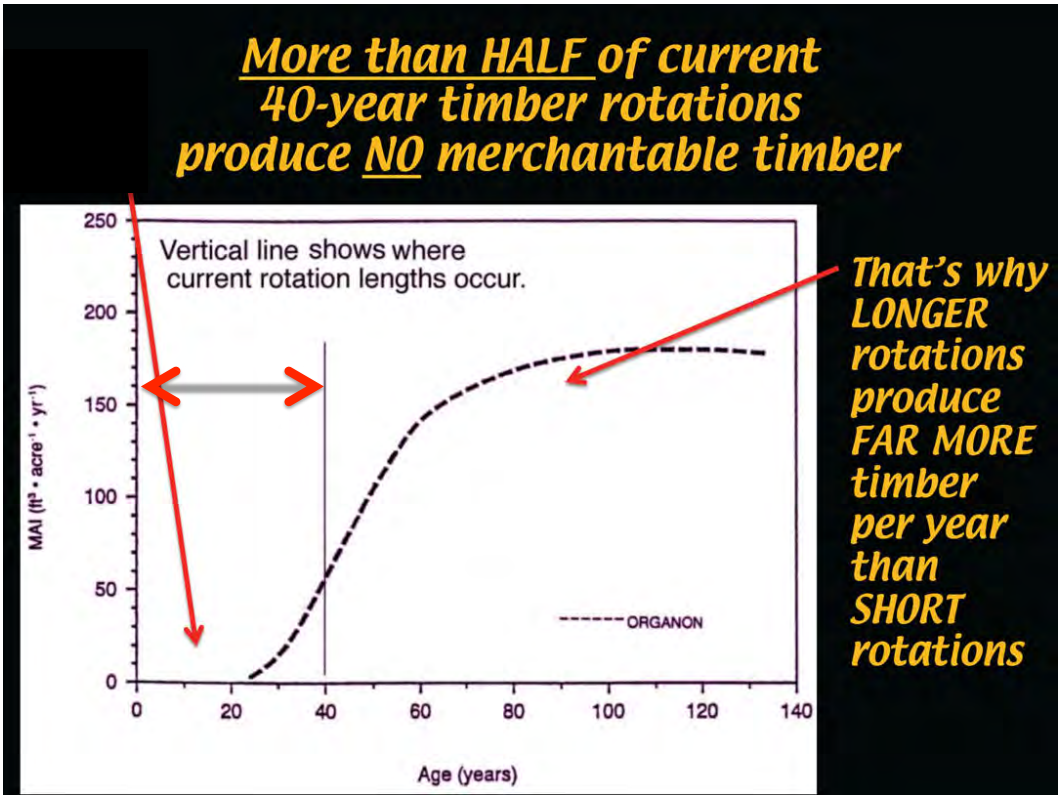
GREATEST PERMANENT VALUE and OREGON FORESTRY

