service	Scale	Reporting Unit	2012 Value
Fiber - roundwood harvested	All Weyerhaeuser timberlands	Volume (thousands m <sup>3</sup> )	19,421
Food - mushrooms/berries	US West	# of acres covered by permits	1,024,498
Greenery	US West	# of acres covered by permits	778,605
		Tons sold for noble fir boughs	499
Livestock - grazing	Uruguay, Canada, and West	acres of grazing leases	365,522
Honey production	Uruguay and US West	# bee box (hive) leases	19,543
Biochemical - wood extractives	US South and Uruguay	# Tons of soap (potential) based on extractive supply	1,017,570
		# Gallons of turpentine (potential) based on extractives supply	126,240
		# Lbs harvested of turpentine (traditional method)	129,630
Fur production	Canada	# permits	300
Genetic resources (tree improvement)	All Weyerhaeuser timberlands	# improved seedlings planted	52,888,570

**19,543**

Bee box leases provided from our timberlands in Uruguay and the western U.S.



# REGULATORY & CULTURAL SERVICES

Ecosystem Service	Scale	Reporting Unit	2012 Value
Water regulation (quantity and quality)	All Weyerhaeuser timberlands	Percent harvested area planted within 2 yrs;	99%
		Riparian buffer/perennial stream length (m2/m)* *Based on current public stream layer datasets.	160
Fire resistance	All Weyerhaeuser timberlands	Acres burned (not including prescribed burns)	5,430

99%

Harvested area replanted within two years



61,174

Hunting permits issued in our western U.S. timberlands

Ecosystem Service	Scale	Reporting Unit	2012 Value
Hunting	US South	# people in hunt clubs	56,852
	US West	# of permits in game management units	61,174
Special sites	All Weyerhaeuser timberlands	# special sites	1,314
Education (school tours/groups)	US and Uruguay	# of visitors	162,110



# SUPPORTING SERVICES

Ecosystem Service	Scale	Reporting Unit	2012 Value
Habitat - protected	US and Uruguay	Acres, including biotopes, riparian buffers, and wetland mitigation banks	891,446
	Canada		4,954,400
Habitat - managed	US and Canada	Acres of early-successional habitat	2,725,920
		Acres of mid-successional habitat	10,218,300
Formal Habitat Management Agreements	US and Canada	Acres	3,515,250
Habitat - fish habitat/aquatics	US West	# upgraded stream crossings/drainage projects (cumulative)	1,472
Soil productivity	All Weyerhaeuser timberlands	Information from soil productivity research (updated annually)	<a href="#">See link</a>



**3.5**

**Million acres of timberland included in formal habitat management agreements**

# BUT WHY, REALLY?

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1. To reduce risk: help people see the ecosystem services our forests provide for free

