

Oregon Indicators of Sustainable Forest Management

Initial Desired Indicator Trend Statements

Board of Forestry Charge to the Advisory Committee

- Provide advice to the Board of Forestry on desired future outcomes for the recommended indicators.

Step 1: What to Measure

Step 2: Desired Outcomes for Indicators

Desired Trends for Indicators

“People know that something is important but they are reluctant to say how much is enough. But we at least need to know if conditions are above or below where we want to be.”

-- John Hagen, Manomet Center for Conservation Sciences

- Consensus on trends begins to define what sustainable forest management looks like to Oregonians

Some definitions

- Indicators are parameters that measure specific quantitative and qualitative attributes and help monitor trends in the sustainability of forest management over time.
- Metrics are units of data for each indicator (includes data source, format, scale, timing).
- Desired trends are socially preferred changes in, or status of, indicator data over time to contribute to the overall goal of sustainable forest management.
- Targets are specific socially preferred outcomes or results for the indicators

Indicators and Trends Make Policy Implementation Measurable and Accountable

Example: Water Quality

“The purpose of the Oregon Plan is to enhance, restore and protect Oregon’s native salmonid populations, watersheds, fish and wildlife habitat and water quality, while sustaining a healthy economy.” ORS 541.415 (5)

- *Forestry Program for Oregon Strategy D: Protect, maintain, and enhance the soil and water resources of Oregon's forests.*

- *Forestry Program for Oregon Strategy D Actions: D.1. through D.8.*

- Indicator D.a.: Water quality of forest streams

- Desired trend: Water quality index values in forested Oregon watersheds are stable or improving.

- Maybe by 2011: Consensus on scale-appropriate water quality index targets

“Leading” indicators that potentially drive 12 or more other indicators in positive directions

- Sustainable forest management knowledge (A.b.)
- Compliance with forestry regulations (A.c.)
- Area of non-federal forestland (C.a.)
- Tree mortality (F.a.)
- Forest fuel conditions and trends (F.b.)

Other “leading” indicators that potentially drive 12 or more other indicators in positive or negative directions

- Forest-related revenues (B.a.)
- Ecosystem services (B.c.)
- Forest sector vitality (B.d.)
- Timber harvest trends (C.b.)
- Protected areas (E.b.)
- Carbon stocks (G.a.)

“Trailing” indicators that are influenced by 12 or more other indicators

- Ability to measure and report on all indicators (A.a.)
- Ecosystem services (B.c.)
- Water quality (D.a.)
- Biological integrity of forest streams (D.b.)
- Forest vegetation (E.a.)
- Protected areas (E.b.)
- Species at risk(E.c.)
- Carbon stocks (G.a.)