Tom Bender * Sustainable Architecture and Economics * 11.1.15

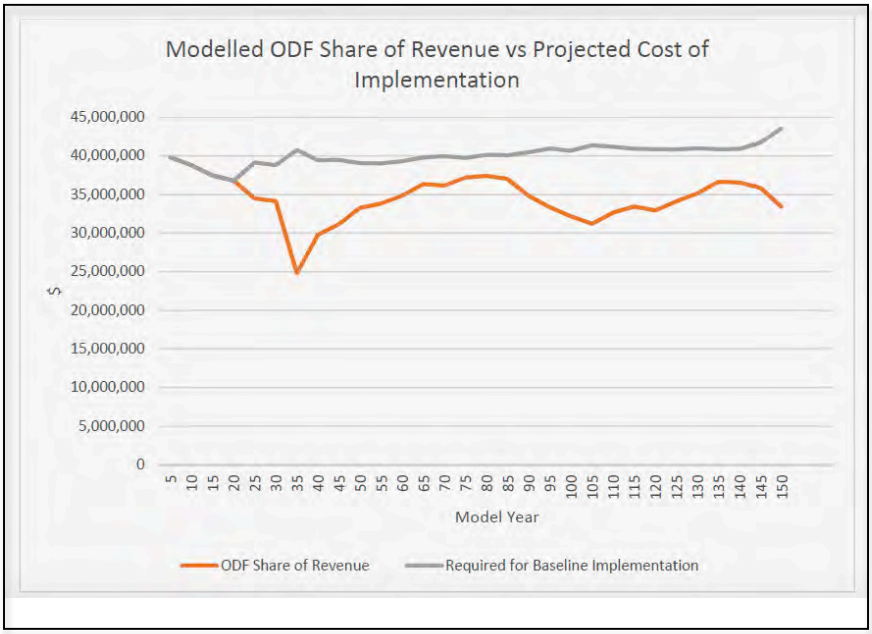
OREGON FORESTRY PRACTICES ARE IN MAJOR VIOLATION OF THEIR CORE "GREATEST PERMANENT VALUE" LEGAL MANDATE - ORS 530.050 and OAR 629-035-0000 through 629-035-0110. State Forest Planning and current management/harvesting fail to address *in any way* the elements of this core mandate. They fail to provide quantitative comparison of current 40-year rotations to longer 240-year rotation lengths that generate far greater direct income from timber harvesting plus from other forest uses. Nor does ODF explain why that is not addressed. The current NW Forest Plan appears to even have used PNV evaluation in a series of their analyses, which is absolutely invalid for resource management.

A. HALF OF A 40-YEAR ROTATION LENGTH *DOESN'T EVEN CAPTURE FULL SUNLIGHT* AFTER A CLEARCUT, AND PRODUCES NO MARKETABLE TIMBER. *SUCH ROTATIONS GIVE 70% LESS YEARLY TIMBER PRODUCTION* THAN LONGER ROTATIONS.



Bender, Tom, "Oregon Forestry Mandates", 2015.

ODF'S OWN CALCULATIONS PROJECT THAT THEIR SHORT ROTATIONS *ARE LOSING $4 MILLION PER YEAR* INTO THE FUTURE - *JUST FOR THE 312,000 ACRES OF THE NW PLANNING AREA*. THE USE OF SHORT ROTATIONS IS EFFECTIVELY BANKRUPTING ODF'S STATE FORESTS.



ODF'S draft proposal for the NW Planning area proposes INCREASED overcutting to hide that deficit for 20 years, then plunging ODF into a deeper deficit.

ODF staff testimony to the Subcommittee on Alternative Forest Management Plans 10.19.2015

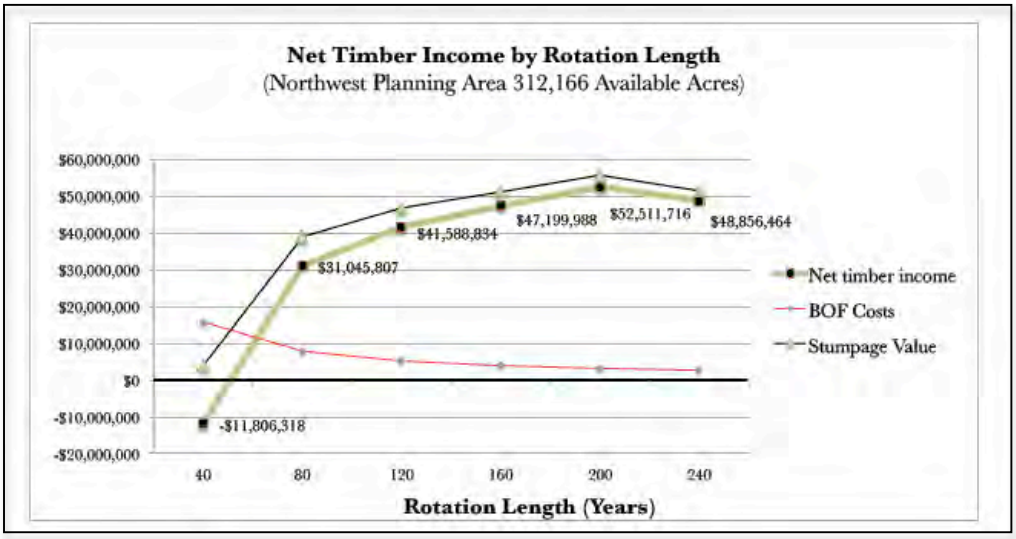
B. ODF MAKES NO COMPARISON OF *EXPENSES AVOIDED* AND *COST REDUCTIONS* POSSIBLE THROUGH LONGER ROTATION LENGTHS, THAT INCREASE NET REVENUES.

