Michigan Department of Natural Resources
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# ECOLOGICAL REFERENCE AREA (ERA) PLANNING FRAMEWORK FOR ERAS ON STATE FOREST LANDS

Forest Resources Division
IC4198 (10/06/2015)

## MICHIGAN DEPARTMENT OF NATURAL RESOURCES MISSION STATEMENT

"The Michigan Department of Natural Resources is committed to the conservation, protection, management, use and enjoyment of the State's natural and cultural resources for current and future generations."

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# EXECUTIVE SUMMARY

Ecological Reference Areas (ERAs) serve two purposes: 1) As models of ecological reference within the state, and/or 2) As areas within which rare natural communities are conserved. In October 2014, the Department of Natural Resources (DNR) updated its network of ERAs to more fully address its forest management certification requirements. Also in October 2014, during its annual forest management certification audit, the DNR received three observations regarding non-conformances with the Forest Stewardship Council's standard. To address these observations, the DNR developed a planning process that will provide management direction for ERAs on State Forest lands.

This document describes a plan of action that will be used to develop management plans for ERAs on State Forest lands. The ERA management plans will include specific, realistic and achievable goals, objectives, actions and monitoring needs that consider the expected available resources for implementation. The first sections of this document describe a suite of materials that will be prepared prior to initiating development of plans. The following section provides a description of how the ERA management plans will be developed and implemented. The final section provides a timeline and assigns responsibilities for getting all of this done.

The 'Types of ERA Management Plans' section describes the two options for ERA management plan types and provides guidance to local staff on how to choose which one is most appropriate for a particular site.

The 'ERA Management Plan Template Outline' section provides an outline of the basic content that will be requested within the ERA management plan template and guidance for plan writers that will be provided on how to develop the requested content.

The 'Natural Community Management Guidance Outline' section provides an outline of the content that will be provided in each of the 'natural community management guidance' documents, which in turn will be resources for plan writers, providing them with background information about the natural community and ideas for management goals, actions and monitoring.

The 'ERA Business Framework' section describes how the ERA management plans will be developed and implemented within the framework of our inventory and compartment review process, with inclusion of experts, stakeholders and the public in the process.

The 'ERA Public Communications' section describes how ERA assessment results and management strategies will be made available to the public.

The 'Timeline & Responsibilities' section provides specifics for completion of preparation steps prior to full implementation of the ERA planning process.

# INTRODUCTION

Ecological Reference Areas

Ecological Reference Areas (ERAs) serve two purposes: as models of ecological reference within the state and/or as areas within which rare natural communities are conserved. The ERAs are one category of High Conservation Value Areas (HCVAs). They are higher-quality examples of functioning ecosystems that are primarily influenced by natural ecological processes. The ERAs are based on the Michigan Natural Heritage Database of known natural community occurrences, and represent both rare and common natural communities.

The ERAs are recognized primarily on Department of Natural Resources (DNR)-managed lands, but may also include some federal-administered lands, local government-administered lands and conservancy lands. Within ERAs managed by the DNR, conservation of the identified natural community through restoration and/or maintenance of plant composition and ecological processes (e.g. fire) will be emphasized. Planning and management of ERAs will occur through the DNR's normal land management planning processes.

Purpose of the ERA Planning Framework

In October 2014, the DNR updated its network of ERAs to more fully address its forest management certification requirements. Also in October 2014, during its annual forest management certification audit, the DNR received three observations regarding non-conformances with the Forest Stewardship Council's standard. These observations asked that:

A. "MDNR should develop a written plan of action to accomplish the following with respect to designated HCVs within ERAs:
    1. An assessment for high conservation values within MDNR's network of ERAs as management plans for these areas are developed. The assessment should include consultation with qualified specialists, independent experts and local community members who may have knowledge of areas that meet the definition of HCV 1, 2, 3 or 4 attributes.
    2. A summary of the assessment results and management strategies (see Criterion 9.3) to be included in the management plan summary that is made available to the public."
B. "On public forests, MDNR should prepare a written plan of action to accomplish the following:
    1. A transparent and accessible public review of proposed HCV attributes and management to be utilized.
    2. Integration of information from stakeholder consultations and other public review into HCVF descriptions, delineations and management."
C. "If any fundamental changes to the measures to maintain or enhance HCV values are identified during stakeholder consultation, the management plan and relevant operational plans should describe the measures necessary to ensure the maintenance and/or enhancement of the HCV attributes present in identified HCVF areas, including the precautions required to avoid risks or impacts to such values (see Principle 7)."

