

# Eco-Logical Webinar Series



## Eco-Logical Starter Kit, Overview, and Technical Assistance Launch

Presenters

February 10, 2015

**Mike Ruth**, Federal Highway Administration,  
Office of Project Development and Environmental  
Review

[\(Learn more about Eco-  
Logical at the FHWA website\)](#)

**David Williams**, FHWA Resource Center

**Carolyn Washburn**, CH2M HILL

**Margaret Barondess**, Michigan Department of  
Transportation



U.S. Department of Transportation  
**Federal Highway Administration**

# Steps to Ensure Optimal Webinar Connection

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- Use a wired internet connection, if possible
- Do not use a Virtual Private Network (VPN), if possible
- Mute their webroom audio (toggle is located at the top of webroom screen) and use phone audio only

# Outline

- What is Eco-Logical
- Implementing Eco-Logical
- Integrated Eco-Logical Framework
- Frequently Asked Questions

# What is Eco-Logical?

- An ecosystem methodology for planning and developing infrastructure projects
- Developed by eight Federal agency partners and four State DOTs
- Collaboration between transportation, resource, and regulatory agencies to integrate their plans and identify environmental priorities across an ecosystem



# What is the purpose of Eco-Logical?

Encourages Federal, State, Tribal and local partners involved in infrastructure planning, design, review and construction to make infrastructure more sensitive to wildlife and their ecosystems:

- Integrates plans across agency and political boundaries
- Promotes open public and stakeholder involvement
- Provides time and cost savings and better environmental outcomes
- Streamlines approval processes for infrastructure projects while maintaining safety, environmental health and effective public involvement

# What are the *benefits* of Eco-Logical?

- Better environmental outcomes and lower transaction costs



- Promotes public support and increases public confidence in an agency's ability to provide effective and efficient service.
- Improves resource and regulatory agency relationships.
- Reduces redundancy and increases the efficiency, transparency and predictability of the transportation delivery process.



# Is Eco-Logical feasible for my agency?

**YES!**

- Implementing Eco-Logical **works within existing regulations and policies** and represents forward-thinking transportation and responsible environmental practice.
- Implementing Eco-Logical can be adopted using a **phased approach** and offers **incremental benefits** in terms of improved interagency collaboration and communication, and more predictable transportation and environmental review processes.

# Common Terms (1)

Eco-Logical goes by many different names, but here are a few terms you may have heard:

- Eco-Logical approach: *Advance, ecosystem-scale planning, and priority setting*
  - *Brings together transportation, resource, and regulatory agencies*
  - *Agencies incorporate natural resource and infrastructure data prior to transportation planning*
  - *Agencies identify critical ecological resources and establish joint environmental priorities*
- Implementing Eco-Logical: *Set of tools, steps, and activities that practitioners can use to bring the Eco-Logical approach into practice*

# Common Terms (2)

## Integrated Eco-Logical Conservation and Transportation Planning Framework (IEF):

*The nine step IEF provides a structured process to avoid or minimize environmental impacts and plan future mitigation.*

## Regional Ecosystem Framework (REF):

*An element developed in Eco-Logical and highlighted as a step within the IEF, which focuses on integrating infrastructure and natural resource data, as well as transportation and natural resource plans, so that all agencies are operating off of one integrated set of information.*

### The IEF

Step 1

Step 2

Step 3: REF

Step 4

Step 5

Step 6

Step 7

Step 8

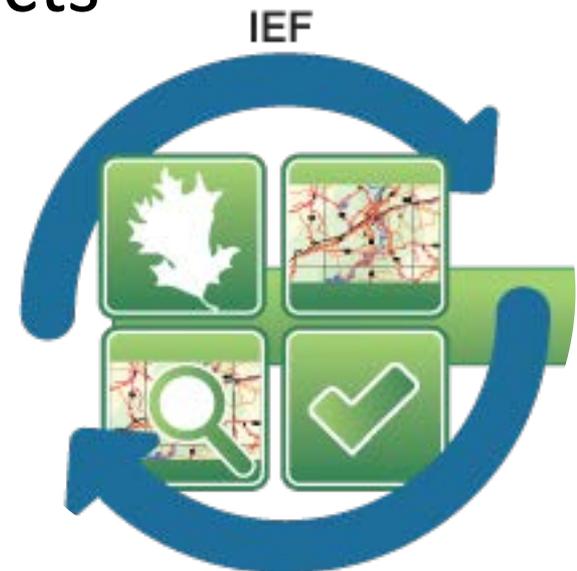
Step 9

# Implementing Eco-Logical

- The set of tools, steps and activities that bring the Eco-Logical approach into practice
- Jointly managed by FHWA and AASHTO, with funding from SHRP2
- Focused on increased awareness and understanding of the Eco-Logical approach in all States and regions and at all levels of government

