

Oregon Roundtable on Sustainable Forests

Preliminary Evaluation of Indicator of Sustainable Forest Management



E.a.: Composition, diversity, and structure of forest vegetation

Current desired trend/target: 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.

The current data report for this indicator can be accessed at:

<http://www.oregon.gov/ODF/indicators/indicatorEa.shtml>

Evaluation Summary:¹

Key Roundtable findings

- The indicator is not ready to assign ratings on condition and trend.
- The purpose and importance of this indicator is not clear.
- The protocol is state-of-the-art for the purpose for which it was designed - but it doesn't seem to answer all the questions posed by the indicator. Broaden the approaches to truly measure and describe biological diversity. It appears that the data are much richer than displayed in the indicator report. With time and staff work it can be further utilized.
- Analysis/maps of species diversity and/or richness in the overstory and understory would be useful.
- The lack of a policy goal is a problem. There doesn't seem to be either a historic benchmark or a desired future condition, so it would be impossible to state whether there is a trend.
- Consider discussing trends as a description of our ability to meet management goals over time.
- Consider combining data to analyze habitat conditions/effectiveness
- A risk analysis for vegetation structure components is needed.

¹ This is a summary of the Oregon Roundtable on Sustainable Forests discussion and conclusions regarding the staff report on an Oregon Indicator of Sustainable Forests Management. The summary is organized around nine questions identified by the Roundtable as being central to evaluations of all 19 indicators. It reflects the input from Roundtable participants who attended the July 21, 2010 meeting where the indicator was discussed and from an electronic survey of those participants following the meeting. The summary is based on interpretation of the Roundtable discussions by the seven-person Roundtable Leadership Group, with the assistance of Oregon Department of Forestry staff.

Conclusions may not have been reached by the Roundtable for every evaluation question. The summary should not be considered as expressing a consensus of the meeting participants or the Roundtable in general. However, this information will be immediately useful to the technical staff working to implement and improve future indicator data collection and reporting and to the Board of Forestry and other Oregonians desiring to use the indicator as one tool in assessing Oregon's progress towards sustainable forest management.

It is anticipated that the Roundtable will proceed with discussions on all the indicators and will then discuss the body of indicators as a whole – looking for common themes and synthesizing conclusions about the indicators project. Therefore, Roundtable conclusions for this indicator may be revisited and revised at a later date.

Additional Roundtable comments organized by indicator evaluation questions

1. Is the purpose and intent for the indicator clear?

Some of the meeting participants believe the purpose and intent is not clear. Suggested improvements include:

- Better describing the indicator's use and validity and how the information can lead to better decisions, serve as a measure of change over time and space, and be useful to evaluate other sustainable forestry factors such as invasive species and climate change effects.
- Revise the report using a non-technical editor.
- Better relate this indicator to other indicators.

Participants did not agree on the meaning of the data and how to use them:

- Are the data the first photograph in a time sequence, or do they indicate something right now?
- How do we judge whether today's picture indicates desirable composition, diversity, and structure?
- Without a desired trend, the indicators data are "tags" with no qualitative direction to them.

Others believe the write-up on why this indicator is important is a good explanation of the purpose. The text should more explicitly characterize this as an exceptionally valuable inventory and a circa 2010 baseline data set to be used in conjunction with Indicators E. b. and E.c. to assess progress in achieving *Forestry Program for Oregon* Strategy E. The reported information is necessary as a basis for comparisons with the results of future Oregon conservation policy on forest vegetation conditions and trends. Lacking comparable past reference points or surrogates from other sources, we cannot at this time evaluate condition or trend.

2. Is the protocol for indicator data collection clear and technically sound?

Clearly identify the “window of time” that data gathering occurred versus a “point in time”.

There was apparent agreement that the protocol is state-of-the-art for the purpose for which it was designed.