A planning process is now needed to provide management direction that will ensure the ERAs on State Forest lands are managed for maintenance or restoration of the natural community for which they were designated. Over the course of time, completed ERA management plans will be used to update management area summaries during revisions of the regional state forest management plans.

This document describes a plan of action that will be used to develop ERA management plans for ERAs that occur on State Forest lands and communicate about them to the public and with stakeholders.  The first 3 sections describe a suite of materials that will need to be prepared prior to initiating development of plans.  The following section provides a description of how the ERA management plans will be developed and implemented within the framework of our inventory and compartment review process.  The final section provides a timeline and assigns responsibilities for completing the preparation of these materials and for implementation of the planning process.

The content provided within this document addresses the observations received from Forest Stewardship Council auditor and fulfills the requested resolutions.  The ‘ERA Management Plan Template Outline’ provided in this document indicates that these plans will include an assessment of high conservation values within each ERA.  The ‘ERA Business Framework’ describes the inclusion of outside/expert opinions in development of the ERA management plans and additionally how other interested individuals will be able to consult on the plans as part of the compartment review process. Finally, the ‘ERA Public Communications’ section describes how we will share summaries of assessment results and management strategies with the public.

This document was developed by an ad hoc working group that included staff representatives from both Forest Resources Division and Wildlife Division and was approved by these divisions’ Management Teams on September 23, 2015.  The content herein has been tested through the completion of three ‘dry-runs’ resulting in draft ERA management plans.

## TYPES OF ERA MANAGEMENT PLANS

***This section describes the two types of Ecological Reference Area (ERA) plans that will be developed.***

Each ERA will be addressed in a plan. However, some ERAs will be addressed in their own ‘individual ERA plan’, while others will be grouped into a ‘multiple-ERA plan’. The following general guidance will help plan writers identify the appropriate type of plan for a particular ERA. The final decision for what type of plan is most appropriate will be made at the local management unit. Both types of plan will use a similar template.

Management Plans for Individual ERAs

- For ERAs that are more isolated in a spatial context.
- For ERAs that have very specific or extremely urgent management needs.
- For ERAs that have high risk threats, due to severity or urgency of threat.
- For ERAs that have pre-existing uses that may conflict with ERA plan objectives.
- The primary focus of these plans will be maintenance or restoration of the natural community that is the focus of that ERA.
- Other conservation values may also be addressed in the plan, within the context of the ERA (e.g., a rare species that is highly associated with the natural community of the ERA)

Management Plans for Multiple ERAs

- For places where multiple ERAs occur grouped together with other high conservation values (e.g., rare species occurrences, other HCVAs).
- For places where multiple ERAs with related and interacting natural communities occur together within a landscape (e.g., Dry Northern Forest, Pine Barrens and Dry Sand Prairie) and the natural processes that maintain those natural communities (e.g., fire) would have naturally occurred across the landscape.
- For situations where management needs and threats are common to multiple ERAs within a region that may or may not be near each other [e.g., volcanic bedrock ERAs within a Forest Management Unit (FMU)].
- A primary focus of these plans will be maintenance or restoration of the natural communities identified for any ERAs included in the plan.
- Other conservation values that encompass multiple ERAs (e.g., a natural area) may also be a primary focus of the plan.

## ERA MANAGEMENT PLAN TEMPLATE OUTLINE

***This section provides an outline of the basic content that will be requested within the Ecological Reference Area (ERA) plan template.***

<u>Administrative Information:</u>

- Name(s) (Complex name, ERA name(s) and any other locally-used names).
- Location within state forest (Management Area (MA), FMU, compartment, stand, etc.).
- Geo-political location info (county; township, range and section (TRS).
- Contact information (local plan writer(s), other staff assisting with plan, conservation partners).
- Ownership information.
- Existing infrastructure/facilities.
- Other documents related to this ERA (pre-existing plans at a different scale, species specific management/conservation plans, Memorandums of Understanding (MOUs)/Memorandums of Agreement (MOAs) with partners, reports with area specific information, etc.).

