

Forest Certification Work Instruction
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Work Instruction Title: 1.4 Biodiversity Management on State Forest Lands**Work Area Group:** 1 - Planning, Monitoring, Review

Purpose: To provide direction for addressing biological diversity conservation objectives.

Work Instruction:

The intent of this work instruction is to provide direction for cataloging areas within the state forest that have been identified for a variety of biodiversity values. It is also intended to provide management options that are compatible with conservation objectives.

I. Definitions:

Biological Diversity: *means the full range of variety and variability within and among living organisms and the natural associations in which they occur. Biological diversity includes ecosystem diversity, species diversity, and genetic diversity.* NREPA, Part 355, PA 451, 1994 as amended.

Special Conservation Areas (SCAs) Special Conservation Areas are areas of state forest land that have had one or more conservation objectives, interests, or elements identified. Conservation objectives listed in the SCA category have been identified through a variety of methods and mechanisms, and it is important to understand how the objective was determined. The type and strength of recognition—and possible management options—will vary depending on the process used to identify the conservation value. For example, some objectives are detailed in the Land Use Orders of the Director (force of law) while other may be identified through cooperative agreements (administrative direction). There are also objectives developed through department process or agreement i.e. deer yards, potential old growth (POG), and riparian buffers. The SCA category may also be used to document areas identified by an external group or organization, such as National Audubon Society's Important Bird Areas Program.

The SCA definition is purposefully broad to encompass a spectrum of conservation interests and elements. It is a descriptor that provides the land manager and/or stand examiner with natural resource information to make informed management decisions.

High Conservation Value Areas (HCVAs) (including ERAs on state land) are areas that have been recognized for their contribution to specific conservation values, objectives and ecological attributes or significant social values. Examples of a recognized DNR process¹ include legislation, administrative rule, Director's and Natural Resource Commission Orders. Examples of existing HCVAs include Dedicated Natural, Wilderness or Wild Areas, Natural Rivers, species recovery plans such as Kirtland's Warbler

¹ Although an important public process, Open House/Compartment Review will not be a final approval forum for designating HCVAs and ERAs. It will be a key process for identifying potential conservation areas. The Biodiversity Conservation Planning process—which has a broader platform--will be used to review potential conservation areas.

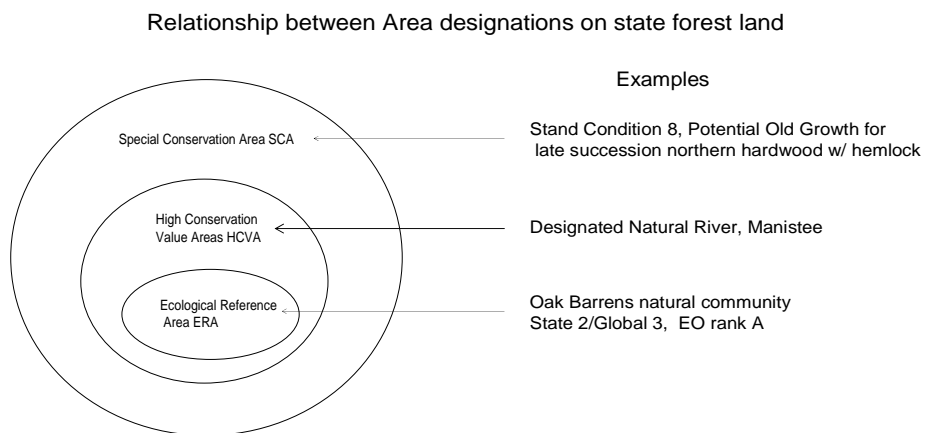
Management Areas, and critical dune areas. Typically, HCVAs are a subset of SCAs on state forest land that have had significant public participation and/or public review as part of their planning process. New HCVA areas will be designated using the approved Biodiversity Conservation Planning Process (BCPP).

Ecological Reference Areas (ERAs) serve as models of ecological reference within the state and may be located on any forest land ownership. They are high quality examples of functioning ecosystems that are primarily influenced by natural ecological processes. The initial set of ERAs is based on Michigan Natural Features Inventory’s current database of known high quality natural community sites (See Conservation Area Management Guidance). The initial set of ERAs are natural communities that have a Global (G) or State (S) Rank of endangered (1), threatened (2) or rare (3)², and have an Element Occurrence (EO) Rank A or B (the site is an ”excellent or good” examples of the natural community). This initial set will remain unchanged until additional ERAs, or other modifications to the initial set, are identified through the BCPP. All ERAs on state forest land are, by definition, High Conservation Value Areas.