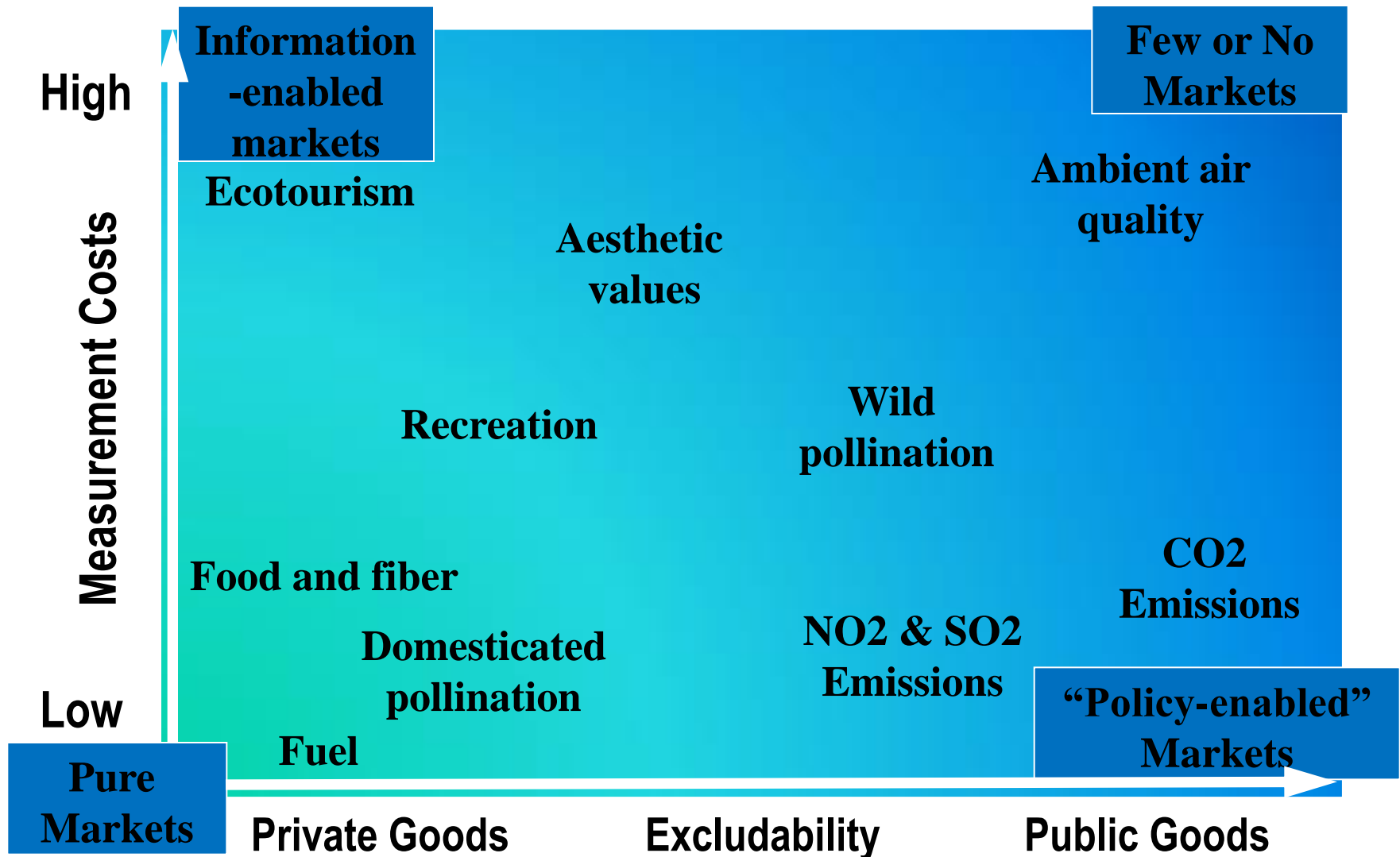
(“Natural Capital,” “Net Positive Impact)

- So they support and nurture existing markets
- So they welcome managed forests as a land use