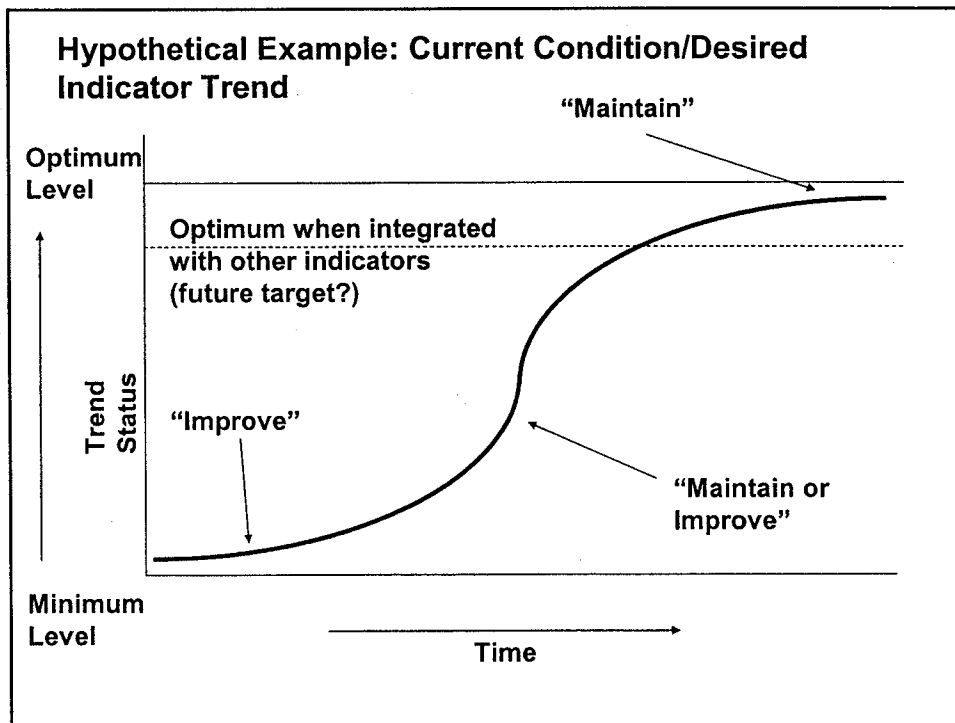
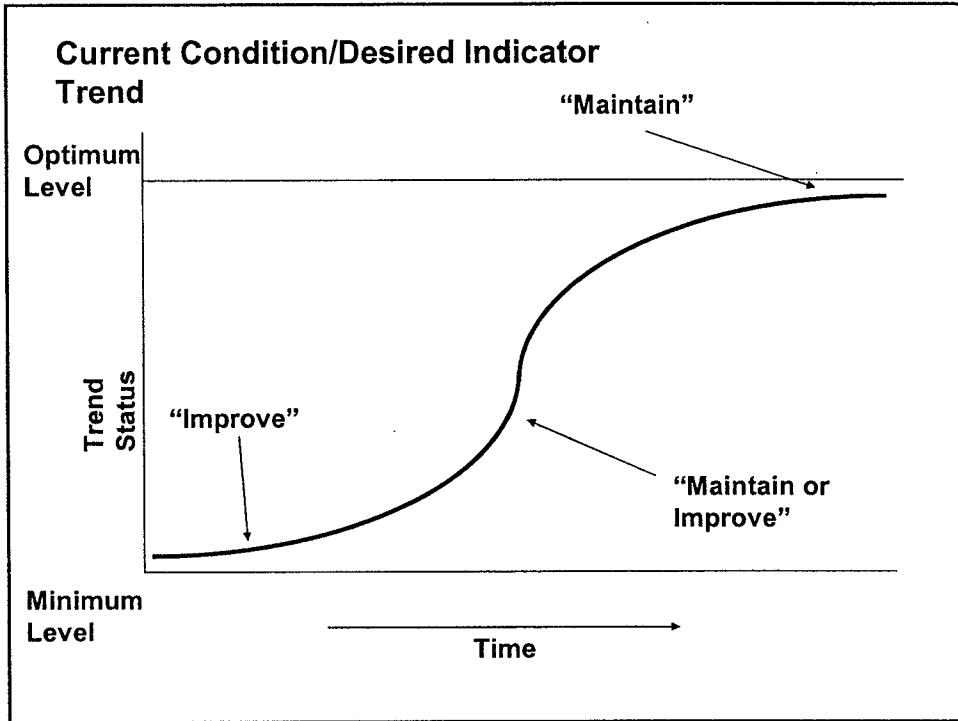
Example of indicator application: 10 of 19 Oregon indicators relate to climate change

Forest Influences:

- Carbon stocks (G.a.)
- Area of non-federal forestland (C.a.)
- Ecosystem services (B.c.)
- Forest sector vitality (B.d.)
- Timber harvest trends (C.b.)
- Forest fuel conditions and trends (E.c)

Forest Effects:

- Forest vegetation (E.a.)
- Species at risk (E.b.)
- Tree mortality (F.a.)
- Invasive species (F.b.)



Strategy C: Maintain and enhance the productive capacity of Oregon's forests to improve the economic well-being of Oregon's communities.

- C.a. Area of Oregon non-federal wildland forest in 2010 is 97.4 percent of 1974 levels (*Oregon Progress Board target for identical Oregon Benchmark 81*).
- C.b. Oregon timber harvest levels are 90 to 110 percent of planned and projected levels (*Oregon Progress Board target for Oregon Benchmark 82*) and the potential to grow timber is stable or increasing.

Strategy B: Ensure that Oregon's forests provide diverse social and economic outputs and benefits valued by the public in a fair, balanced, and efficient manner.

- B.a. Forest-related revenues are a significant and predictable funding source for Oregon state and local government public services dependent on those revenues.
- B.b. Forest-related Oregon employment and compensation are stable or increasing.
- B.c. Oregon forest ecosystem services produced are stable or increasing and are sustainable.
- B.d. Production and values of Oregon wood and paper products and forest industry equipment are stable or increasing.