# Integrated Eco-Logical Framework (IEF)

- Process to guide transportation and resource specialists in the integration of transportation and ecological decisionmaking
- Helps identify potential impacts to environmental resources very early in the planning process



# Steps of the IEF (and the Eco-Logical approach)

1. Build and strengthen collaborative partnerships
2. Integrate natural environment plans
3. Create a Regional Ecosystem Framework (REF)
4. Assess effects on conservation objectives
5. Establish and prioritize ecological actions
6. Develop a crediting strategy
7. Develop programmatic agreements and consultations (biological opinion, or permit)
8. Implement agreements and deliver projects
9. Update the REF

Partner  
Share Data  
Analyze Effects

Identify key sites  
and actions

Document  
Implement  
Evaluate

# Eco-Logical Webinar Series

The [Eco-Logical Webinar Series](#) has covered each step of the IEF in detail.

## Accelerating Project Delivery

- Overview
- Regulatory Provisions
- Resolution
- Practices Database
- Resources
- Eco-Logical Approaches Implementing the Eco-Logical Approach
- Technical Assistance
- Request Technical Assistance
- Eco-Logical at Meetings and Conferences
- Eco-Logical Report Program
- Webinar Series
- Project Reporting
- Transportation Liaison CoP
- Website Feedback



-  Eco-Logical Approach
-  Agencies Implementing the Eco-Logical Approach
-  Technical Assistance Activities
-  Request Technical Assistance
-  Eco-Logical at Meetings and Conferences
-  Library
-  Contact Us

## Webinar Series

Eco-Logical webinars serve as valuable resources in fostering cooperative learning opportunities. Upcoming Eco-Logical webinars will focus on implementing each step in the Integrated Ecological Framework, a tool designed to help transportation and resource agencies work together to integrate transportation and ecological decision making.

# “Eco-Logical” by Other Names

- Many agencies use other names to describe Eco-Logical
  - Watershed approach
  - Landscape-scale planning
  - Ecosystem planning
- Other programs may have some or all of the elements of Eco-Logical
- Resources available for all agencies implementing Eco-Logical – *under any name*

# Existing v. New Projects

- Can Eco-Logical be used in agencies that are not constructing new projects?
  - YES!
- Eco-Logical tools and outcomes can be applied to:
  - Renovation and rehab projects
  - Long-range planning
  - Establishing mitigation programs
  - Wildlife crossings
  - Green infrastructure improvements



# Flexibility of the IEF

- Do we have to do the Eco-Logical steps in order?
- Can we skip any steps?

***Flexibility is okay!***

- Document what you plan to do and why.
- Enlist the Eco-Logical On-Call Technical Assistance Team to figure out how to “flex” the IEF to work for you!