2. To increase revenue: explore new markets for ecosystem services



# THE OPPORTUNITIES

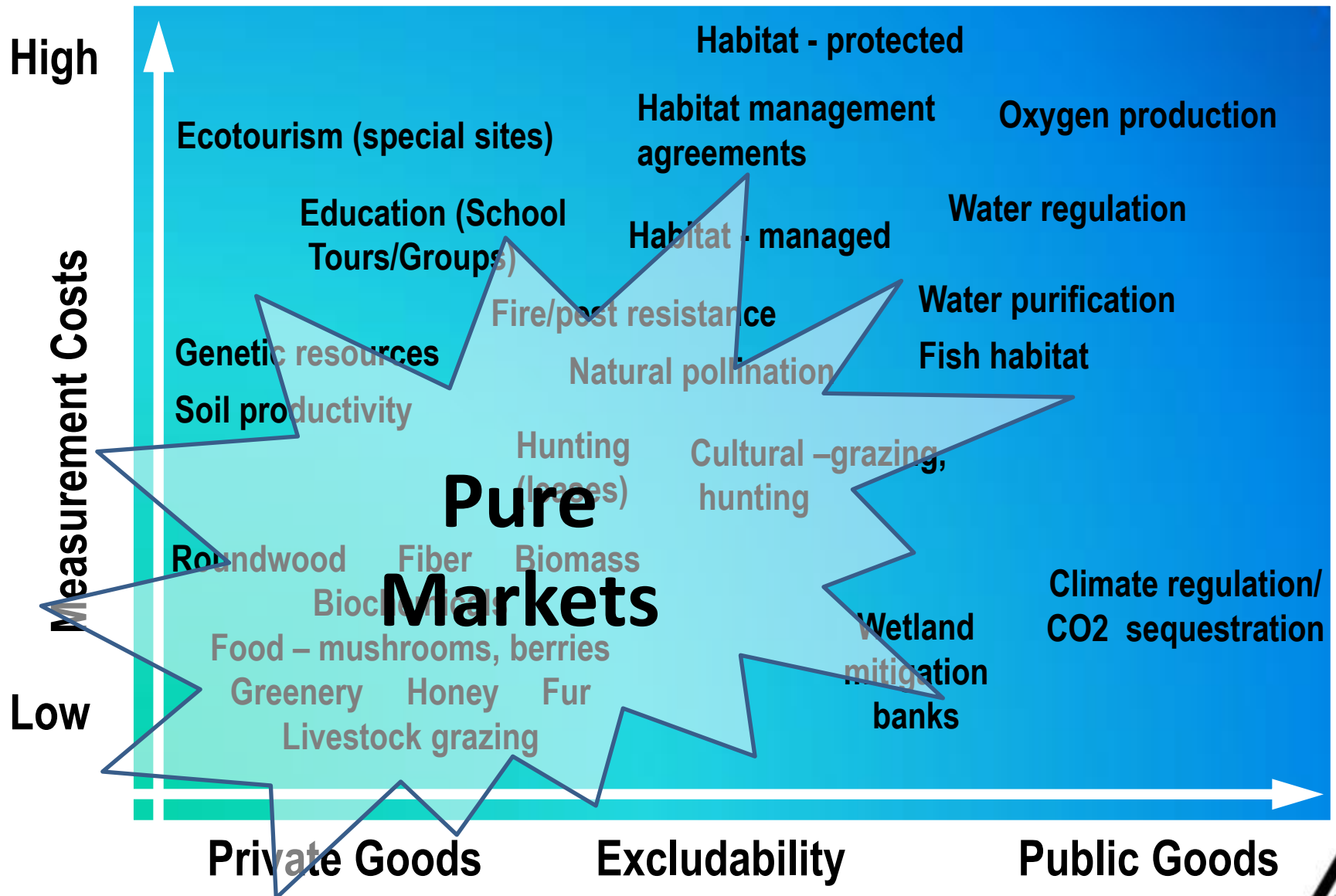


Source: Mark L. Plummer

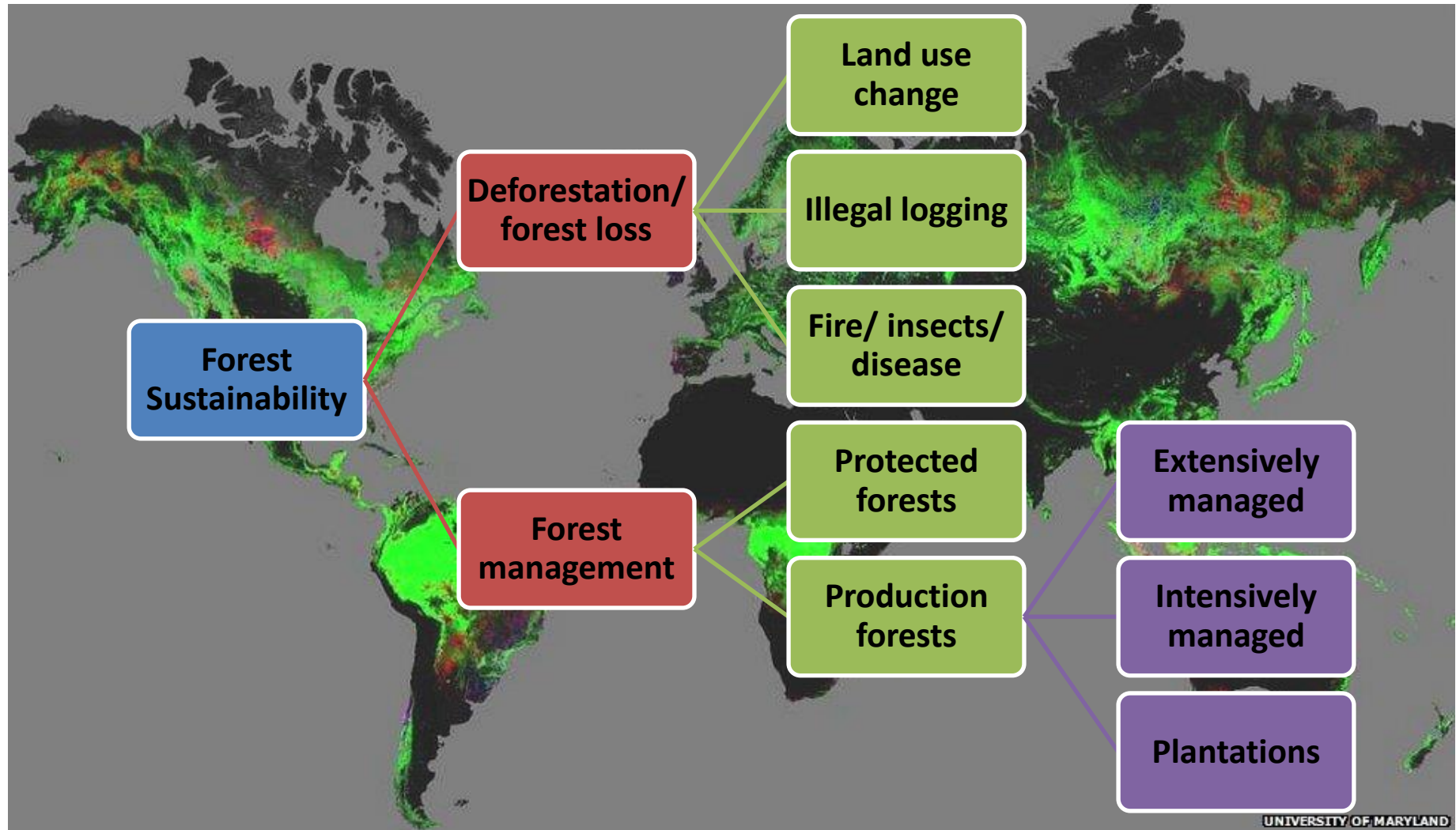
