

STAFF RESPONSE

Oregon Roundtable on Sustainable Forests Preliminary Evaluation of Indicator of Sustainable Forest Management



E.c.: Forest plants and animal species at risk

Current desired trend/target: Decreasing number of Oregon native forest plant and animal species at risk (extinction, extirpation, endangered, threatened or potentially endangered or threatened).

The following is a response by Oregon Department of Forestry (ODF) technical and policy staff to the November 2, 2010 Oregon Roundtable on Sustainable Forests preliminary evaluation of Indicator of Sustainable Forest Management E.c.: *Forest plants and animal species at risk* (this evaluation can be accessed at:

<http://www.oregon.gov/ODF/indicators/docs/EcRoundtableEvaluation.pdf>)

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

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

This online report reflects the revisions indicated in this response.

Key Roundtable findings and changes made to the indicator report in response to key roundtable findings

1. Key Finding: The Board should revise the statement in the 2007 technical write-up for this indicator that better reflects the methodology being used.

Staff Response: The text in the online report in the section “Types of information produced by this indicator” is revised to read:

“This indicator will provide statewide tabular and map information on the status of plant and animal species recognized as at risk by the NatureServe/Natural Heritage ranking system because of rarity or other factors causing vulnerability to extinction.”

The revised wording, above, is more accurate than the existing statement.

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2. Key Finding: A more systematic data collection system would be desirable.

Staff Response: The existing data collection system for this indicator relies on the best available information for each threatened, endangered, or otherwise at-risk species.

Because the federal Endangered Species Act is one of the strongest environmental laws in the nation, both including new species and removing species from listing has become a complex scientific and political endeavor. To be considered for listing, a species must meet one of five criteria:

- a. There is the present or threatened destruction, modification, or curtailment of its habitat or range;
- b. An over utilization for commercial, recreational, scientific, or educational purposes;
- c. The species is declining due to disease or predation;
- d. There is an inadequacy of existing regulatory mechanisms; and
- e. There are other natural or manmade factors affecting its continued existence.

The Fish and Wildlife Service or the National Marine Fisheries Service can directly list a species through its candidate assessment program, or an individual or organizational petition may request that either agency list a species. The Fish and Wildlife Service or the National Marine Fisheries Service are required to create a Recovery Plan outlining the goals, tasks required, likely costs, and estimated timeline to recover an endangered species to a population size and management regime to the point where they can be removed from the endangered list. The average time to completion of recovery plans has been approximately six years. The goal of the law is to make itself unnecessary, and recovery plans are a means toward that goal. Three types of information must be included in a Recovery Plan:

- A description of site-specific management actions to make the plan as explicit as possible;
- The "objective, measurable criteria" to serve as a baseline for judging when and how well a species is recovering; and
- An estimate of money and resources needed to achieve the goal of recovery and delisting.

The lists for rare, threatened and endangered species that occur in Oregon are maintained and updated by the Oregon Biodiversity Information Center. The Center participates in an international system for ranking rare, threatened and endangered species throughout the world. When determining species rank many factors are taken into account, including the number of known occurrences, threats, inherent sensitivity, the amount of area occupied, and other biological factors.

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Global Ranks are developed for different portions of a species range, describes the species status globally, and best describes the risk of extinction.

State Ranks are used for smaller portions of a species ranges and begin with the letter "S".

- The ranks are summarized below:
- **List 1** contains taxa that are threatened with extinction or presumed to be extinct throughout their entire range. These are the taxa most at risk, and should be the highest priority for conservation action. Any taxa with heritage Global ranks of G1 or G2 (or T1 or T2) would be included on List 1, as well as any G3 (or T3) taxa which are showing significant or dramatic declines rangewide.
- **List 2** contains taxa that are threatened with extirpation or presumed to be extirpated from the state of Oregon. These are often peripheral or disjunct species which are of concern when considering species diversity within Oregon's borders. They can be very significant when protecting the genetic diversity of a taxon. All taxa with Heritage State Ranks of S1 and most taxa with Heritage State Ranks of S2 are included on this list.
- **List 3** contains species for which more information is needed before status can be determined, but which may be threatened or endangered in Oregon or throughout their range. Many taxa on this list may eventually be determined to belong on List 1 or List 2, so it is important that they be looked for, and the few known occurrences be protected.
- **List 4** contains taxa which are of conservation concern but currently do not meet the criteria for begin considered threatened or endangered.

An ideal system beyond the scope of informing this indicator would be iterative species-specific monitoring, analysis, and mapping of population trends for each species listed as threatened, endangered, or at-risk as well as all other plant and animal species that characterize and define Oregon's forested ecosystems. In addition to needing to better understand how species ranges might change with management, disturbance, and climate change, we also need to better understand how species have *actually* changed from each of the three factors mentioned.