A detailed analysis comparing relatively short and long rotations (60 to 180 years) back in 1989 showed that the better wood quality and quantity of long rotations, elimination of multiple 20-year "stump-times", and savings from eliminating need for multiple replantings **increased net income per year 10-FOLD from $20,000/acre to $2,015,000/per acre.** (*And 40-year rotations produce *less than half* the yearly wood of the 60-year rotations in this study.)

Mark Wigg, "Economics of Sustainable Forestry", Society of American Foresters, 1989.

Every time a rotation is lengthened, it BOTH eliminates another 20-year gap of producing merchantable timber, AND eliminates another round of operational costs and negative impacts on other areas. Long rotations can reduce many costs by 80-90%, and DO NOT require expensive management:

> Scoping, bidding, logging, trucking, site-prep, slash burn, herbicide application, planting, release, fertilization, thinning, and administrative oversight are reduced or avoided.



Dr. John Talberth 10.19.2015 testimony to Subcommittee on Alternative Forest Management Plans

• **TIMBER**: Standard MAI curves show that sustainable yields possible with long rotations can TRIPLE current yields, while providing an amazing **NINE-FOLD increase** in net economic returns just from timber production.

These findings have been widely substantiated for years:

Bender, Tom, "Improving The Economic Value Of Coastal Public Forest Lands," 1994;
Bender, Tom, "Fixing Failed Forests", 2002;
Burkhardt, Hans J., "Maximizing Forest Productivity", Willits CA, 1994.
Curtis, Robert O. "Some Simulation Estimates of Mean Annual Increment of Douglas-Fir" USFS Research Paper PNW-RP-471, 1994;
Curtis, Robert O., "Extended Rotations and Culmination Age of Coast Douglas-fir: Old Studies Speak to Current Issues," USFS Research Paper PNW-RP-485, Nov, 1995;
Curtis, Robert O. ,"Timber Supply in the Pacific Northwest," JOURNAL OF FORESTRY, Sept. '96;
Curtis and Andrew B. Carey ,"Timber Supply in the Pacific Northwest," JOURNAL OF FORESTRY, Sept. 1996;
Carey, Andrew; Lippke, Bruce; and Sessions, John, "Intentional Systems Management: Managing Forests for Biodiversity," JOURNAL OF SUSTAINABLE FORESTRY, Vol. 9(3/4), 1999;
Willer, Chuck and Hall, Daniel, "Long Rotation Forestry: Making the Most of Our Commercial Forests," 1999.

*** <u>ASSET VALUES</u> OF FOREST LANDS ALSO INCREASE GREATLY WITH LONG ROTATIONS:**

Dr. John Talberth 10.19.2015 testimony to Subcommittee on Alternative Forest Management Plans

C. ODF HAS FAILED TO *<u>DO QUANTITATIVE VALUATION OF OTHER COMPONENTS OF FOREST USE</u>* THAT PRODUCE BOTH REVENUE AND PUBLIC BENEFIT - OFTEN CONSIDERABLY GREATER THAN TIMBER PRODUCTION. THEY ALSO FAIL, THEREFORE, TO *<u>COMPARE VALUE OF TIMBER PRODUCTION TO OTHER FORESTRY USES.</u>*

Longer forestry rotations result in <u>substantially</u> greater benefits:

* Major reduction in clearcuts.
* More timber *volume* produced per year, and higher *quality* and higher *value* timber.
* Reduced operating *costs*, thus increased annual revenues on a long-term basis.
* Increased value for recreation and better wildlife habitat.
* More profitable secondary forest products.
* Increased salmon and fisheries productivity.
* Reduced need for herbicides and slash burning.
* Avoiding damage to soil fungal mats that harms forest productivity.
* Improved variability of age distributions and ecological diversity.
* Hydrological and long-term site productivity benefits.
* Reduced regulation needs when practices align with ecological and social benefit.
* Greater carbon sequestering.
* Freeing people, and funds to pay them, for more meaningful work.