National Marine Fisheries Service



# GOAL: NURTURE EXISTING MARKETS



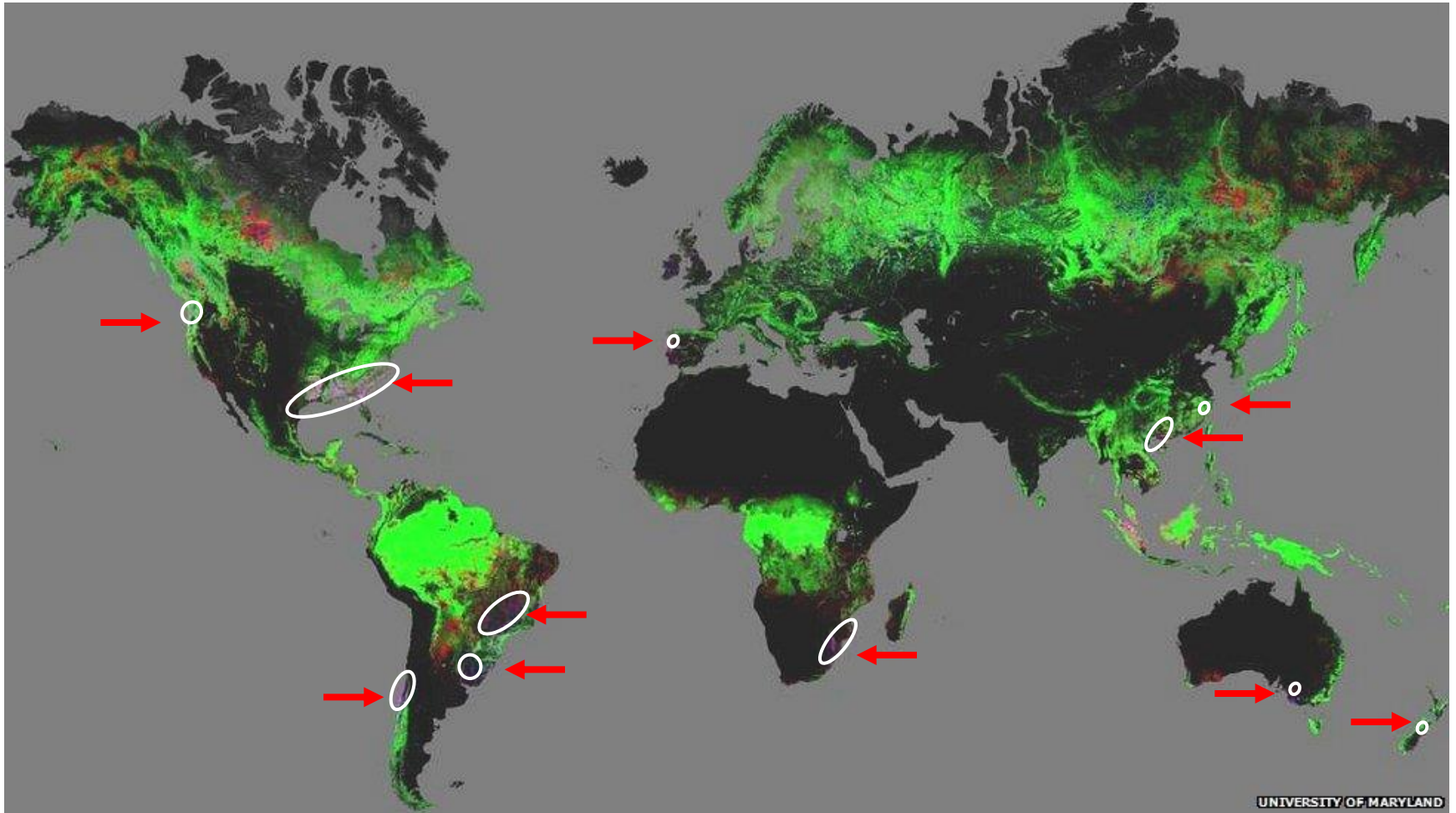
# WOOD PRODUCT MARKETS CONSERVE A SUBSET OF GLOBAL FORESTS