Strategy D: Protect, maintain, and enhance the soil and water resources of Oregon's forests.

- D.a. Water quality index values in forested Oregon watersheds are stable or improving.
- D.b. Index of biotic integrity values in forested Oregon watersheds are stable or improving.
- D.c. Increasing proportion of sampled Oregon forest roads are determined to pose a low risk to soil and water resources.

Strategy E: Contribute to the conservation of diverse native plant and animal populations and their habitats in Oregon's forests.

- E.a. Following establishment of a statewide plant and animal conservation policy, the composition, diversity, and structure of Oregon forest vegetation are within, or growing towards, desired future condition ranges.
- E.b. Following establishment of a statewide plant and animal conservation policy, allocations of Oregon forest cover types to protected area categories are consistent with desired future conditions.
- E.c. Decreasing number of Oregon native forest plant and animal species at risk (extinction, extirpation, endangered, threatened, or potentially endangered or threatened).

Strategy F: Protect, maintain, and enhance the health of Oregon's forest ecosystems, watersheds, and airsheds within a context of natural disturbance and active management.

- F.a. Stable or decreasing long-term levels of Oregon forest tree mortality.
- F.b. No invasive species on Oregon's 100 most dangerous list are uncontained in the state's forests, and a stable or decreasing forest acreage is affected by invasive species.
- F.c. Increasing rates of effective forest fuel treatments to improve resiliency to wildfire and an increasing area of Oregon forestland resilient to wildfire.

Strategy G: Enhance carbon storage in Oregon's forests and forest products.

- G.a. Rates of storage of carbon in Oregon forests and Oregon forest products are stable or increasing.

Strategy A: Promote a sound legal system, effective and adequately funded government, leading-edge research, and sound economic policies.

- **A.a. Data for all Oregon indicators are increasingly current, complete, and reliable.**
- **A.b. Oregon student and family forest landowner participation in forest education programs is increasing and forest resource research funding, higher education forest resource instruction, natural resource professional society membership, and forestry extension staffing are maintained or increasing.**
- **A.c.**
 - **High levels of compliance with management plan standards and guidelines on Oregon federal forestlands.**
 - **High levels of voluntary compliance with Oregon Forest Practices Act requirements for reforestation and other activities on private lands.**
 - **Clear public policy expectations for private forest landowners' contributions to the protection and maintenance of public forest resource values.**

Indicators where the Interagency Mapping and Assessment Project (IMAP) will contribute data

Indicator	Linkage
B.a. Forest Revenues	Yes - Adams (OSU)
B.b. Forest Employment and Wages	Yes - ODF (Lettman)
B.d. Forest Products Sector Vitality	?
C.a. Area of Forestland	Yes - direct
C.b. Timber Harvests	Yes - direct
D.a. Water Quality Index	Possible?
D.b. Index of Biotic Integrity	Possible?
D.c. Forest Roads	GIS data – ODF/Region 6
E.a. Forest Vegetation	Yes - direct
E.b. Protected Areas	Yes - direct
E.c. Species at Risk	Yes - R6 focal species, OR/WA habitats
F.a. Tree Mortality	Yes - direct
F.b. Invasives	Yes - direct/indirect
F.c. Fuel Conditions and Treatment	Yes - direct
G.a. Carbon	Yes - McCarter (UW)

Recommended edits to date in the July 18, 2006 Committee Report

- Correct typo regarding a metric for Indicator C.a.: Area of non-federal forestland and development trends
 - Parcelization of private ~~nonforest land~~ forestland
- Add an additional concept to the list for potential future development (Appendix A of the report)
 - Strategy B: Forest products sector innovation
- Cross reference Oregon indicators to revised international sustainable forest management indicators
- Add initial desired trend statement for each indicator

Proposed Next Steps

- Continue to build public understanding, acceptance, ownership, and support for recommended Oregon indicators
- January 2007: Request Board adoption of indicators and initial desired trend statements
- Work with partners on data collection and reporting
- Link to broader forest assessment work
- Provide user-friendly reports as data becomes available
- Fall 2010: Comprehensive report of Oregon forest resource conditions and trends organized around indicators
- Use indicator results as a basis for *Forestry Program for Oregon* revision in 2011

