

Balancing Conservation and Profit in PNW Forests



SAF Conference
April 26, 2012

Overview

1. *Forests can be valuable sources of ecosystem goods and services*
2. *Monetizing ecosystem services is not easy*
3. *What are we doing to make it easier for private landowners?*

Take-away: Inspire you to participate in diverse groups of stakeholders in PNW to expand the incentives and tools available for improved forest management

Ecotrust

Ecotrust's mission is to foster a natural model of development that creates more resilient communities, economies, and ecosystems here and around the world.



HEALTHY FORESTS GENERATE IMMENSE PUBLIC VALUE THAT ARE HARD TO QUANTIFY

Healthy, diverse forests provide us with a host of public benefits

- “ **Climate Change Mitigation:** Forests help sequester carbon dioxide from the atmosphere
- “ **Water Filtration:** Forests filter pollutants, such as sediments, fertilizers, and pesticides, from agricultural and urban runoff.
- “ **Biodiversity:** Forests provide fish and wildlife habitat
- “ **Food & Income:** Forest products like timber, biomass, salal, mushrooms are a source of income
- “ **Recreation:** Forests provide us with a place to play. They have immense cultural and spiritual value
- “ **Temperature & Water Regulation:** Forests help create and regulate rainfall, capture snowmelt, slow down storm surges & provide shade to streams



“Halving deforestation rates by 2030 would reduce global greenhouse gas emissions to 2.7 GT CO₂ per year, thereby avoiding damages from climate change estimated at more than US\$ 3.7 trillion in NPV terms.”

- Eliasch 2008 / TEEB

Forest Management in the PNW



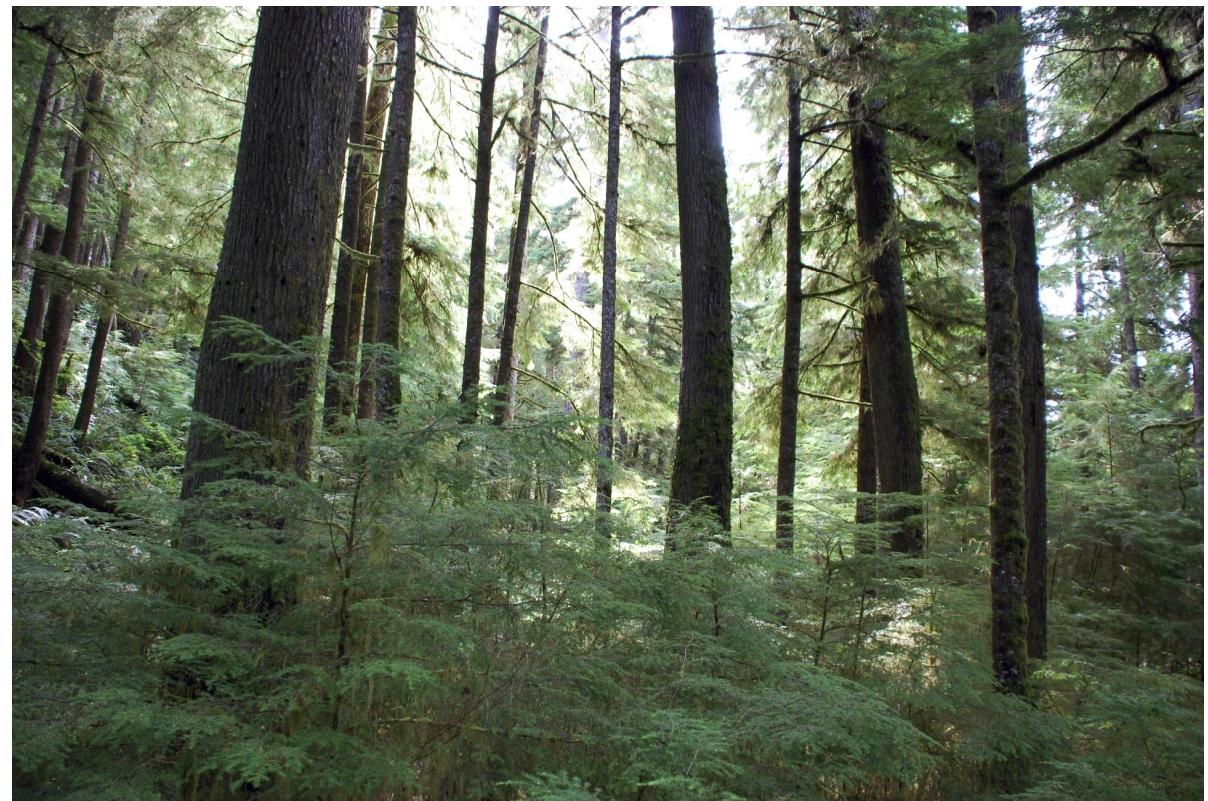
Forest Management Can Produce Multiple Benefits



Shifting Rotations from 40 to 60+ Years

“Big commitment
with risks required

“How are we going
to get through the
next 20 years?