Source: Hansen et al., High-Resolution Global Maps of 21<sup>st</sup> Century Forest Cover Change, Science Vol. 342, p. 850 (November 15, 2013)



# U.S. FORESTS AMONG MOST IMPORTANT

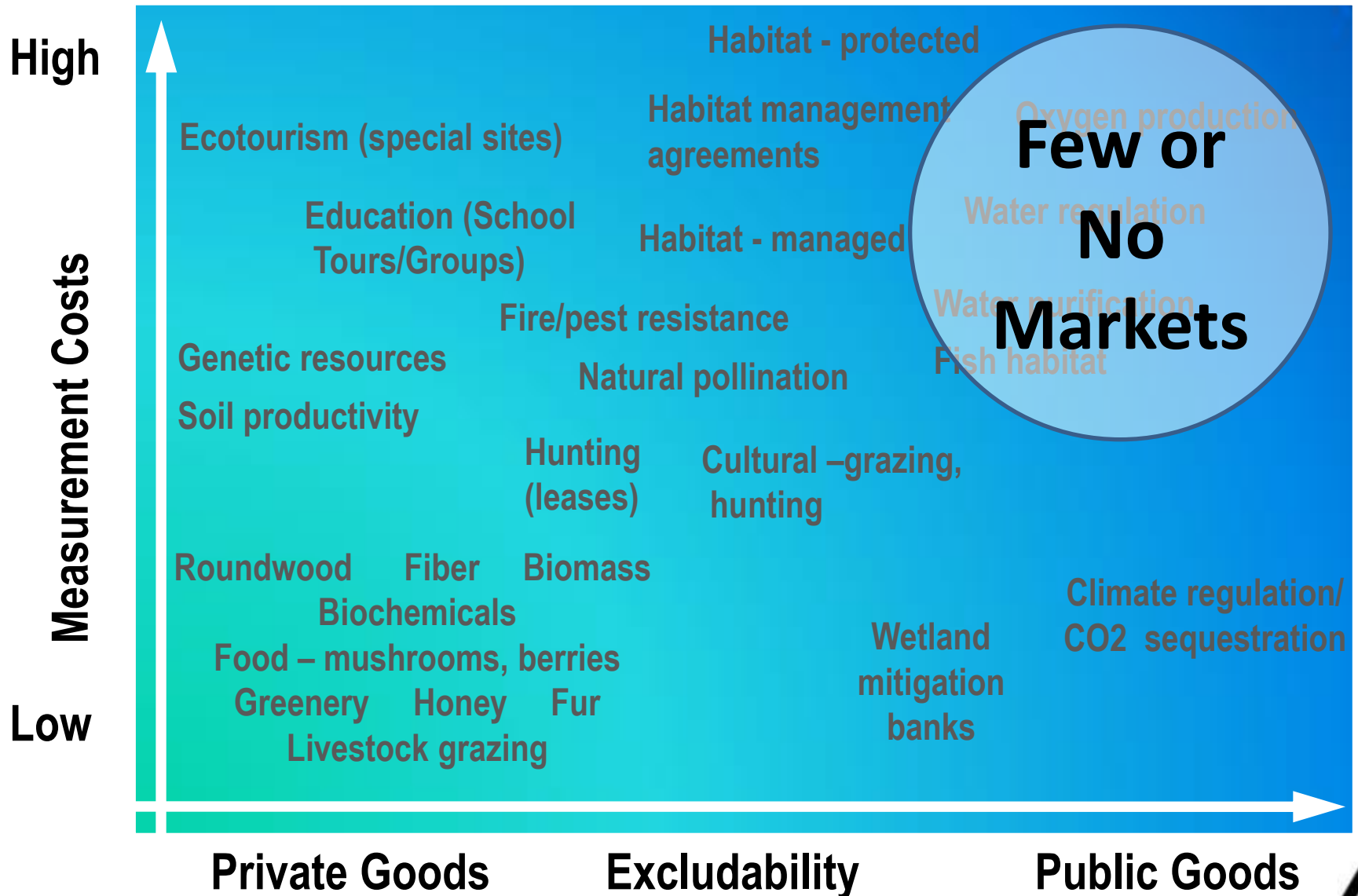


Source: Hansen et al., High-Resolution Global Maps of 21<sup>st</sup> Century Forest Cover Change, Science Vol. 342, p. 850 (November 15, 2013)