Biodiversity Stewardship Areas (BSAs) are areas of land selected to help achieve ecological representation of natural communities as identified through the BCPP. BSAs can cross multiple ownerships and they usually are comprised of multiple natural communities. The BSAs identified through the BCPP will likely contain most (if not all) of the ERAs identified in 2005, which were limited to high-quality, rare natural communities. In addition, the BSAs will also contain some of the State’s best examples of high-quality common natural communities. Therefore, the BSA network will help us to refine the 2005 set of ERAs to better meet the requirements of Principle 6.4 of the FSC Standard. After the MDNR completes implementation of the BCPP, a management decision will be made on the future of these various labels (e.g., ERA, BSA) in our land management and planning efforts and whether all of them are necessary.

The ERA, BSA, HCVA and SCA designations are nested. These three categories quickly organize areas with conservation objectives or values into Ecological Reference Areas, High Conservation Value Areas and Special Conservation Areas.

Figure 1.



² Natural Community Rank and Element Occurrence in Michigan are determined by Michigan Natural Features Inventory using internationally recognized heritage methodology developed by The Nature Conservancy and used by NatureServe.

II. Management Direction:

Forests are managed for a broad array of biological, ecological, social and economic benefits, values, goals and objectives. Strategic and long term planning that includes biological diversity conservation is addressed through the DNR Operational Management Guidance document and DNR planning processes. Biodiversity conservation objectives and determinations are conducted at several scales (State, eco-regional, and/or FMU/Compartment), identified in several categories (Special Conservation Areas, High Conservation Value Areas, and Ecological Reference Areas), and are linked through planning and operational activities.

It is the responsibility of the DNR land management staff to understand the intent of the SCA identification as well as the implications for management activities. The database of SCAs is located within the Geographic Decision Support Environment (GDSE), and maintained by the FMFM GIS Certification Specialist. Through the course of conducting Forest Inventory (Operations Inventory, or IFMAP), stand examiners evaluate the database for completeness. **Any newly proposed SCAs, or previously identified areas of Stand Condition 8 that are desirable to maintain, should be coded as Stand Condition 8 in Operations Inventory, or as an Area of Interest (AOI) in IFMAP (with the “Reason of Interest” attribute being “Unique Site”).**

1. Identified SCAs, HCVAs and ERAs will be managed to conserve, protect, maintain, and/or enhance their defined conservation objectives or values. The management methods used will vary depending on the objective and type of designation.

On DNR-managed lands, Ecological Reference Areas may be protected through a variety of mechanisms (refer to Conservation Area Management Guidance). Management activities or prescriptions in Ecological Reference Areas are highly restricted to those that maintain or enhance the defined attributes and values and protect the immediate natural resource values or human health and safety.

2. Potential Old Growth (POG) Management Direction: No vegetative treatments shall occur in areas currently identified in the Operations Inventory (OI) database as Stand Condition 8, potential Old Growth, (Year of Entry prior to 2008) until these stands are assessed in the context of SCAs, HCVAs and ERAs. However, activities that protect immediate natural resource values (such as control of invasive species pests and wildfire suppression) or human health and safety may be undertaken using DNR procedures (refer to OI Manual Chapter 7, D. Post-Review for guidance) (Table 2)

III. Instruction for Compartment Review:

Use the following guide (along with figure 2) to identify and code SCAs, HCVAs and ERAs.

1. Prior to the initiation of field inventory, use the above definitions and references to the data listed below to determine if an area is, or has potential to be, a Special Conservation Value Area (SCA), High Conservation Value Area (HCVA) or Ecological Reference Area (ERA).

- A. If no,

- a. and the area has not been previously identified as an SCA (or POG) then no special coding is required.
- b. and the area was previously or is currently identified as an SCA (or POG), and that objective is no longer relevant, the stand examiner may, through the Compartment Review process and with sign off through the FMFM and WLD Field Coordinator level, remove the SCA identifier. The Fisheries Division Basin Coordinator is to be included in the process of reviewing and approving removal of the SCA identifier. Coding should be changed appropriately.