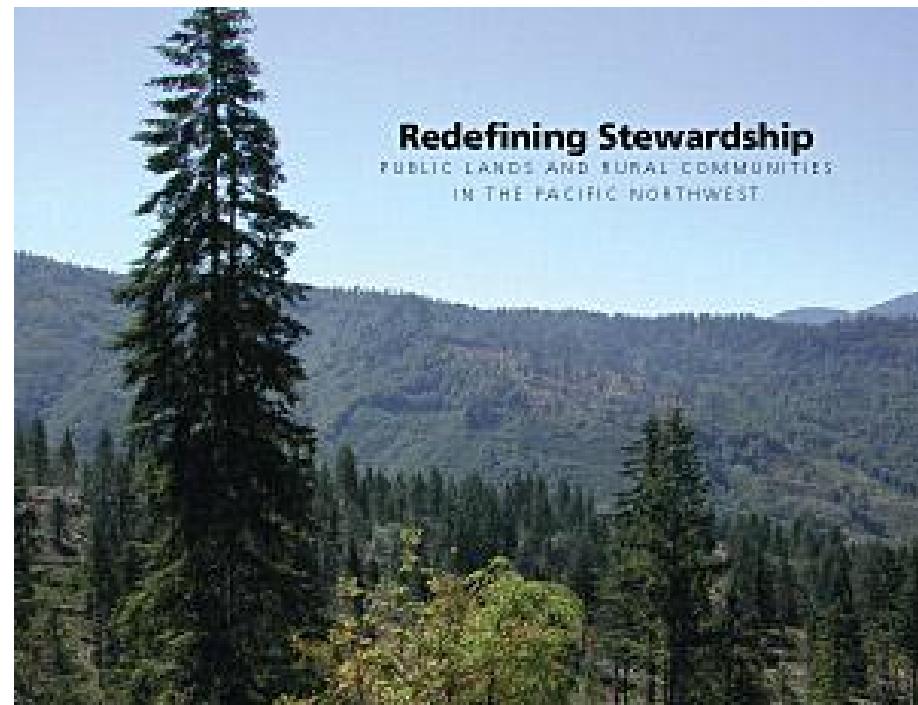
1. Increase Public Awareness
2. Bring Forestry Technology into the 21st Century
3. Improve & Expand Markets and Incentive Programs
4. Policy Changes

Public Awareness



Stewardship Collaborative Groups on Public Forests

Stewardship Contracting Authority Allows BLM & FS to design timber harvests, watershed restoration, and fuels reduction projects that are more effective, efficient, and responsive to community interests



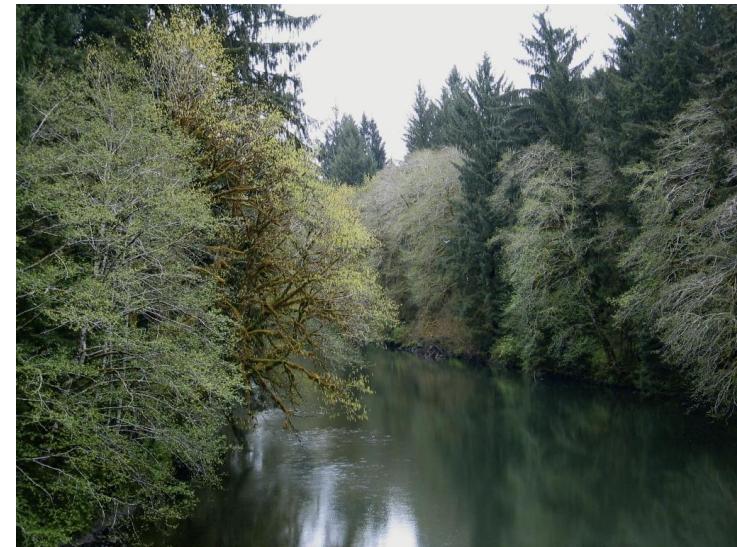
Stewardship Authority Allows

- “Best Value Contracting
- “Designation by Description
- “Designation by Prescription
- “Goods for Services
- “Multi-year Contracting
- “Retention of Receipts



Bring Forest Technology into the 21st Century

Improve and expand the tools
available to forest managers



Ecotrust Forest Land Owner Tools

Forest Scenario Planner

<http://murdock.labs.ecotrust.org>

Forest Scenario Planner About Help

Welcome to Ecotrust Forest Land Owner Tools

An online planning tool for the forests and rangelands of Oregon and Washington. Incorporating forest land management, carbon offset, quantification and spatially explicit ecosystem based management.