# GOAL: A WELCOME LAND USE



# COMMITMENT TO RESEARCH ESSENTIAL

**THINNING  
STANDS**



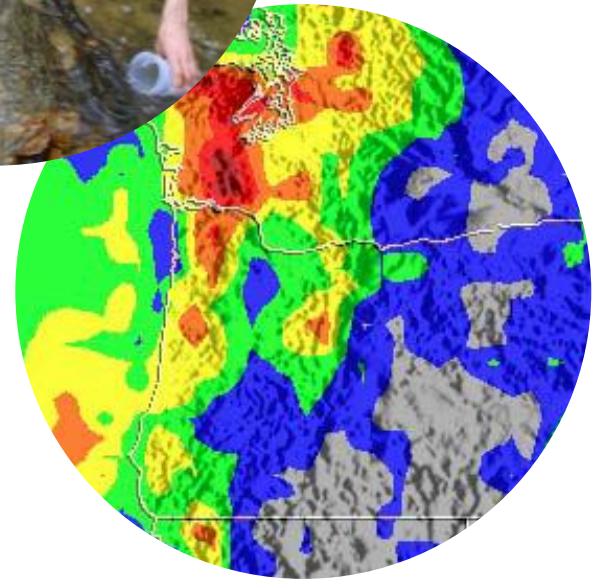
**WATERSHED  
RESEARCH**



**GENETIC SELECTION**



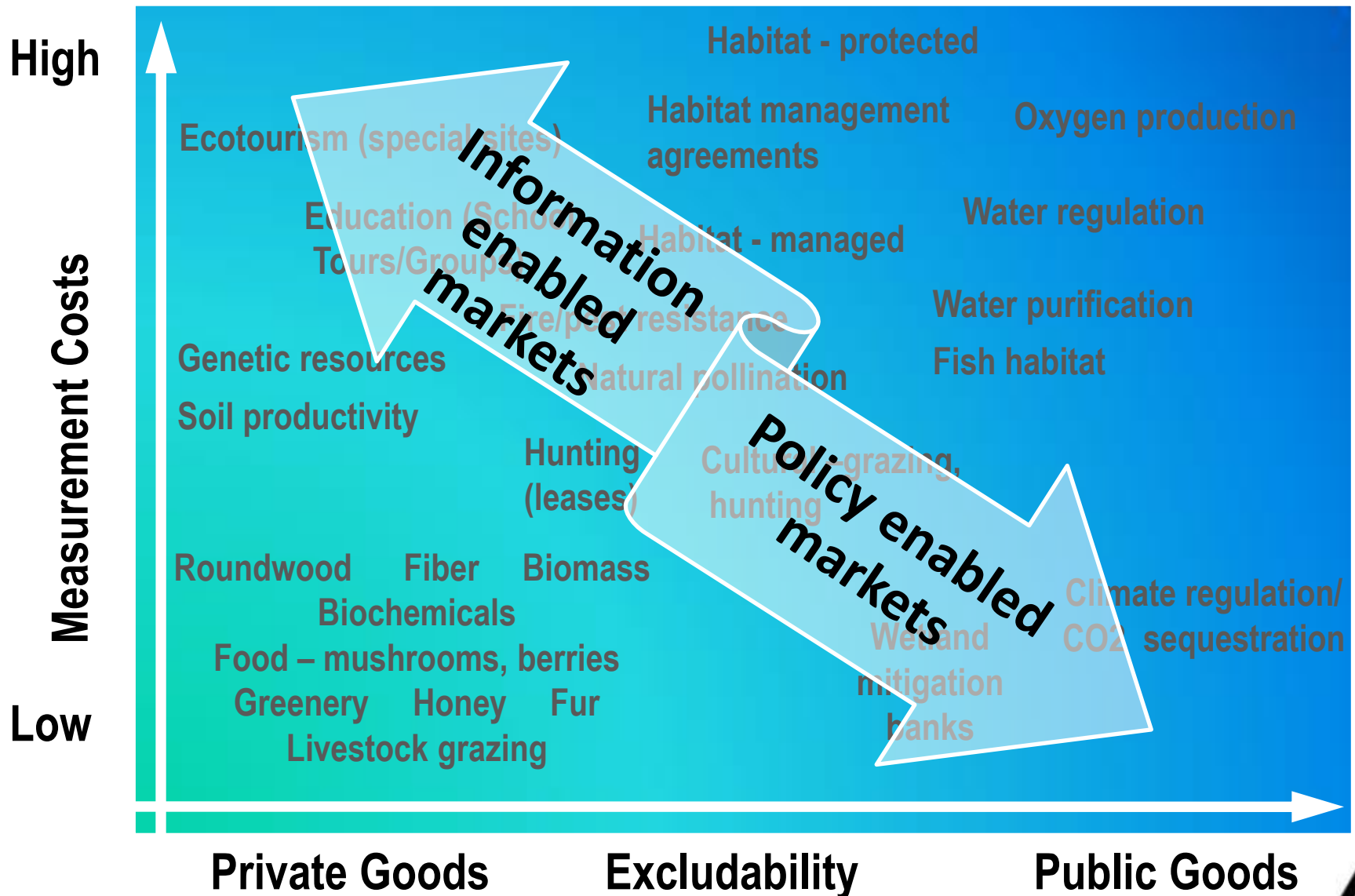
**SOIL RESEARCH**



**LANDSLIDE  
ASSESSMENT**



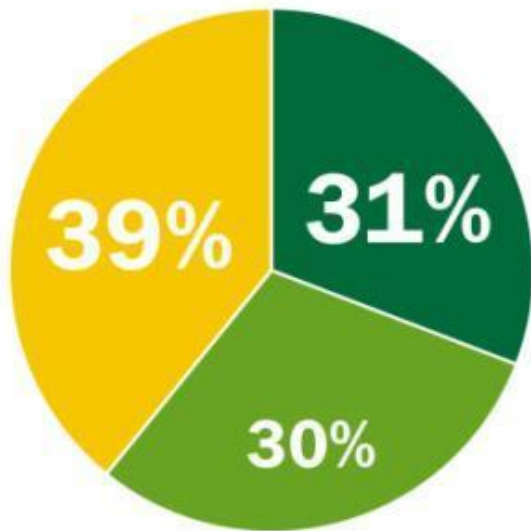