# Eco-Logical Webinar Series

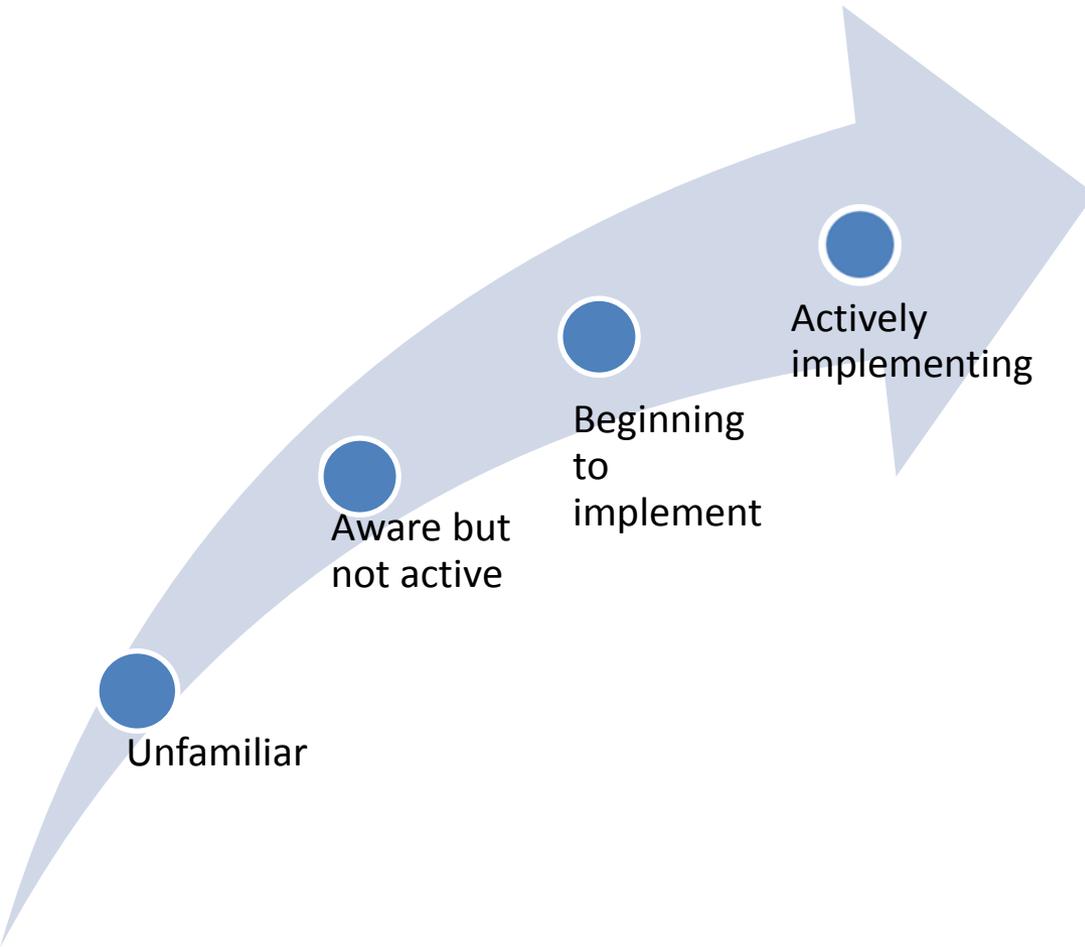


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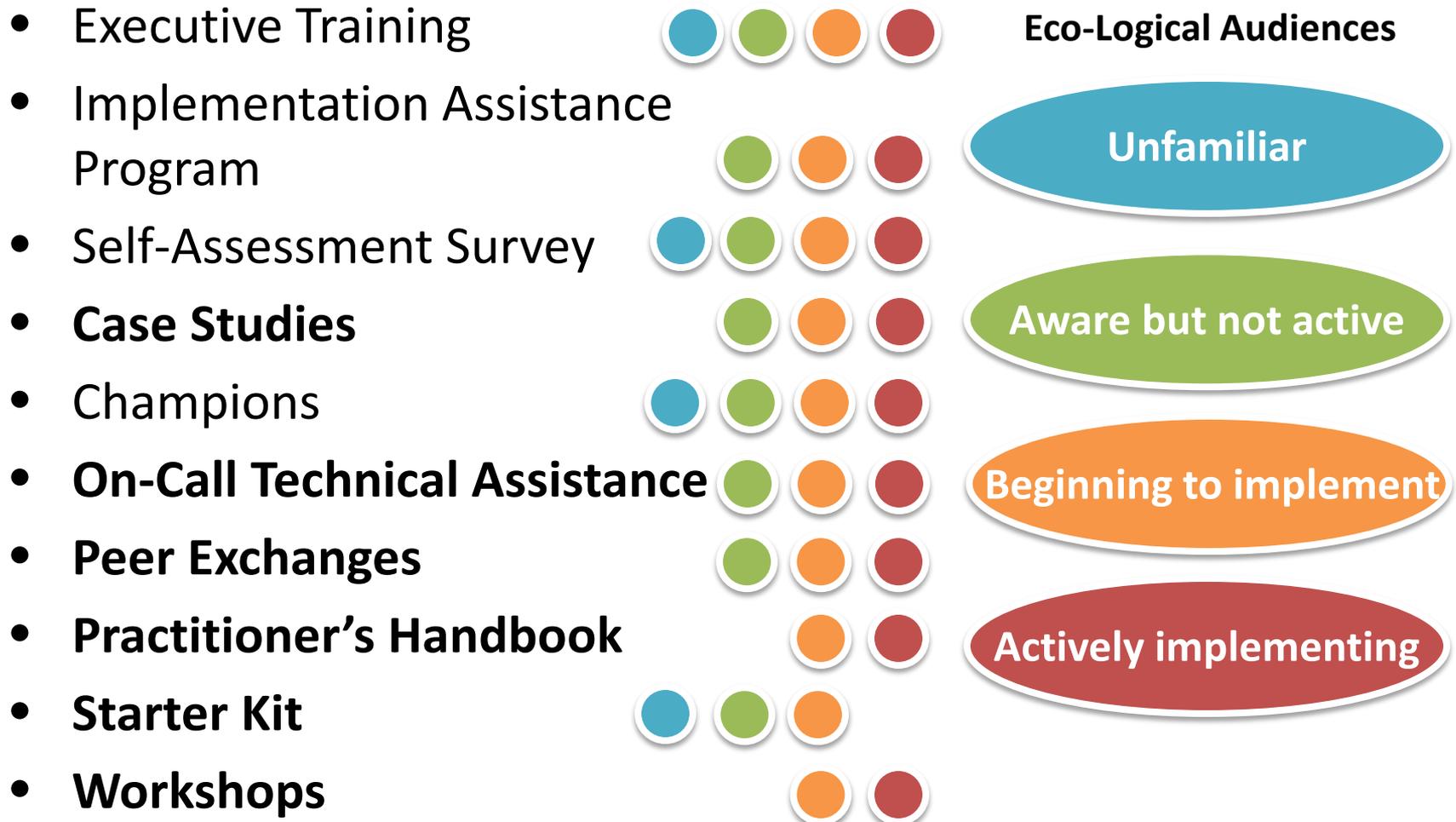
[\(Learn more about Eco-Logical at the FHWA website\)](#)

