

Density Management Studies - Objectives

7/8/03

1. Stand structure and habitat - Test alternative density management prescriptions to accelerate development of late-successional forest characteristics and habitat from young managed stands on sites representative of low-elevation west-side forests

Stand structure

Large trees

Dead wood

Standing

Down

Understory (trees, shrubs, and herbs)

Vertical distribution of tree canopy

Spatial distribution of trees, shrubs, herbs, dead wood

Ecological processes

Tree growth and maturation

Tree death and decay

Canopy gap and leave island dynamics

Tree and shrub establishment

Canopy dynamics

1A. Plant and animal response - Test the stand-level effects of alternative density management prescriptions on selected plant and animal taxa

Biotic responses

Amphibians

Arthropods

Mollusks

Nonvascular plants

Fungi

Birds

Small mammals

Note: Biotic responses listed are those that have had some level of investment to date and may not reflect overall study priorities; all of these measurements have been designed and funded as small-scale case studies on a subset of treatment elements and study sites

1I. Alternative riparian buffer widths - Test effects of density management prescriptions using alternative riparian buffer widths on aquatic and riparian ecosystems

Aquatic habitat

In-stream

Streambank
Environmental conditions
Microclimate
Hydrology
Flow
Residence time

Note: responses are strongly conditioned by the geomorphic context (valley form, elevation, and aspect) and macroclimate of the site

Biotic responses
Amphibians
Fish
Arthropods
Mollusks

3. Methods development - Use the DMS sites to develop and improve methods

Effectiveness monitoring of plant and animal taxa
Operational approaches to implementation

4. Outreach and education - Use DMS sites to share the results of on-the-ground practices and study findings with land managers, regulatory agencies, and policy-makers

5. Adaptive management - Use results from DMS to conduct a long-term adaptive management process where management implications and policy changes are regularly evaluated and acted on