# GOAL: NEW MARKETS



# INFORMATION EXAMPLE: FOREST CERTIFICATION & LABELING

## 61 PERCENT OF OUR LOG AND CHIP SUPPLY COMES FROM CERTIFIED FORESTS

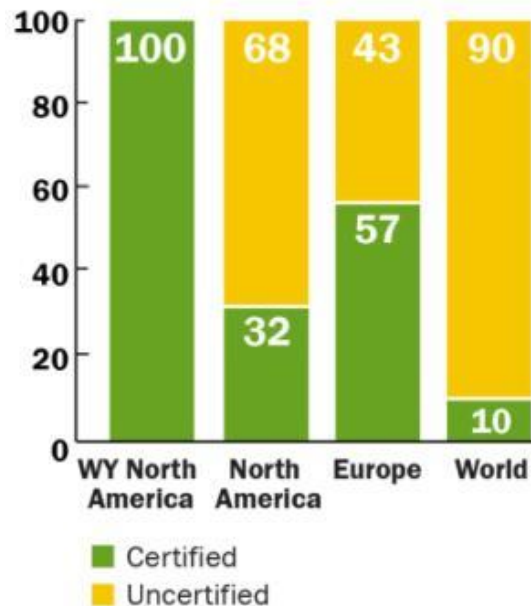
North America



- Certified from Weyerhaeuser timberlands
- Certified from other forests
- Not certified