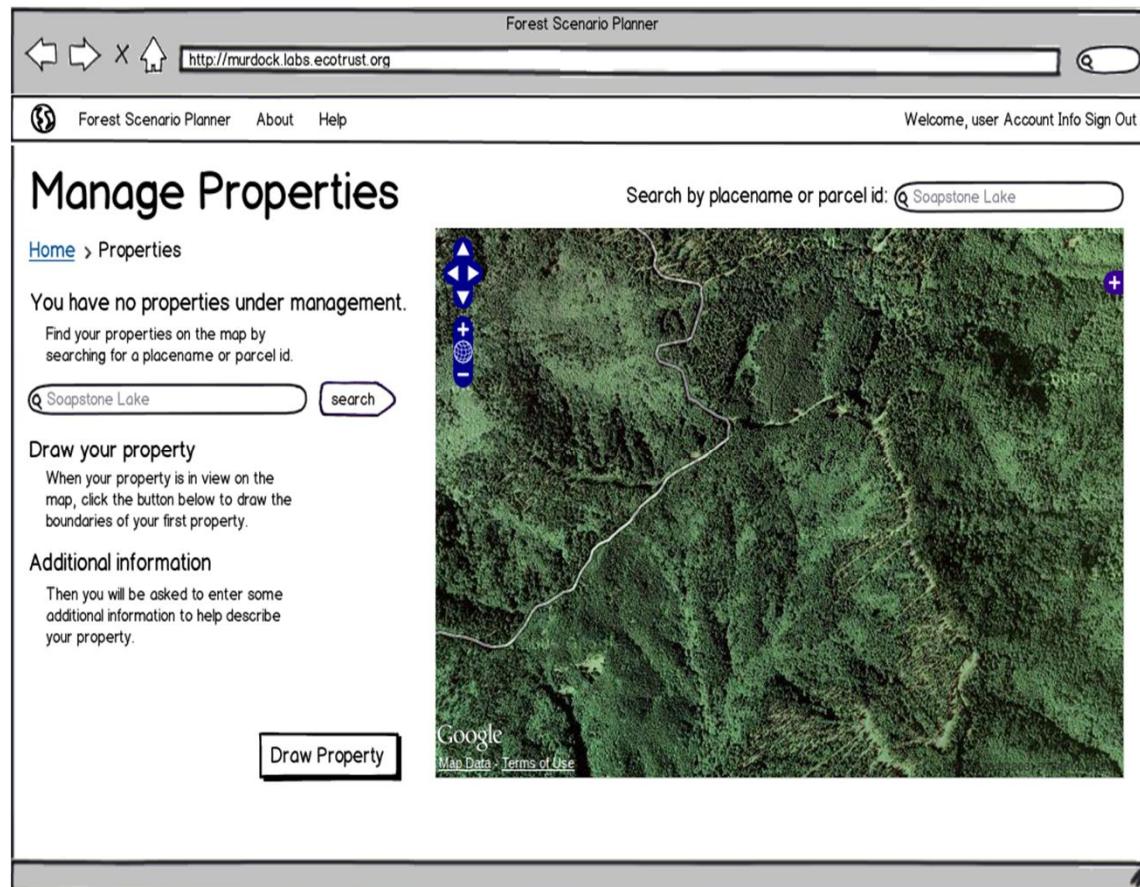
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Need an account?