- B. If yes, and conducting IFMAP Inventory,
 - a. and an area is already identified in the GDSE SCA layer in the appropriate category (SCA/HCV/ERA), then no special coding is necessary at this time (the intent is to have an SCA tag in IFMAP so that stand sheets indicate whether an SCA is present).
 - b. If the area is coded as a POG from a previous inventory, and not located in the GDSE special SCA layer, and the POG conservation value is still valid for this site, then proceed to “2” below.
 - c. If an area is not identified in the previous inventory as Stand Condition 8 and not located in the GDSE SCA layer, and the stand examiner believes it should be an SCA, proceed to “3” below.
- C. If yes, and conducting Operations Inventory,
 - a. If an area is already identified in the GDSE SCA layer in the appropriate category (SCA/HCV/ERA), confirm the stand is coded Stand Condition 8 and that stand comments are made regarding what is unique about the area and how the area will be managed or treated.
 - b. If an area is identified as Stand Condition 8 from a previous inventory, but not in the GDSE spatial SCA database, proceed to “2” below.
 - c. If an area is not identified as Stand Condition 8, and not located in the SCA database, but the examiner believes it should be an SCA, proceed to “3” below.

2. If an area or stand is currently classified in the OI database as Stand Condition 8 (as an SCA or as Potential Old Growth), and the area is not identified in the GDSE SCA layer:

- A. If conducting Operations Inventory,
 - a. Confirm that Stand Condition is listed as 8, change Influence Zone (IZ) and Area Class (AC) OI fields as appropriate to reflect conservation objective.
 - b. Code ‘Special Management Area Potential’ (SMAP) as “9”*.
 - c. In OI stand comments, describe what is unique about the area and how the area will be managed or treated. For example: “, late succession mesic northern forest with hemlock in understory, manage as old growth forest with no proposed treatments”, or “Stand adjacent to designated quiet area, possible buffer, selectively cut this decade to encourage long rotation pine” (Reference the document “Conservation Area Management Guidance” for coding direction.
- B. If conducting IFMAP inventory, nominate the appropriate area as an AOI, with the ‘Reason of Interest’ being ‘Unique Site’. Identify what is unique about the area and how the area will be managed or treated in AOI comments (see example above in 2.A.c.).

3. If there is an area or stand to be considered for designation as an SCA, and the stand is not currently classified in the OI database as Stand Condition 8 and is not identified in the GDSE SCA layer:

- a. If conducting Operations Inventory, record the area as Stand Condition 8, change Influence Zone (IZ) and Area Class (AC) OI fields as appropriate to reflect conservation objective, and code Special Management Area Potential (SMAP) as “9”* .
- b. If conducting IFMAP Inventory, identify the area as an Area of Interest (AOI) with the ‘Reason of Interest’ coded as ‘Unique Site’.

- c. Use comments for the AOI (IFMAP) or Stand (OI) that describe what is unique about the area and how the area will be managed or treated (see example above in 2.A.c).
- d. If the area is nominated as an HCVA, note this in the stand comments along with type of HCVA. After approval at Compartment Review, the District Planning and Inventory Specialist will forward the nomination to the Forest Resource Management Section for action by the State Biodiversity Team.

**Special Management Area Potential (SMAP) = 9 will be used as a flag for new SCAs to the Resource Assessment Unit, where upon approval at Compartment Review, this stand will be added to the GDSE database as an SCA. Once this addition has been made stand examiners will be notified to remove the SMAP = 9 coding from the OIPC database and add stand condition 8 coding.*

- 4. Prior to the initiation of field inventory, determine if area contains occupied habitat for threatened, endangered, or special concern species (plants and animals), or Species of Greatest Conservation Need (SGCN) (animals, fish). Reference the Michigan DNR Approach to the Protection of Rare Species and Rare Species Assessment Guidelines for DNR Staff on State Forest Lands (July 12, 2006).

Determine from MNFI web application, element occurrence database, species and community abstracts, MNFI Compartment Review Comments, Michigan Wildlife Conservation Strategy and other habitat models (see references).