Others believe the current indicator protocol may rely too heavily on one data source, making it incomplete. Can it answer the questions posed by the indicator? The data and data-gathering methodology may not go far enough to adequately quantify this indicator:

- We need to also capture the distribution and extent of other “non-tree” forest features like meadows and wetlands.
- We need access to understory and non-tree species information in the database, recognizing the spatial resolution may not match that available for overstory vegetation.
- Information on the dead wood components (snags and down wood) is needed but missing.
- Use several data sources instead of just one -- The Nature Conservancy? Oregon Wildlife Conservation Strategy?
- Need to combine data to analyze habitat conditions/effectiveness and correlate with species populations.
- Link to the 2010 Oregon statewide assessment biological diversity analysis.

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- Consider a diversity metric based on frequency and distribution information, although such a metric should be the product of research community and not the Department of Forestry.

True biological diversity sampling may not be possible with the current level of sampling. Examples of possible diversity sub-samples: aspect, elevation, any other identified topics of social concern.

If technically possible, we need more details than just reporting species dominance. It makes a difference if the dominant species is 100% or 51% of the stand.

There is a concern about how to compare the two different survey methods when the next round is done.

3. Are indicator data being reported at the appropriate spatial and temporal scales?

It appears that the data are much richer than displayed in the indicator report. With time and staff work it can be further utilized to enlarge our knowledge base and suggest more sophisticated policy options for the Board.

Be clear on appropriate uses for the indicator data. It is important to note in the indicator report that the data cannot be used at very small, site-specific scales. Characteristics of composition, structure and diversity are very appropriately addressed at the scale of ecoregions. But there was also interest in having the data answer questions in at many scales (from macro to micro), such as stratifying the data by ownership and gathering additional data at smaller scales.

It is probabilistic survey data that can give region-level information, spatially speaking. Temporally, it is only a status, no trend, but that can be captured in the symbols (trend currently unknown).

As stated earlier, some believed the indicator is overly reliant on one data source, limiting its usefulness over time and space.

4. From the indicator report can you draw a conclusion regarding the quality of the Indicator E.a information?

The data are collected and analyzed systematically based on a statistical sampling design. The quality of the data are high to the extent conclusions can be drawn about tree species, but we are not able to make appropriate statements about other types of forest vegetation. The only conclusion to be drawn is the abundance of quality and pertinent information. If there was scientific consensus that there is a strong correlation between tree stand type and forest vegetation, then perhaps the data would be adequate.

Current condition information is good, trend information is missing. Consider identifying a trend based on historical data.

More information about the Forest Service data would be helpful.

The OSU study includes extensive additional information regarding ground truthing and model accuracy that should at least be summarized in the report.

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5. From the indicator report can you draw a conclusion regarding the current conditions measured by Indicator E.a.?

The data are adequate to determine the current species composition, species diversity, and structure of the macro vegetation in Oregon's forests. But the data only tells the story of the dominant tree species. Analysis/maps of species diversity and/or richness in the overstory and understory would be useful.

It would help to a diversity index based on species and structure. There are generic diversity indices suitable for this purpose.

The only interesting reference point is that Oregon's forest remains dominated by the same native tree species present before settlement, but there is no means to compare in what diversity, abundance or size.

Provide clearer conclusions on what stands out from the data. Are (desired) outcomes being met?

6. From the indicator report can you draw a conclusion regarding the current trend measured by the indicator, when compared to the Desired Trend Statement?

The lack of a policy goal is a problem. There doesn't seem to be either a historic benchmark or a desired future condition, so it would be impossible to state whether there is a trend.

A range of desired future conditions could be based on the management objectives and protection strategies of various landowners and evaluating whether the combination of those objectives and strategies are moving forest vegetation conditions in the right direction.

The report tells where the dominant trees are different and what the size distribution is for that species, but it doesn't tell whether areas are Douglas fir plantations or mixed species forests. This is important to evaluate the indicator.

The characterization of composition and structure is only available for a single point in time. Realistically, provision for re-assessment at about 10-year intervals would be reasonable.