Ecotrust Forest Land Owner Tools



Ecotrust Forest Land Owner Tools

Forest Scenario Planner

http://murdock.labs.ecotrust.org

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Manage Properties

Home > Properties

Property List

Show All Properties Add Property

Name	Area (acres)	County
Smokey Forest	336.63	Multnomah
Mirkwood	325.84	Multnomah
Endor	331.34	Multnomah
Schwarzwald	358.54	Multnomah

Delete Property Edit Property

Search by placename or parcel id: Mirkwood



Property Details

Name: Mirkwood
County: Yamhill
Calculated Area: 145 acres

Perform Analysis Manage Stands



Ecotrust Forest Land Owner Tools

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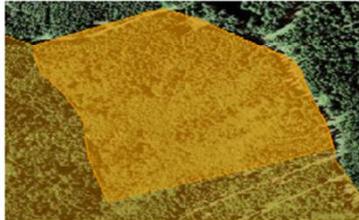
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Property Analysis

Search by placename or parcel id:

Home > Mirkwood > Analysis

This property consists of 27 stands in Tillamook County and is primarily Douglas Fir. It was last harvested on 4/8/1977 and is managed with a shelterwood prescription.



Scheduler options
 Run unscheduled
Target boardfeet

Year	Carbon price (per ton)
2010	\$16.53
2050	\$89.50
2010	\$116.20

Factor that determines where and what to sell.
 Type of mill
 Distance to mill
 Current price
 Alternate price

Wood product.
 Saw Wood
 Chips/pulp/paper
 Special Forest Products (mushrooms, firewood)

Projected Yearly Income



7



Ecotrust Forest Land Owner Tools

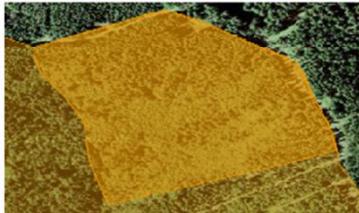
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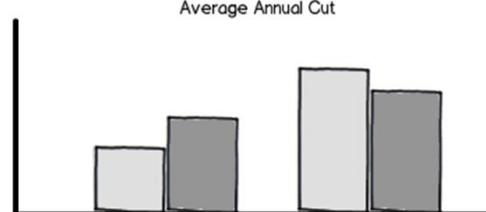
Scheduler options
 Run unscheduled
Target boardfeet
Refresh

Search by placename or parcel id: Soapstone Lake

Harvesting Scenarios Cash Flow Analysis Carbon Offset Harvest Maps

Scheduling Model
The combination of the imputed plot, the specific prescription and the assigned offset allow for association with specific tree list and summary data expressed through growth-and-yield results.

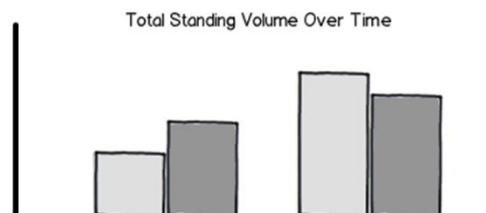
Average Annual Cut



Year	Light Gray Bar (Actual)	Dark Gray Bar (Model)
1	Low	Very Low
2	Medium	Medium
3	High	Medium
4	Medium	High

Growth and Yield
For comparison purposes, we juxtapose these results against a modeled "business as usual" scenario, also represented in the figures.

Total Standing Volume Over Time



Year	Light Gray Bar (Actual)	Dark Gray Bar (Model)
1	Low	Very Low
2	Medium	Medium
3	High	Medium
4	Medium	High

Ecotrust Forest Land Owner Tools

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Manage Properties

Home / Properties

Property List

Show All Properties Add Property

Name	Area (acres)	County
Forest D	336.63	MULTNOMAH,OR
Forest C	526.77	MULTNOMAH,OR
Forest B	544.38	MULTNOMAH,OR
Forest A	629.22	MULTNOMAH,OR

Delete Property Edit Property

Property Details

Name Forest B
Area 544.38 acres
County MULTNOMAH,OR

Perform Analysis Manage Stands

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Improve and Expand Markets and Incentive Programs for Ecosystem Services



Current programs are a complicated mix
that rarely add up to enough

Conservation Banking Opportunities

Total Payments for Conservation Banking per Annum (2009)

TOTAL

\$200 Million

Note: Figure is only for conservation banking, and not for species compensation through in-lieu fee funds or permittee-responsible mitigation.
Data Source: SpeciesBanking.com³⁶

Conservation Banking Credit Pricing

ACREAGE-BASED CREDIT

National Range:
\$2,500 - \$300,000

Median:
\$15,000

Average:
\$31,683*

*Note: If vernal pool
and unit-based credit
prices were included,
the average would be
\$33,027