<u>Conservation Values</u>

- Describe the natural community occurrence for which the ERA is recognized.
    - Provide the natural community name, EO_ID, EORANK and LASTOBS data for the element occurrence on which the ERA is based.
    - Is the ERA recognized for being a rare natural community, a representative example of the natural community, or both? (This information will be provided by the Biodiversity & Conservation Program Leader).
    - Provide a summary description of the ERA that identifies the general condition of the ERA and any unique attributes or characteristics - this information may be drawn from the Element Occurrence Record for the ERA (this document will be provided by the Biodiversity & Conservation Program Leader), inventory data, personal, local or expert knowledge and/or other sources.
- Identify any of the following high conservation value (HCV) attributes represented in this plan's ERA(s) – NOTE: HCV attributes should only be included in an ERA management plan if they were previously identified through a rigorous assessment that included consultation with qualified specialists (including MDNR and Michigan Natural Features Inventory staff), independent experts and local community members.

  The following HCV attributes are taken directly from Appendix F of the FSC-US Forest Management Standard:

    - ERA is part of a large landscape level forest, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance – this would be a relatively contiguous area of forest (may be crossed by land management roads, public roads or ownership boundaries) that is of size that makes it significant within the ecoregion – typically this will mean a forest that is thousands or tens of thousands of acres in size, but a smaller contiguous forest may be considered significant if the natural forests in the region are highly fragmented.
    - ERA includes attributes of regional (Great Lakes) importance, including:
        - Old forests/mixed age stands that include trees >120 years old.
        - Blocks of contiguous forest >500 acres that have rare species.

        - Oak savannas.
        - Hemlock-dominated forests.
        - Pine stands of natural origin.
        - Contiguous blocks >500 acres of late successional species that are managed to create old growth.
        - Fens, particularly calcareous fens.
        - Other non-forest communities of regional significance (e.g., barrens, prairies, wooded dune and swale, alvar, karst, other distinctive geological land forms or concentrations of vernal pools).
    - ERA includes Type 1 or Type 2 old growth
    - ERA includes a roadless area that is >500 acres or that has unique attributes
- Identify other values in area (to be considered as the ERA management plan is developed and actions are implemented, but not as a primary focus of planning or management for the ERA).
    - Other priority species (featured species or species of greatest conservation need that are not included as HCVs).
    - Archaeological/cultural.
    - Recreation.
    - Aesthetics/visual management.
    - Timber products.
    - Other designations (natural area, habitat area or corridor, etc.).

<u>Threats Assessment</u>

- Description of primary threats, which may include 'lack of knowledge'.
- Consider potential long-term threats, more imminent threats and cumulative threats (interactions between different threats that may compound potential negative effects) for the ERA and any identified HCV attributes.
- For each threat, describe how wide spread the threat is within the ERA (does it affect just a portion of the ERA or the entirety?), the level of damage that has been done to natural community and/or other conservation values, and whether or not the damage can be undone through management actions.
- Resources for Threat Assessments:
    - This kind of information may be drawn from the Element Occurrence Record for the ERA (this document will be provided by the Biodiversity & Conservation Program Leader), inventory data, personal and expert knowledge and/or other sources
    - The natural community management guidance documents provide information on threats that are typically associated with a particular natural community, but there may be additional threats that are unique to an ERA/complex

<u>Management Goals</u>

- Goals should be broad statements about conditions that are desired in the ERA(s) and for any identified HCV attributes.
- Examples:
    - Pine Barrens – Manage for a canopy closure of 40%.
    - Wetlands – Manage for intact and functioning hydrology.
    - Mesic Northern Forest – Manage for an unfragmented forest.

- Bedrock Communities – Manage to eliminate current and prevent new invasive species.
- Old forests/mixed age stands that include trees >120 years old – Manage for presence of trees >120 years old.