## WEYERHAEUSER EXCEEDS THE NORTH AMERICAN AND GLOBAL AVERAGES FOR CERTIFIED FORESTS

Certified forest as a percentage of total forests by region<sup>1</sup>

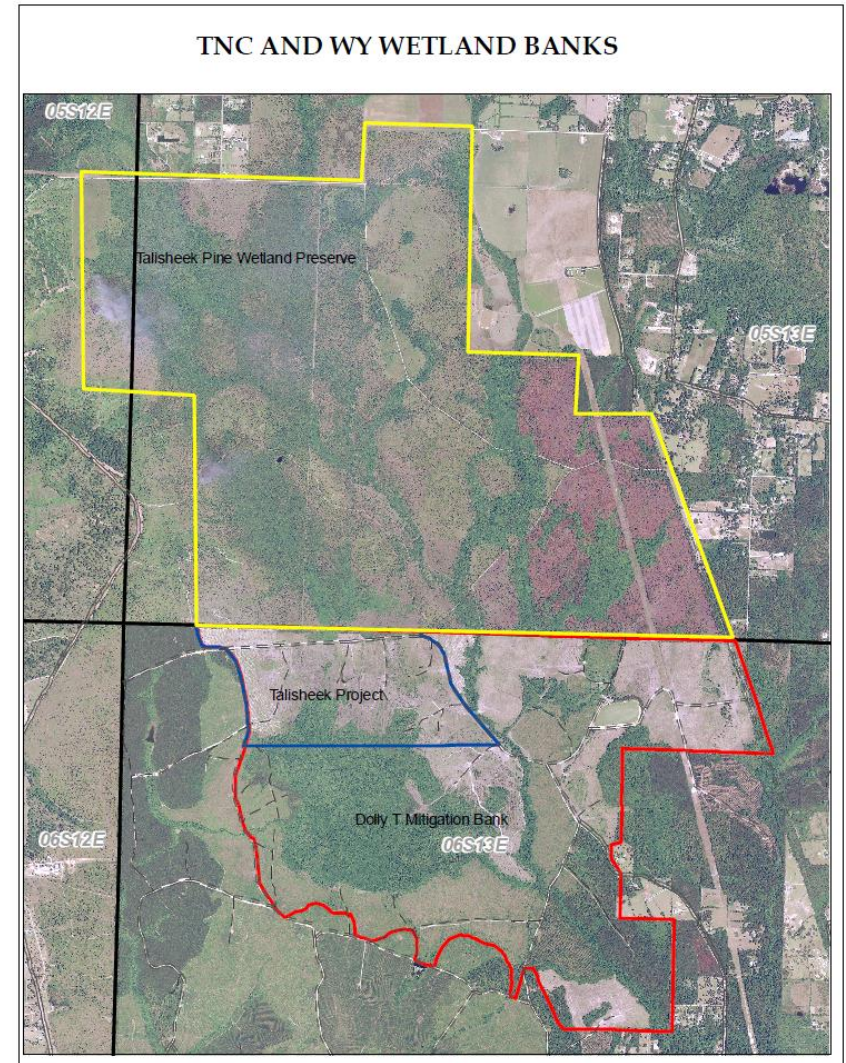
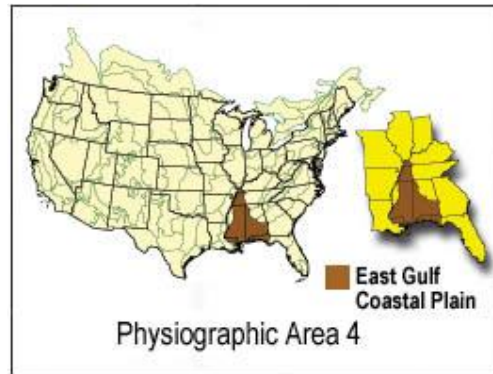


<sup>1</sup> UNECE/FAO Forest Products Annual Market Review, 2011–2012





# POLICY EXAMPLE: WETLAND MITIGATION BANKING





# THANK YOU



*una de las principales producciones  
de nuestros bosques es la ganadería*

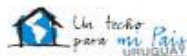
Después de la producción maderera,  
en nuestros bosques se destaca  
la producción ganadera.

Los árboles brindan protección al ganado, lo cual disminuye su gasto energético y permite un mayor engorde. Aproximadamente el 30% de la superficie forestada se encuentra ocupada por calles y caminos, los cuales son pastoreados para controlar la vegetación y reducir los riesgos

de incendio. También la forestación favorece el desarrollo de la apicultura, hongos, fibras, plantas medicinales y aceites esenciales, entre otros. Todas estas variedades se están desarrollando con muy buenas perspectivas al abrigo de los bosques.



Por más información:  
[www.weyerhaeuser.com](http://www.weyerhaeuser.com)



 **Weyerhaeuser**

GERENCIANDO A Colombrado S.A. Las Piqueas S.A.