Species

Black-capped vireo	\$5,000-\$5,500	TX
Bone Cave Harvestman and Coffin Cave Mold Beetle (per acre in 'moderate impact zone')	\$10,000	TX
Bone Cave Harvestman and Coffin Cave Mold Beetle (fixed price in 'irrevocable impact zone')	\$400,000	TX
Burrowing owl	\$5,000-\$15,000	CA
California red legged frog	\$15,000-\$90,000	CA
California tiger salamander	\$4,500-\$15,000	CA
Chaparral	\$8,000-\$15,000	CA
Coastal sage**	\$15,000-\$25,000	CA
Delhi sands flower-loving fly	\$100,000-\$150,000	CA
Delta smelt/native fisheries	\$100,000-\$150,000	CA
Fairy shrimp	\$150,000-\$300,000	CA
Giant garter snake	\$30,000 - \$45,000	CA
Golden-cheeked warbler	\$2,750-\$7,000	TX
Gopher tortoise (relocation)	\$1,500 - \$3,000	SE US
Gopher tortoise	\$12,000 - \$20,000	SE US
Least vireo breeding pair	\$125,000	CA
Salmonids	\$80,000-\$120,000	CA
Sandhills habitat	\$326,700	CA
San Joaquin kit fox	\$2,500-\$15,000	CA
Swainson's hawk	\$5,000-\$25,000	CA
Utah prairie dog	\$1,836	UT
Valley elderberry longhorn beetle	\$3,500	CA
Vernal pool (preservation)	\$50,000-\$325,000	CA

* Prices are approximate and based on both anonymous and public sources. Prices range widely due to local land value, credit scarcity and demand.

** Non-occupied by the California coastal gnatcatcher.



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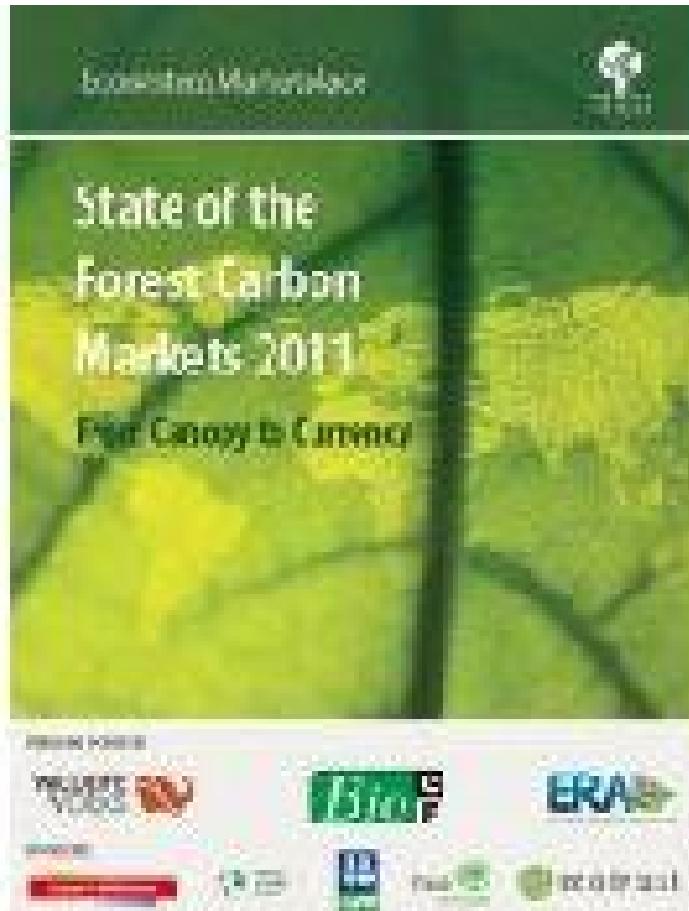
Carbon Markets

“7.7 billion tons of carbon credits traded on the global market in 2009

“Estimated to grow to \$2.4 trillion by 2020

“Current price for CAR credits ~ \$9/ton

“Ecotrust experiences



Other Payment Programs

“Water: agencies, universities, local governments, nonprofits, landowners working together on pilot payment programs

“Conservation Easements: HFRP, WA small landowner riparian program, Forest Legacy, Land & Water Conservation Fund

“Certification



Policy Changes

Current policies differ within various natural resource agencies, stifling private landowner interest and business development

Examples in OR & WA

Oregon Senate Bill 1511:

“Improve the overall efficiency and cost-effectiveness of conservation programs

“Support development of more consistent, efficient methodology to measure ecosystem services

“No fiscal impact

Washington House Bill 2541:

“Led to the development of 2 pilot projects

Progress

- “Diverse partnerships
- “Tangible examples
- “Better tools & metrics
- “New policies



Thank You!

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