- **Mike Ruth**, Federal Highway Administration ([mike.ruth@dot.gov](mailto:mike.ruth@dot.gov))
- **David Williams**, FHWA Resource Center ([david.williams@dot.gov](mailto:david.williams@dot.gov))
- **Carolyn Washburn**, C2HM HILL ([carolyn.washburn@ch2mhill.com](mailto:carolyn.washburn@ch2mhill.com))
- **Margaret Barondess**, Michigan Department of Transportation ([barondessm@michigan.gov](mailto:barondessm@michigan.gov))

# Implementing Eco-Logical Audiences



# Implementing Eco-Logical Technical Assistance Resources





## Implementing Eco-Logical – Starter Kit

February 10, 2015

Federal Highway Administration

American Association of State Highway  
and Transportation Officials



U.S. Department of Transportation  
Federal Highway Administration

AMERICAN ASSOCIATION  
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## Implementing Eco-Logical – Starter Kit

February 10, 2015

Federal Highway Administration

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and Transportation Officials

Welcome to our  
Implementing Eco-Logical  
Starter Kit webinar.

The **Starter Kit** is a  
website tool just  
developed by FHWA and  
AASHTO through our  
SHRP2 Program.

<http://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/default.asp>

Or Google “FHWA and  
Eco-Logical”!



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AASHTO

Environmental Review Toolkit

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Implementing the Eco-Logical Approach



The Eco-Logical approach organizes current methods for addressing natural resource identification, avoidance, minimization and mitigation into a systematic, step-wise process that starts at the beginning of the transportation planning process and concludes with establishing programmatic approaches to recurring natural resource issues that are implemented at the project level.

[What are the advantages of an ecosystem approach?](#)

[Show me an example of how this would work.](#)

**Eco-Logical On-Call Technical Assistance is now available!**

FHWA has a team of Eco-Logical experts ready to provide responsive, individualized guidance and support to agencies as they implement the Eco-Logical approach. [Request technical assistance](#) today!

**Eco-Logical Annual Meetings Page is now available!**

Want to talk to someone about Eco-Logical in person at a meeting? [Check us out](#) and see where we are going and where we have been!

Graphic above, click each step for useful implementation information, description of the step, technical information, and examples of agency projects.

You can navigate to other pages on the website by clicking the text or icons located here.

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- Section 4(f)
- Water, Wetlands, and Wildlife

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Implementing the Eco-Logical Approach



In the graphic above, click each step for useful implementation information including a description of the step, technical information, and examples of agency projects.

The Eco-Logical approach organizes current methods for addressing natural resource identification, avoidance, minimization and mitigation into a systematic, step-wise process that starts at the beginning of the transportation planning process and continues through programmatic approach to address resource issues that are resolved at the project level.