- Resources for Goal Development:
  - This kind of information may be drawn from the Element Occurrence Record for the ERA, Michigan Forest Inventory (MiFI) treatment data, personal and expert knowledge and/or other sources.
  - The natural community management guidance documents provide information on conditions that are typically important to a particular natural community, which may help to identify goals for an ERA management plan, but these will not always be appropriate for a specific ERA and there may be additional goals that are unique to the plan's ERA(s) (e.g., plans with multiple ERAs may need management goals that consider the larger landscape and how natural communities are configured within it).

<u>Management Objectives</u>

- Objectives must be achievable and realistic in terms of what can actually be done with expected available resources – this may require prioritizing ERA needs and addressing a limited number within a single planning cycle.
- Objectives should be written in a SMART (specific, measurable, achievable, realistic and time delimited) fashion.
- Objectives should be specific statements that indicate what change is desired over what time period and the change should be linked to achieving one of the management goals. Objectives should generally be based upon planning cycles (10, 20, 30 year, etc.), although some issues may need to be addressed in a shorter time period.
- Examples:
  - Pine Barrens – Reduce canopy closure in the northern half of the ERA to 50% by 2025 (a future objective may be needed to reduce the canopy closure even more).
  - Wetland Communities – Replace culvert under Berry Road by 2025.
  - Mesic Northern Forest – Regenerate forest on closed temporary road along eastern boundary by 2035.
  - Bedrock Communities – Eliminate occurrence of spotted knapweed from the northwest ¼ mile of the access trail by May 31, 2016.
  - Old forests/mixed age stands that include trees >120 years old – in this situation, an objective (and associated actions) will likely not be necessary, because there is generally no management action that can be taken to enhance this value (i.e., you cannot make other trees age faster to replace the older ones that die); instead this HCV attribute will primarily be a consideration for monitoring and as other objectives are written and actions are implemented (i.e., avoid actions that will threaten these trees).

<u>Management Actions</u>

- Actions should be specific items that identify how the objectives will be achieved.
- Actions may be linked to each other (first this, then that, followed by the other).
- Examples:
  - Pine Barrens – Complete a select-cut harvest in Stand 25.
  - Wetland Communities – Work with MDNR engineers to create new culvert placement specifications; Develop FTP for culvert placement.

- o Mesic Northern Forest – Reinforce berm at end of temporary road; Conduct a regeneration survey in 2020; Consider planting if needed, using local genotypes.
- o Bedrock Communities – Develop FTP for herbicide application and any additional documentation; Treat spotted knapweed prior to flowering in 2016; Complete follow-up survey for spotted knapweed in 2017; Re-treat if spotted knapweed still occurs.

- Resources for Action Development:
  - o This kind of information may be drawn from the Element Occurrence Record for the ERA, Michigan Forest Inventory (MiFI) treatment data or other narratives, personal and expert knowledge and/or other sources.
  - o The natural community management guidance documents provide suggestions for management actions that are often appropriate for addressing typical management goals associated with a particular natural community, but these will not always be needed and there may be additional actions that are unique to a plan's ERA(s).

<u>Monitoring</u>

- Monitoring needs must be achievable and realistic in terms of what can actually be done with expected available resources.
- Monitoring should generally be based upon the 10-year planning cycle, although some issues may need to be addressed in a shorter time period.
- Monitoring needs may include:
  - o Ongoing vegetation/animal inventory needs that will provide baseline information about the ERA and help to determine appropriate management goals.
  - o Measurement of indicators to help determine if management goals are on track or being achieved.
  - o Follow-up on management actions to determine their effectiveness (particularly if this information is needed more quickly than the 10-year plan review).
- If there are known pathways/resources for accomplishing monitoring, these should be described (partnerships, locals staff with specific skill sets/knowledge, etc.).
- Resources for Monitoring Development:
  - o This kind of information may be drawn from personal and expert knowledge and/or other sources.
  - o The natural community management guidance documents provide suggestions for monitoring that may be appropriate for typical management goals associated with a particular natural community, but these will not always be needed and there may be additional monitoring needs that are unique to a plan's ERA(s).
- Quick Reference Table:
  - o Name of indicator (metric for monitoring).
  - o Current status (current measurement of indicator – if unknown, an objective should be written to ensure the status is determined prior to the beginning of the next planning cycle or sooner).
  - o Desired future status from management goal (Achieving this status may require many planning cycles, with completion of many different objectives.).
  - o Summary assessment of how we are doing – some kind of representation of the current trend in the indicator (e.g., good/bad, thumbs-up/thumbs-down, happy/sad; there may be no change in the indicator, which should also be noted); no assessment will be possible until after the initial planning cycle.

