

Benchmark Ecological Sites: Focusing Our Efforts

Bill Ypsilantis
Bureau of Land Management
Division Resource Services
National Operations Center
Denver, CO

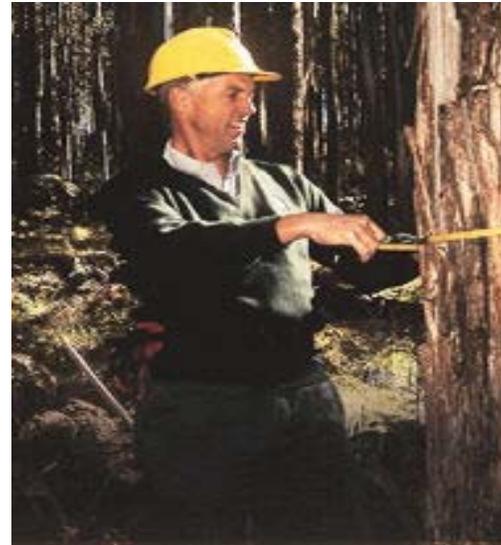


Benchmark Ecological Site Definition

- A benchmark ecological site is one that has the greatest potential to yield data and information about ecological functions, processes, and the effects of management or climate change that can apply to a broad area or critical ecological zone. A benchmark ecological site represents other similar sites in a Major Land Resource Area.

Purpose and Need for Benchmark Ecological Sites

- Promote data collection and research that enhances the quality of ecological site information



Purpose and Need for Benchmark Ecological Sites

- Judiciously use limited resources for ecological site description development



Need



Available resources

Purpose and Need for Benchmark Ecological Sites

- promote the establishment of benchmark ESDs that can serve as template for other ESDs

U.S. Department of Agriculture
Natural Resources Conservation Service (NRCS)

Washington-Oregon
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Ecological Site Abstract Site Description Identification: F002XX__WA

Common Name: Upland Well-drained (Douglas-fir-western reedcedar/vine maple/swordfern)

Scientific Biotic Site Name: *Pseudotsuga menziesii*-*Thuja plicata*/*Acer circinatum*/*Polystichum munitum*

Location, Physiography, Climate, and Extent: Plant communities occur on gentle to steep slopes at lower elevations of the Coastal and Cascade Mountain Ranges in Major Land Resource Region (MLRA 2)¹. Mean annual precipitation generally ranges from 24 to 60 inches. Prior to European settlement of the area, an estimated 25 percent (or 3,000 square miles) of MLRA 2 was occupied by plant communities within this ecological site.

Soils: Gentle to steeply sloping soils are typically well-drained and range from gravelly or cobbly loams to silty clay loams and may be on any aspect. Some representative soil series having components in this ecological site are Cinebar, Clackamas, Dollar, Hillsboro, Honeygrove, Katula, and Olympic. Contact the NRCS field office for a current list of mapped soil components correlated to this site, soil component-level interpretations and a complete, detailed ecological site description.



Figure 1. Douglas-fir established after "old growth" harvest and slash burning treatments at the site (stand age 60 years). Photo of mixed with



Figure 2. Bigleaf maple and red alder (stand age 45 years) have

Purpose and Need for Benchmark Ecological Sites

- Promote the establishment of consistent ESD concepts across state boundaries



Example Uses for Benchmark Ecological Sites

- Prioritize ecological site inventories and dynamic soil property studies for the development of ESDs
- Select representative and extendable locations for research projects, long-term studies, and special purpose investigations
- Evaluate geospatial and ecosystem gaps in information for ecological sites

Specific Information Needs for ESDs to Emphasize in Data Collection and Research

- Generalized state and transition models that can be modified for other similar ecological sites
- The effect of climate variability, catastrophic events and management actions on ecological sites
- Drivers and mechanisms of change from one state to another within an ecological site

Criteria for Selection

- Ecological site is of large extent in the MLRA or ecological site has a functional role in the ecosystem far exceeding its extent.
- Information derived from the ecological site should help answer important ecological or natural resource related social issues.
- Each MLRA is represented by at least one benchmark ecological site.

Criteria for Selection (contd.)

- An ecological site with a well developed description and good data is given preference over equally suitable ecological sites with less well developed descriptions or data. OR there needs to be sufficient expertise available to develop the site description.

Criteria for Selection (contd.)

- The ecological site represents a major landform, biotic community, soil type, or drainage class and contributes to representation of the ranges of these features within the MLRA.
- Only a limited number of benchmark ecological sites are designated within an MLRA

Criteria for Selection (contd.)

- Wherever possible, benchmark ecological sites include “benchmark soils.”
- Wherever possible, benchmark ecological sites for an MLRA include two or more administrative subdivisions, e.g., State lines, to foster collaboration between and within site-developing entities.

Advisory and Guidance Group Role

- Maintenance of the definition, purposes, and selection criteria of “benchmark” ecological sites (BES).
- Formulate field-level guidance for developing BES in coordination with NCSS and partner leadership.
- Maintain an official listing of BES and promoting that list to users and the public.

Advisory and Guidance Group Role (contd.)

- Identify acceptable protocols for managing benchmark ecological site data.
- Create and transfer outreach materials to foster the creation of ecological sites in all geographic areas of the U.S. using BES descriptions as standards for content and format.

Advisory and Guidance Group Members

- BLM
 - Bill Ypsilantis
 - Sherm Karl
 - Tim Bottomley
- NRCS
 - Curtis Talbot
 - Lyn Townsend
 - Wendell Gilgert
- USFS
 - Jeff DiBenidetto
 - Randy Davis
- ARS
 - Brandon Bestelmeyer
- NPS
 - Pete Biggam
- Ag. Exp. Stations
 - Toby O'Geen

Proposed Committee Recommendations

- Policy, responsibilities, criteria for selection, management of list and associated data for benchmark ecological sites be developed by the NRCS, BLM, FS, NPS, and other NCSS member organizations with assistance and guidance from the advisory group
- Benchmark ecological sites policy, responsibilities, criteria, and management guidelines be included in the rangeland ecological sites handbook being developed by NRCS, BLM, and FS

Proposed Committee Recommendations

- NRCS, BLM, FS, NPS, and other NCSS cooperators work together to recommend ecological sites for inclusion on the list of benchmark ecological sites based on the adopted criteria
- NRCS, as custodians of the ESIS database maintain the list of benchmark ecological sites and manage benchmark ecological site data