3. Key Finding: Clarify in indicator title or trend statement that species at risk determinations are being made at a statewide scale and are aspatial, but at risk species presence could be reported at the ecoregion or smaller scale.

Staff Response : The Roundtable evaluation requests clarification that species at risk determinations are being made at a statewide scale and are aspatial, but at risk species presence could be reported at the ecoregion or smaller scale. Determinations are not aspatial because there are estimates of the spatial distributions for each species based on occurrence

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records and various sightings. However, the indicator reporting does not include the mapped information because the reports would be much larger and more complex than they already are. The Oregon Biodiversity Information Center maintains databases for each species that contain spatial information. At-risk species can be reported at the scale of their estimated distribution range which could be larger than the state of Oregon or much smaller if a species is limited to Oregon.

4. Key Finding: It is unclear what would be trigger changing a “mixed” condition rating to “good” or “poor.” It appears the condition could always be mixed. Need to reassess and define thresholds.

Staff Response : The condition and trend ratings are definitely challenging to apply to this indicator and require a great deal of subjectivity. Defining thresholds is problematic because it may be necessary to take into account several factors including the number of species being ranked for the first time, the number of species that move up in rank, the number that move down, and the relative numbers across each taxonomic grouping. Perhaps the trend rating is not as useful for this indicator as others. The trend revealed by the raw data may be the most relevant trend information.

The following subjective criteria are recommended for assigning future condition and trend ratings for this indicator:

Condition and trend ratings will continue to be reported in aggregate, but the report will be expanded to also report conditions and trends by taxonomic group.

An assumption is made that there is a baseline level of species at risk, even in the absence of human disturbance.

For each taxonomic group “Condition” will be considered:

“Good” if less than five percent of the known forest species are at-risk and
“Poor” if five percent or more of the known forest species are at-risk.

In aggregate, “Condition” will be considered:

“Good” if the condition of all five taxonomic groups other than invertebrates is “good,”
“Poor” condition of two or more of the taxonomic groups other than invertebrates is
“poor,” and
“Mixed” under all other combinations of taxonomic group conditions.

For each taxonomic group “Trend” will be considered:

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“Improving” if there is a net decrease in at-risk rankings since the previous reporting period,

“No Change” if there is no net change in at-risk rankings since the previous reporting period, and

“Deteriorating ” if there is a net increase in at-risk rankings since the previous reporting period.

Note: A species ranked for the first time will be counted as an increase in at-risk ranking.

In aggregate, “Trend” will be considered:

“Improving” if there is a net decrease in at-risk rankings since the previous reporting period for all six taxonomic groups,

“Deteriorating ” if two or more taxonomic groups exhibit a net increase in at-risk rankings since the previous reporting period, and

“Mixed or No Change” under all other combinations of taxonomic group trends.

Based on these criteria, current condition and trend ratings for Indicator E.c would be as follows:

Condition:

Vascular Plants: Poor

Mammals: Poor

Birds: Poor

Herpetofauna: Poor

Fish: Poor

Overall Indicator Condition: Poor

Based on these criteria, current trend ratings for Indicator E.c would be as follows:

Trend:

Vascular Plants: Deteriorating

Mammals: Mixed or No Change

Birds: Improving

Herpetofauna: Improving

Fish: Mixed or No Change

Invertebrates: Deteriorating

Overall Indicator Trend: Deteriorating

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5. Key Finding: More clearly describe the timeframe that the data gathering occurred.

Staff Response : The text is modified to more clearly describe the timeframe that the data gathering occurred. Data used for the initial indicator report encompass updated changes in status ranks from 2001 to 2007.

6. Key Finding: Indicators E.a., E.b., and E.c. need to be examined together as an integrated set addressing native plant and animal population and habitat conservation.

Staff Response : Integrating Indicators E.a., E.b., and E.c along with biological integrity of forest streams (Indicator D.b.) is desirable but will involve a additional analyses to determine what methods of integrating them would be possible, relevant, and comprehensible to most people. The reporting timelines for these four indicators are currently not coordinated and the data are generated by sources outside the Department of Forestry. Further discussion on this topic is recommended during the overall Oregon Indicators of Sustainable Forest Management review and revision process that is planned to follow the adoption of the 2011 *Forestry Program for Oregon*.

Changes/additions in the online report:

The text in the online report in the section “Types of information produced by this indicator” is revised

A reference and link to the Oregon Biodiversity Information Center databases is added to the online report) <http://orbic.pdx.edu/rte-species.html>

The text is modified to more clearly describe the timeframe that the data gathering occurred.

Text on criteria for assigning condition and trend ratings is added.

Condition and trend ratings by taxonomic group are added.

Trend rating is changed to “Deteriorating”, based on criteria described above

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