- Indicators provide information on the state or condition of something that is linked to a management goal and produce trend information used for surveillance of the ERA.
    - There should be at least one indicator for each goal and identified HCV attribute
    - Example Indicators:
        - Pine Barrens – Percent canopy closure: current is 75% and desired future is 40%
        - Wetlands – Number of blockages to flowing surface waters upstream of the wetland: current is 2 and desired future is 0.
        - Mesic Northern Forest – Number of miles of treeless linear features: current is 27 and desired future is 0.
        - Bedrock Communities – Number of invasive species present: current is 1 and desired future is 0 (NOTE: in some areas, there may be one or more invasive species that are so pervasive that eliminating them may not be a realistic option, even in the long-term – in this case the desired future may not be 0 or it may be the percent of area or number of acres invaded).
        - Old forests/mixed age stands that include trees >120 years old – Presence/absence of trees >120 years old: current is 'present' and desired future is 'present'.

<u>Imagery</u>

- Maps (locator map and area map).
- Photos.

<u>Signatures & Approval Date</u>

- Each plan will require formal approval from all relevant resource divisions.
- Date of final approval.

<u>Attachment: Resources for Plan Writers</u>

- Not part of the template itself.
- List of internal and external content experts.
- List of other individuals who can help to interpret more technical written resources.

# NATURAL COMMUNITY MANAGEMENT GUIDANCE OUTLINE

***This section provides an outline of the content that will be provided in each of the 'natural community management guidance' documents.***

There will be one document for each natural community, unless the content is so similar that natural communities can be grouped into a single document. The purpose of these documents is to be a resource to the Ecological Reference Area (ERA) plan writers and as such will be written to be useful, understandable to the audience and not overly complex or lengthy. Suggestions for management goals, actions and monitoring are provided as ideas, but they may or may not be appropriate for a specific ERA management plan.

<u>Natural Community Type</u>

- The name or names if the guidance is for a group of natural communities.

<u>State/Global Ranks</u>

- As determined by Michigan Natural Features Inventory.

<u>Occurrence/Range by Albert's Landscape Ecosystems</u>

- Provide a map with:
  1. Michigan Natural Features Inventory's (MNFI's) coding by subsection for whether the natural community is present, infrequent or not present;
  2. A layer of dots that represent all element occurrences for the natural community; and
  3. The transition/tension zone if applicable to the natural community. Provide separate maps for each natural community if guidance is for a group of natural communities.

<u>Overview/Characterization of the Natural Community</u>

- General Description
  - Including a summary of the desired future condition (the condition that we are trying to achieve through maintenance or restoration of the natural community within the ERA). Include a link to the MNFI abstract (if available) for more details.
- Variation
  - Description of regional/landscape variations in natural community characteristics and composition.
- Ecological Processes and Natural Disturbance Regimes
  - Description of the ecological processes and disturbance regimes that are essential for maintaining the natural community.
- Landscape Context
  - Description of how the natural community typically fits into the landscape - whether it generally occurs as part of a larger complex; whether there are other natural communities with which it is often associated; what is the optimal patch size for this natural community, etc.

Management Guidance

- Threats
  - Description of the types of threats that are frequently of concern in the natural community.
- Management Overview
  - General description of management approaches appropriate for the natural community, and that would mimic natural disturbance regimes important to the natural community.
- Management Goals
  - Suggestions for management goals that would be appropriate in different situations (maintenance, restoration, mitigation of threats).
- Management Actions
  - Suggestions for actions or series of actions that would help to achieve the above goals (and objectives derived from those goals), including an indication of whether more appropriate for maintenance and/or restoration situations.
- Monitoring
  - Suggestions for monitoring needs and indicators that are appropriate for the natural community and in line with the management goals and actions suggested, including an indication of appropriate frequency and temporal considerations, if possible. Monitoring is expected to generally occur on a 10-year frequency to match the 10-year planning cycle – deviations to this will be noted in individual plans.
  - Monitoring needs may include:
    - Ongoing vegetation/animal inventory needs that will provide baseline information about the ERA and help to determine appropriate management goals.
    - Measurement of indicators to help determine if management goals are on track or being achieved.
    - Follow-up on management actions as needed to determine their effectiveness (particularly if this information is needed more quickly than the 10-year plan review).