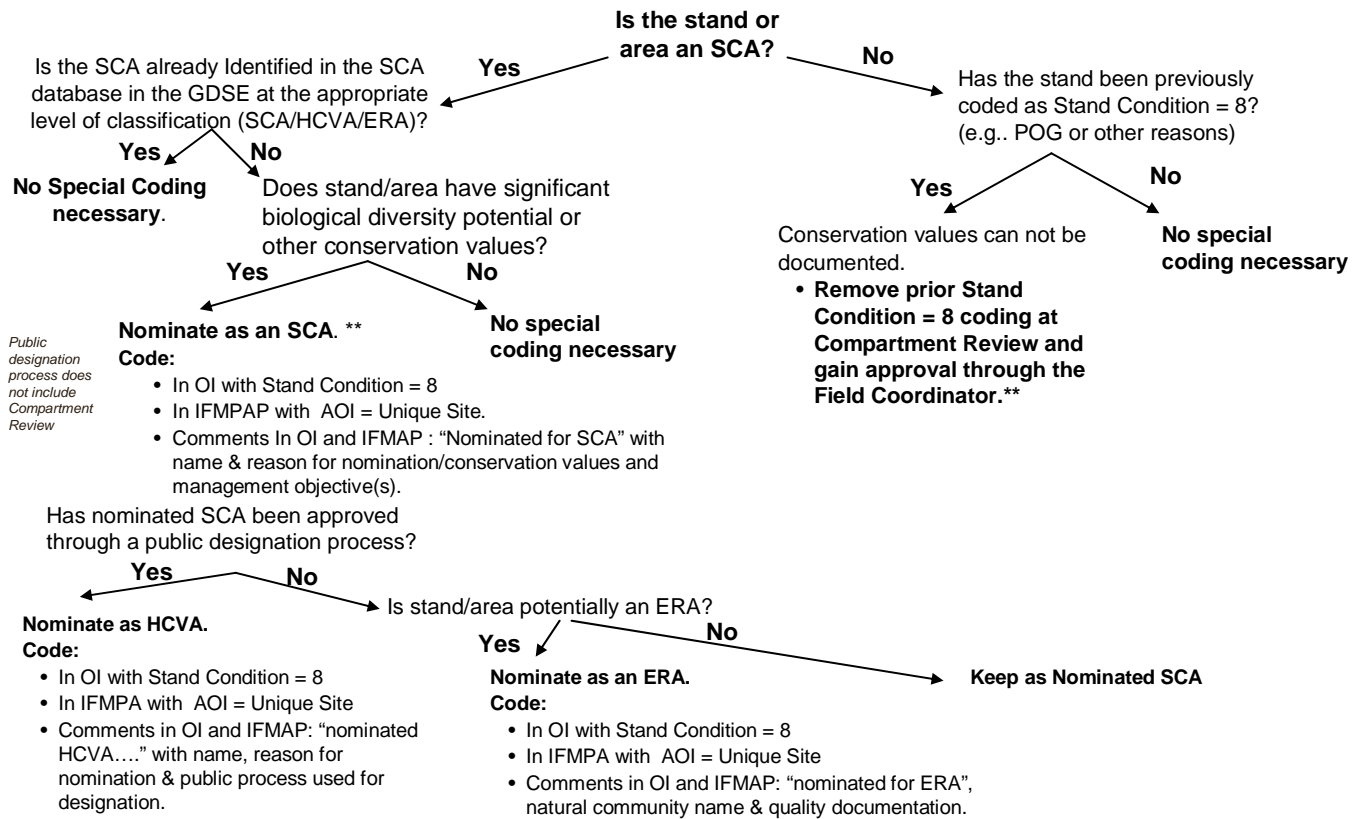
- a. If yes, determine how existing management guidelines or agreements influence management decisions and incorporate into treatment prescriptions (see references and/or contact the Endangered Species Coordinator, Wildlife Division or Fisheries Division representative for reptiles and amphibians.).
 - i. Record information in Operations Inventory locked Comments.
 - b. If there is evidence that an area under consideration may contain these elements
 - i. Propose survey work for T&E and special concern species only. Forward request to Forest Resources Management Section Manager and the FMFM Monitoring Specialist through the Forest Management Unit Manager. Utilize the Rare Species Assessment Guidelines for DNR Staff on State Forest Lands, July 12, 2006.
 - ii. Record information in Operations Inventory locked Comments, or IFMAP Opportunistic Field Survey (OFS) locked comments.
- 5. Determine biodiversity management guidelines for the natural communities/cover types under consideration for management using MNFI web application, element occurrence database, species and community abstracts, Michigan Wildlife Conservation Strategy, Silvicultural Guidelines, and other habitat models (see references).

Determine how proposed management action may impact the area and identify specific elements that protect, maintain or enhance biodiversity, e.g. snags, coarse wood debris, edge, perches. (see “Within Stand Retention Guidance” and “Rare Species Assessment Guidelines” in References section).