- [What are the advantages of the Eco-Logical approach?](#)
- [Show me an example of an Eco-Logical project.](#)

New! Request On-Call Technical Assistance

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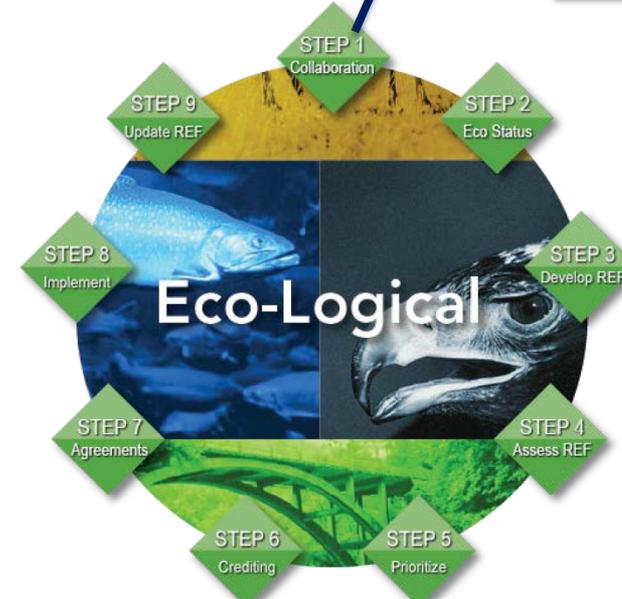
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Select a step to read about the approach, find agency examples and tools

The Eco-Logical approach organizes current methods for addressing natural resource identification, avoidance, minimization and mitigation into a systematic, step-wise process that starts at the beginning of the transportation planning process and concludes with establishing programmatic approaches to recurring natural resource issues that are implemented at the project level.

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The goals of Step 1 are:

1. Break down organizational barriers.
2. Take an inventory of each stakeholder's goals, priorities, processes, and major areas of concern within a specified planning region.
3. Document significant issues that may affect agency goals and mitigation needs.
4. Create a shared regional planning vision.
5. Obtain formal agreements on roles, responsibilities, processes, and timelines that establish or reinforce partnerships.
6. Document criteria and opportunities for using programmatic consultation approaches to better address transportation and conservation planning needs.
7. Identify initial funding options.

With a basic vision in mind and the commitment of the transportation planning organization to make the initial investment of resources toward the IEF process, the transportation planning agency (for DOT or MPO), as the responsible party for transportation planning and begins outreach to other planning organizations and resource agencies in the

**of the Planning Area.** Defining the area under the jurisdiction of the planning straightforward. The geographic extent of the planning area and scale of the planning line the resolution of the mapping data that is relevant. In other words, a broader effort would not necessarily require high resolution data, although the resolution of the ageable is limited only by the computing capacity of the mapping system.

**Planning Area.** At this step, the transportation planning agency may wish to planning area to facilitate the analysis of ecological issues. Dividing areas by (hydrologic unit codes or watersheds) is a convenient method, as mapping hydrologic unit codes at different levels (8- digit, 10-digit, 12-digit) is readily available nationwide from the Natural Resource Conservation Service (<http://datagateway.nrcs.usda.gov/>). These units are referenced in some regulations (such as in Clean Water Act regulations), and may also correspond to the distribution of particular habitat types, for example, rare species ranges. In any case, it is a



Library Resources

- [Eco-Logical Webinar on Step 1](#)
- [Summary of Step 1 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 1 from Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)
- 
- [Manager summary of Step 1 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)
- 

Agency Examples

[North Carolina Interagency Leadership Team](#)

Related Links

[FHWA NEPA and Transportation Decisionmaking](#)

Read a summary describing the goals of each step of the Eco-Logical Approach

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The goals of Step 2 are:

1. Compile the existing available data and plans into a refined map that identifies locations of all resources of interest and areas for conservation and mitigation action.
2. Understand historical/long-term trends, priorities, and concerns related to aquatic and terrestrial species and habitats in the region.
3. Identify data gaps that need to be addressed to achieve a complete and reliable product at the appropriate level of resolution and accuracy.
4. Identify past impacts at critical locations, such as stream crossings and migration corridors (especially if retrofitting will be a mitigation option).
5. Arrive at an agreed-upon set of conservation and mitigation goals.