References and Resources

- Any documents used to develop the guidance and others that may assist those developing an ERA management plan if more information is needed.

# ERA BUSINESS FRAMEWORK

***This section describes how the Ecological Reference Area (ERA) plans will be developed within the framework of our inventory and compartment review process.***

Pre-Inventory Data Analyses

The FRD Inventory and Planning Specialist will prepare a list of all ERAs that occur within ¼ mile of compartments to be reviewed during a year of entry (YOE). Each ERA on this list should be discussed (as noted below in ‘2’) at the pre-inventory meeting.

Topics to be reviewed as they relate to the ERAs should include:

- Treatments that maintain or enhance ERA values and those that potentially degrade those values.
- Ownership patterns, development and land use in and around the compartment.
- Unique natural features and rare species.
- Vehicle accessibility.
- Survey needs.
- Recreational facilities and usage (campgrounds, trails, etc.).
- Fire suppression concerns.

The Pre-Inventory Meeting

The pre-inventory meeting will be used to review the existing information about any ERAs to determine the immediate inventory needs that will then inform the development of a specific ERA management plan.

Staff should bring any information regarding ERAs to the table to assist in the development of ERA management plans.

Existing ERA boundaries that fall within the current YOE compartment boundaries, or close enough to potentially impact management proposals, should be reviewed by unit staff and district specialists. Staff should also consider if other ERAs (outside of the current YOE) should have plans written for them to aid in properly managing them sooner than later (due to a high level of threat, rarity, etc.).

Staff should discuss what types of treatments should be proposed to maintain or enhance the values of the ERAs, as well as what types of treatments to avoid that may degrade those values.

At this meeting, the following determinations are made:

- Which ERAs need plans?
- Are any ERAs going to be grouped into a multiple-ERA plan?
- Who is the lead author on an ERA plan?

If evidence exists in photos, or existing inventory that call into question the boundary of the ERA, work with the Biodiversity & Conservation Program Leader to seek expert opinion on the natural community in question (See Forest Certification Work Instruction 1.4).

Inventory, Plans and Prescription Development for ERAs

- ERA Data Collection
    - o When convenient, consider planning the inventory field season to visit the ERA during a time that maximizes collection of necessary data (e.g. snow-off conditions, growing season, etc.).

Choose the field protocol that provides the data necessary to develop a thorough and defendable prescription for managing the ERA. For example, if basal area or trees per acre by species are needed, then collect quantitative data that will produce a stand table. Additionally, record any observations of invasive species or other significant threat.

- General Compartment Inventory
  - If field staff identify an area not designated as an ERA, but should be reviewed for further consideration, work with the Biodiversity & Conservation Program Leader to seek expert opinion (See Forest Certification Work Instruction 1.4).
- Treatment Proposals Development
  - In developing prescriptions for treatments, it is the plan writer's responsibility to solicit opinions from experts on the community types, as well as those with specific knowledge of the area. Refer to written management guidance for any given natural community. Include necessary treatment specifications to ensure the integrity of the ERA (seasonal harvesting, equipment cleaning, equipment type, buffers, retention of woody biomass, etc.).

<u>The Pre-Review Meeting</u>

- Present the ERA management plan.
- Review treatment proposals for ERAs.
- Decide if adequate outside/expert opinion has been provided. If it has not, seek out further input.

<u>Web-Posting / Open House</u>

- Post the ERA management plan, and present it at open house.

<u>The Compartment Review</u>

- Approve the ERA management plan, with sign-off from compartment review attendees. The ERA management plan should have a similar sign-off block to a compartment (model after form PR-4170-2).

<u>Post-compartment Review Changes to Prescribed Treatments and Additional Treatments</u>

- Follow standard post-review procedures for modifying a treatment plan. See DNR Policy and Procedure 32.22.15, pages 10 and 11.