- a. Record in management prescription comments (OI stand remarks or IFMAP treatments under review comments).
- b. Add biodiversity specifications to timber sale specifications and Forest Treatment Proposals.

Figure 2

Identification of SCAs, HCVAs, and ERAs during Inventory



*See Work Instruction 1.4, section 1, definitions for ERA guidelines.

** Work with Forest Certification GIS specialist to update the SCA database.

(3/12/07, JNS; 3/30/07 KDH)

Scope: (All State Forest Land and Affected Divisions):
 State Forest Land Other: MNFI
 DNR – FMFM DNR – Wildlife DNR – Fish DNR – Law DNR – Parks

Responsibility and Role: (Staff who will implement or supervise this instruction)

Job Title/Division	Role
State Biodiversity Conservation Planning Team	Statewide biodiversity assessments, planning and review, and make final recommendation on HCVAs and ERAs.
Eco-Team/All Divisions	Regional biodiversity assessments and planning
Unit Manager and District Planner/FMFM; Wildlife Habitat Biologist and Wildlife Ecologist / WLD; Fisheries Biologist/FD	Compartment/FMU biodiversity assessments, planning, and operations
Stand Examiner/FMFM	Identification of elements
Michigan Natural Features Inventory/MSUE	Analysis, identification and management guidance of elements of biodiversity
Endangered Species Coordinator/WLD:	Analysis, identification and management guidance and permitting

Fisheries representative for reptiles and amphibians	for elements of biodiversity
Program Specialists: Conservation and Biodiversity Program, FMFM Natural Areas, WLD Natural Rivers, FSD	Management guidance and monitoring direction for Natural Areas, Natural Rivers, High Conservation Value Areas, and Ecological Reference Areas.
Conservation Officers/LD	Enforcement on special sites (HCVA, ERA, Natural Areas)

Training/Skills:

(Those required to accomplish work instruction)

Item	Brief Description of Skill or Course	Exists/ New
Biodiversity Approach	Training on biodiversity approach	<input checked="" type="checkbox"/> E <input type="checkbox"/> N
Biodiversity Assessments	Training on myriad of assessments	<input type="checkbox"/> E <input checked="" type="checkbox"/> N
Biodiversity Guidelines	Training on related community management guidelines	<input checked="" type="checkbox"/> E <input type="checkbox"/> N
Community & Elements	Training on recognizing Michigan natural communities and elements	<input checked="" type="checkbox"/> E <input type="checkbox"/> N
Special Site Management	Training on natural rivers, natural areas, HCVA, and ERA management	<input checked="" type="checkbox"/> E <input checked="" type="checkbox"/> N

References:

Federal Law:

Wilderness Act of 1964 (16 U.S.C. 1131-1136, 78 Stat. 890) - Public Law 88-577

Wild and Scenic Rivers Act of 1968 *P.L. 90-542, as amended*(16 U.S.C. 1271-1287)

State Law:

Natural Resources and Environmental Protection Act, PA 451, 1994, as amended

Part 005 General Powers and Duties

Part 305 Natural Rivers

Part 351 Wilderness and Natural Areas

Part 355 Biological Diversity Conservation

Part 525 Sustainable Forestry on State Forestlands

DNR Policy & Procedures

Natural Resource Commission Policy

2207 – Management of State Forests

2703 –Natural Rivers

2704 –Wilderness and Natural Areas

2706 – Sand Dune Management and Protection—Department Operations

Biodiversity Conservation Planning Proposal and flowchart, April 2005

Forest Mineral and Fire Management

Policy 441, Operations Inventory and Compartment Review Procedures

Operations and Inventory Manual, March 2004 as revised including Marzolo email of 2/28/2005, and IFMP Inventory Manual, 2006.

Resource Assessment Process Flow Chart, April 2002

Conservation Area Coding

Conservation Area Management Guidance

Within Stand Retention Guidance IC 4110

Natural Areas Program Strategic Plan, March 29, 2000. Michigan Department of Natural Resources, Natural Heritage Program, Wildlife Division Lansing, MI 16 Pp. Adopted By DNR Management Team 2000.

Operational Management Guidance for State-Owned Forest Lands

Proposed Old Growth and Biodiversity Stewardship Planning Process and Draft Criteria for Michigan's State Forests and Other State Owned Lands, February 8, 2001 - Note: this is the precursor to the Biodiversity Conservation Planning Proposal and includes previous direction from the Old Growth on State Forest Lands, addendum to the Statewide Forest Resources Plan of 1983; Identifying potential old growth in operations inventory, Burns, H. March 15, 1995; and other information.