FOREST SERVICE STUDIES IN 1989 AND 1990 SHOWED TOURISM, HUNTING, AND RECREATION PRODUCING $122 BILLION VS LOGGING REVENUES OF $13 BILLION - *<u>TEN TIMES AS GREAT</u>*!

• **FISHERIES:** Restoration possible with long rotation harvesting can produce annual revenues in the order of **seven to twenty times** current timber revenues.

- Salmon from the Smith River in California, even heavily damaged by logging, produced $7.8 million/year - **more than the entire logging revenues** from the basin.

- A Forest Service study on the Salmon River in Idaho showed that a $14 million logging operation resulted in a $100 million salmon revenue loss.

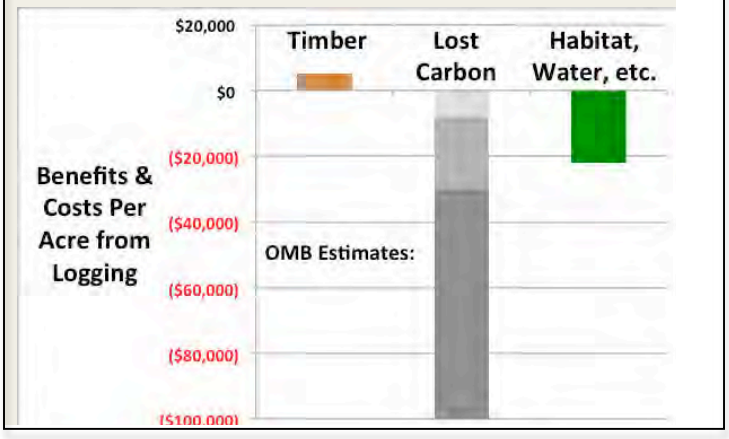
• **RECREATION**: Development possible with long rotation harvesting can produce annual revenues in the order of **five to ten times** current timber revenues.

- A 1990 Forest Service study showed that **recreation** fees could be **three times as great** as revenues from timber.

• **SPECIAL FOREST PRODUCTS**: Harvests such as mushrooms and medicinals, possible with long rotation harvesting, can produce significant annual revenues.

• **CARBON SEQUESTERING VALUE** far exceeds all other economic dimensions. It alone amounts to 20 times the income from logging:

CARBON VALUES FAR OUTWEIGH TIMBER VALUES



Ernest Niemi,
Natural Resource Economics

D. CURRENT ODF PLANNING PROVIDES NO COMPARATIVE QUANTIFICATION OF THE *NEGATIVE* IMPACTS OF SHORT-ROTATION FORESTRY ON:

SEDIMENTATION, for example:

The Army Corps of Engineers has indicated that 116,000 tons of sedimentation *per year* - virtually all from clearcut logging - wash into just ONE coastal river system - the Nehalem River. Dredging costs to remove that sedimentation would equal $1 million EVERY YEAR, just for that river. This does not include sedimentation filling reservoir capacity behind hydroelectric dams. Turbidity from such sedimentation also interacts with chlorine in community water systems, producing poisons. Just the capital costs of required super-water-purification treatment is costing one coastal community, Manzanita, serving only a couple thousand people, more than $7 million.

WATERSHEDS: Short-rotation harvesting of timber in drinking watersheds causes huge financial and health impacts to communities through sedimentation and herbicide spraying.

2004 (above) Jetty Creek Watershed 2013 (below)

Rockaway's Jetty Creek watershed has been 85% logged in the last 10 years.