The data present a snapshot of current conditions, but they don't say anything about change through time (trend).

7. Can a case be made that other technical information should be considered as a supplement or an alternative to the information already provided for the indicator?

Some participants believe a strong case can be made that the department should consider other technical information.

It would have been helpful to examine all three Strategy E indicators at once and synthesize evaluations. Show they influence each other. Indicator E.b. assumes "protected lands" are treated differently. Important to link to species of concern or species at risk (Indicator E.c).

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How this information will be used as an indicator is unclear.

Possible lack of information on snags, invasive species, meadows was identified. Unclear whether references to USFS subtype data for each dominate tree species would supply that information. Some source should be searched out.

Ideally, it would be good to have more complete descriptions in terms of understory vegetation, but this would almost certainly have to be done by imputation, so there may not be much value in such a refinement.

Be clear about what the data show (big picture, coarse grain), and what they can't show (stand level or smaller resolution).

8. Do you believe there is an adequate level of institutional commitment and resources allocated for continued full implementation and reporting of this indicator into the future?

The report itself does not address the issue. The indicator is ambiguous with regard to the scale of assessment (ecoregion, basin, subbasin, stand, hectare) and the definition of goal (what is ideal composition, diversity, and structure). However, this ambiguity may provoke collaboration to define scale and goal.

Institutional commitment in this time of budgetary travail is unclear, but it is very important that policy makers be made aware of the priority we would give to it.

We need social agreement as to what it is we're trying to manage to.

9. What improvements would you like to see in future reporting for the indicator?

Add a link to the PNW Research Station website.

Correct or supplement the report's size class chart for normal size class distribution by species. For example, red alder will never have "giant" trees. May vary by ecoregion.

Try to establish trends from historical data, recognizing it is developed from different methods

Since the data was generated over several years, better explain why the current information represents a single point in time.

Other sources of technical information is needed beyond just tree data. Consider "overstory species richness" mapping as a measure of diversity. Need to also measure non-tree vegetation diversity.

Some participants would like the data correlated with elevation and aspect.

Consider plant association groups as a tool to define desired conditions and trends. If plant associations are too fine a scale for the indicator, look at some higher level of plant community classification.

We need a risk analysis for vegetation structure components. Under current management, are there vegetation types or structural components that are likely to decrease?

For all indicators be clear about the purpose, interdependencies, what we know and don't know, and why is each indicator important.

A well stated goal is needed for this indicator to clarify what direction is wanted. It could be as simple as "a heterogeneous forest landscape with a variety of species and age class compositions."

In a format suitable for Board and public absorption, it's hard to summarize all the data available. Consider the possibility of going full bore on one mapping region, and explaining that that is an example of what is available for each.

Some of the report's figures have some comparative information from other sources, or some implications of habitat effect. That is probably more meaningful to readers than so many statistics, some of which perhaps might be verbalized into "largely" for "few" or other descriptors.

Include a generic (e.g., not species) diversity index.

Tracking these data through time will create a valuable trend picture. Advocate standing pat with this data set, not gathering additional observations.

Oregon indicators of sustainable forest management ratings explanations

Indicator Condition:



Good

Desired trend or target is being achieved



Mixed or Fair

Conflicting factors are affecting the status in both positive and negative ways



Poor

Desired trend or target is not being achieved

Indicator Trend:



Improving

Current status is an improvement compared to previous data



Mixed, Uncertain, or No Change

There are either conflicting (mixed) trends, trend direction is uncertain, or there is no significant change compared to previous data



Deteriorating

Current status is a deterioration compared to previous data

Quality of Indicator Information:



Adequate

Data coverage, frequency, currency, sources, and reliability are sufficient to draw conclusions with high confidence



Partial

Data coverage, frequency, currency, sources, and reliability are of mixed quality which affects the ability to draw conclusions



Inadequate

Data coverage, frequency, currency, sources, and reliability are of insufficient quality to draw conclusions