<u>Developing a Plan of Work</u>

- Work plans are built from the treatments database. Treatments at a status of "Draft Field Boundary (6)" and a proposed start date for a given fiscal year will be returned by the query in the RAD Tools application in Citrix. Work plans will be developed following the Compartment Review, and then be given to the district and unit staff to prioritize the allocation of resources for and approved through the chain of command.

<u>Implementing the Planned Activities</u>

- Once a Plan of Work is approved, unit and district staff will implement the activities that are planned for a given year. Staff will follow the activity tracking procedures and protocols as outlined in the Michigan Forest Inventory (MiFI) Treatments manual. When those activities are completed, the treatment will be closed and any relevant follow-up treatment(s) will be scheduled. Treatments that are not immediately needed will have a proposed start date which will trigger inclusion on annual work plans at the appropriate time.

<u>Monitoring the ERA</u>

- Complete tactical monitoring as approved in the plan. Document all monitoring in the MiFI Treatments database. Prepare and present an updated summary of any interim monitoring results (done since the previous inventory) at each subsequent pre-inventory meeting that should be used to evaluate the ERA's management plan and adapt it, if needed, following a similar business framework as above.

## ERA Public Communications

***This section provides a description of how Ecological Reference Area (ERA) assessment results and management strategies will be made available to the public.***

A summary of the assessment results and management strategies will be made available to the public through the MDNR's web pages, either as part of the ERA information page and/or as part of the applicable compartment review package. The following information will be available:

- ERA Assessments (part of the ERA information page)
  - A summary of the process used for identifying and designating ERAs
  - A summary of our plan development and implementation process (the ERA Business Framework)
  - A timeline of when updates to the ERA network will occur
  - A summary of changes made to the ERA network during updates
- ERA Management Strategies (part of applicable compartment review package)
  - A summary of expected dates for initial development of and updates to plans (for each ERA), as well as the approval date of the most recent version
  - Approved ERA management plans
  - A summary of the high conservation value attributes identified for each ERA
  - A summary of monitoring results, including:
    - Comparison of management actions in ERA management plans to actions actually implemented.
    - List of indicators, metrics and current values from ERA management plans.
    - Assessment of success in achieving management goals identified in ERA management plans.

## TIMELINE & RESPONSIBILITIES

***This section provides specifics for when the preparation steps will be completed prior to initiating the full Ecological Reference Area (ERA) planning process.***

The overall responsibility for preparation, coordination and documentation of ERA planning lies with the FRD Forest Planning and Operations (FPO) Unit. Field staff will have primary responsibility for developing ERA management plans, with assistance from the FRD FPO Unit. However, there are others who will be involved with various steps.

| What | When | Who |
|---|---|---|
| **Preparation** | | |
| Develop Natural Community Management Guidance Documents. | October, 2015-June, 2016 | U.P. WLD Ecologist, with review from FRD FPO Unit, FRD Planners, State Silviculturalist & Non-DNR Experts as needed; Final approval from FRD/WLD managers may be required. |
| Develop ERA Management Plan Template. | October-December, 2015 | FRD FPO Unit, WLD Ecologists, FRD Planners. |
| Complete Dry-Runs of ERA Planning Framework. | January-June, 2016 | FRD FPO Unit, WLD Ecologists, FRD Planners, Local DNR Staff, Non-DNR Experts. |
| Provide Forest Resources Division Staff with a 'First Look' at the Planning Process. | Professional Development Meeting – February, 2016 | FRD FPO Unit. |
| Develop Online Application for Producing ERA Management Plans. | April-June, 2016 | FRD FPO Unit, FRD Resource Assessment Section. |
| Revise Guidance Documents, Plan Template & Application, As Needed. | June-July, 2016 | FRD FPO Unit, WLD Ecologists, FRD Planners, FRD Resource Assessment Section. |
| **Implementation** | | |
| Staff Training. | July-August, 2016 | FRD FPO Unit. |
| Business Framework (including developing plans, management activities, monitoring & adaptive management). | August, 2016 & ongoing (beginning with YOE 2019) | FRD FPO Unit, FRD Planners, WLD Ecologists, Local DNR Staff. |
| Public Communications. | August, 2016 & ongoing | FRD FPO Unit, FRD Promotional Agent, DNR Marketing & Outreach Division. |