Silvicultural Guidelines

State Forest Management Plan

Michigan DNR Approach to the Protection of Rare Species and Rare Species Assessment Guidelines for DNR staff on State Forest Lands, July 12, 2006.

DNR Monitoring Protocol Summary for Ecological Reference Areas and High Conservation Value Areas.

Department Programs

Endangered Species Program, Wildlife Division

Natural Areas Program, Wildlife Division

Natural Rivers Program, Fisheries Division

Parks Stewardship Program, Parks and Recreation Bureau

Cooperative Agreements/Grants/MOUs

Partnership between DNR, The Nature Conservancy and the Michigan Natural Features Inventory, Michigan State University Extension to survey for, compile and update information on threatened and endangered species and high quality natural communities in Michigan.

Michigan Department of Natural Resources, Michigan Wildlife Conservation Strategy, Natural Heritage Program, Wildlife Division

Partnerships between the US Fish and Wildlife Service and Wildlife Division for the management of wildlife, fish and federally listed endangered and threatened species.

Electronic or Geographic Information Data

Spatial data library

FMFM biodiversity information layer

OI database and maps

GDSE data: Areas of Interest database, Treatments database, Opportunistic Field Survey Database

Eco-regional plans: biodiversity management area maps (as applies)

Michigan Natural Features Inventory (MNFI)

Web Application

Element Occurrence Database

Community Abstracts

Habitat models (under development)

1.4 Biodiversity Management on State Forest Lands

U.S. Fish & Wildlife Service species recovery plans

http://ecos.fws.gov/tess_public/TESSWebpageRecovery?sort=1

The list of Michigan Federal Endangered and Threatened Species in Michigan is on the DNR Forest Certification web page.

Other Information and Resources

Burger, T. and J. Kotar. 2003. A guide to forest communities and habitat types of Michigan. University of Wisconsin, Madison, WI

Michigan Department of Natural Resources

Michigan Wildlife Conservation Strategy. 2005. Michigan Department of Natural Resources, Wildlife Division

Michigan GAP models - Donovan, M. L., G. M. Nesslage, J. J. Skillen, and B. A. Maurer. 2004. The Michigan Gap Analysis Project Final Report. Wildlife Division, Michigan Department of Natural Resources, Lansing, MI. 184 + Appendices.

Interim Guidelines for Mesic Conifers in the West UP included in Herman, K, and M. Joseph, T. Oliver, D. Wagner, H. W. Scullon, J. Ferris, D. Kuhr. April 16, 2004. A process for implementing Mesic conifer restoration on state land, Western Upper Peninsula, Michigan. Michigan Department of Natural Resources, Marquette, MI. 38 pp.

Draft Red Pine Project Report. Jan 2004

USDA Forest Service

Recreation, Wilderness, And Related Resource Management, 2300,

Chapter 2320 - Wilderness Management

North Central Cover Type Handbooks

Monitoring:

Monitoring biodiversity and compliance with this Work Instruction will be done through a variety of mechanisms.

1. Prior to the Year of Entry (YOE) data revision/update deadline (which results in “freezing” OI or the “frozen” database inventory), Land management staff and District Planners will ensure that all stand comments, ‘limiting factors’ and stand condition codes are compatible.
2. The DNR Monitoring Protocol for Ecological Reference Areas and High Conservation Value Areas will be followed.
3. Annual internal audits will include reviews of stand level biodiversity considerations.
4. Ecoregional planning reports will include biodiversity criteria and indicators in addition to describing SCAs and setting and monitoring targets in the ecoregion.
5. Department-wide review and documentation of biodiversity will be conducted as part of the Biodiversity Conservation Planning process.

Records:

Operations Inventory and IFMAP database of State forest lands, maintained at state-wide level and recorded at local level (stands within a compartment), records of ERAs, HCVAs, and SCAs (Stand Condition #8). The database will include conservation objectives and crosswalk with protection and management directives.

GIS data layers and maps for ERAs, HCVAs, SCAs and multiple biodiversity elements including dedicated and proposed Natural Areas, potential old growth, threatened and endangered occurrences, dedicated Natural Rivers and special management areas.

Compartment Review packets and meeting documents.

Monitoring reports (see Monitoring section)