ODF analyses do not include impacts on fisheries, watersheds and water systems, recreation, landslides, or public health through use of herbicides, slash burning and burning herbicide-containing slash.

*** TOTAL INCREASED LONG-ROTATION BENEFITS FROM ALL ELEMENTS OF THE FORESTS CAN EQUAL 20 TO 30 TIMES CURRENT PRACTICES.** See Niemi, above.

*** ODF'S FAILURE TO ADDRESS ITS *GREATEST PERMANENT VALUE* LEGAL MANDATE IS ECHOED BY EQUALLY MASSIVE AND LONGSTANDING LEGISLATIVE, ADMINISTRATIVE, AND OPERATIONAL FAILURES THAT TOGETHER SHOW THE URGENT NEED FOR MASSIVE CHANGE IN OREGON FORESTRY PRACTICES.**

- On-site industry and ODF staff ignoring herbicide application violations; multi-agency failure to record herbicide poisoning or taking correct and timely samples; failures to inform people what herbicides they were sprayed with.

IN SUM, 240-YEAR ROTATIONS GIVE FAR SUPERIOR *GREATER PERMANENT VALUE* THAN 40-YEAR ROTATIONS:

- **TIMBER:** 3.5 times as much timber produced *per year.*
- **ASSET VALUE:** 6 times as much asset value.
- **NET TIMBER INCOME:** Shift from *$11.8 million/year LOSS to $48.8 million/year PROFIT* in just the 312,000 acre NW Forest area.
- **LANDSLIDES:** Reduced landslide potential from 25% to 4% of area.
- **THREATENED AND ENDANGERED SPECIES:** Expanded "mature forests" provide habitat to restore their populations and eliminate need for "protection areas".
- **SEDIMENTATION:** 85% reduction in sediment output from clearcut logging.
- **SCENIC IMPACT:** 85% reduction of visible stump-land from scenic corridors.
- **HERBICIDE USE:** Absolute elimination of need for routine herbicide poisons.
- **RECREATION:** Increase from zero to 50% of acreage being 120-year+ age for recreation use.

WITH 24,000,000 ACRES OF FOREST LANDS IN OREGON,
LONGER ROTATIONS IN ALL OF OREGON'S FORESTS
CAN PROVIDE MASSIVE BENEFITS
TO THE STATE
AND ITS PRESENT AND FUTURE INHABITANTS.

* * * ACTION NEEDED * * *

*** HOW DO WE TRANSITION FROM "STUMP-LAND" TO "GREATEST PERMANENT VALUE" LONG ROTATION FORESTRY PRACTICES?**

- **Adopt "1 Percent of Inventory" logging limits.**
  - Hans Burkhardt, MAXIMIZING FOREST PRODUCTIVITY

- **Determine realistic funding needs of affected jurisdictions and raise logging taxes to provide those funds.**
  - State Forests - Establish adequate harvest fees.
  - Private - Restore realistic harvest taxes. Just equaling Washington's tax rate would provide $40 million a year.
  - Federal Forests - Establish Public Trust impact fees on federal forest logging.

- **Allow Federal Forests (with 1% POI) to provide more lumber in transition.**

- **Replace timber-industry jobs with sustainable transition jobs:**
  - Deep-energy-retrofits of homes and businesses
  - Installation of rooftop solar energy systems
  - Proper timberland "upgrading"

- **Fund those jobs with taxation on hydro-electricity:**
  - Oregon's "half-of-market-value" electrical rates ensure waste, and attract "energy gluttons" such as computer data centers which each use as much electricity as a city.

*** HOW DO WE DEAL WITH ODF'S <u>PRESENT</u> *$4 MILLION YEARLY FUNDING SHORTFALL* CAUSED BY CURRENT AND PAST OVERLOGGING/SHORT ROTATIONS?**

- **Unfund the Oregon Forest Resources Institute.**

- **Reduce subsidies to private forest "reforestation"**.

- **Reduce ODF staff.** Long rotations do not require huge planning data-bank accumulation, staff, and operation.