**Mapping Tools.** Web-based mapping tools are available that reference a number of national datasets. Some also allow adding more-detailed local layers to the REF spatial database base map and sharing that data.

format of the base mapping is one that is compatible with and accessible by all including the stakeholder agencies, planning consultants, agency and consulting and construction managers. If the IEF process will be the new mode of operation, ed to follow it must have easy access and be able to integrate their data and

our ecological systems, the list of threatened and endangered species, and even continue to modify the base map over which the transportation plan is laid. The will change with changing transportation needs. The system must be able to be updates able to be made easily, and by more than one stakeholder. The more map is with the resource agencies' own products, the more likely it will be a eally, the transportation planning organization's planned improvements must d automatically update as the plans are modified. The better the system is vision of labor among the stakeholders for keeping the information up to date, the more likely it will be used and valued.

**Defining Important Resources to be Included.** Define the list of sensitive habitats that will be



Library Resources

- [Eco-Logical Webinar on Step 2](#)
- [Summary of Step 2 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 2 from Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)
- 
- [Manager summary of Step 2 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)
- 

Agency Examples

- [Maine Beginning with Habitat \(BwH\) \(IAP Recipient\)](#)

Related Links

- [FHWA NEPA and Transportation Decisionmaking](#)

Navigate between the steps on the website by clicking on the numbers on this image

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#### The goals of Step 3 are:

1. Create the regional ecosystem framework, based on mapping and prioritization of resources and transportation and land use plans.
2. Create transportation program scenarios that address short- and long-term improvements and include all features that may cause impact to natural resources.
3. Obtain a shared understanding of the current and planned/proposed locations, quantities, and patterns of all development, uses, and resource impacts in the region.

**Create the Regional Ecosystem Framework.** The regional ecosystem framework (REF) is the consolidation of the data collected in Step 2 into a geospatial database, with land use plans, including the long range transportation plan.

**Creating Planning Scenarios.** At this step, the stakeholders overlay the current plans with resources. Alternative scenarios could be developed depending on factors such as near-term versus long-term and low growth versus high growth assumptions. The transportation planning organization would provide its plan for the planning region and its assumptions. Other land use planning, such as community land use and management plans from the major local, state, and federal regulatory, land management and planning agencies in the region, could be included for a cumulative view. The combination of the plans defines the "footprint" of consideration of impacts.

The alternate scenarios can be overlaid on the resource mapping. It is likely that locations where planned improvements overlie important resources will be readily visible.

**Documentation.** The stakeholders should document the development of scenarios.

[What is the difference between the terms "Regional Ecosystem Infrastructure Development Framework" \(REIDF\) and "Region Ecosystem Framework" \(REF\)?](#)



#### Library Resources

- [Eco-Logical Webinar on Step 3](#)
- [Summary of Step 3 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 3 from the Integrating Ecological Framework, Volume 3](#)
- 
- [Manager summary of Step 3 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)
- 

#### Agency Examples

- [North Central Texas Council of Governments REF](#)
- [Colorado Department of Transportation](#)

Florida Department of Transportation  
Efficient Transportation Decision

Library of Resources:

- ✓ Reports
- ✓ Tools
- ✓ Contacts



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#### The goals of Step 3 are:

1. Create the regional ecosystem framework, based on mapping and prioritization of resources and transportation and land use plans.
2. Create transportation program scenarios that address short- and long-term improvements and include all features that may cause impact to natural resources.
3. Obtain a shared understanding of the current and planned/proposed locations, quantities, and patterns of all development, uses, and resource impacts in the region.



**Create the Regional Ecosystem Framework.** The regional ecosystem framework (REF) is the result of Step 2 into a geospatial database, with land use plans, and transportation plan.

In this step, the stakeholders overlay the current plans with transportation scenarios that could be developed depending on factors such as near-term versus long-term growth assumptions. The transportation planning organization considers the region and its assumptions. Other land use planning, such as transportation plans from the major local, state, and federal regulatory, land use agencies in the region, could be included for a cumulative view. The "footprint" of consideration of impacts.

is overlaid on the resource mapping. It is likely that locations where important resources will be readily visible.

scenarios should document the development of scenarios.

[What is the difference between the terms "Regional Ecosystem Infrastructure Development Framework" \(REIDF\) and "Region Ecosystem Framework" \(REF\)?](#)

There is a webinar that describes each step of the Eco-Logical approach!

#### Library Resources

- [Eco-Logical Webinar on Step 3](#)
- [Summary of Step 3 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 3 from Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)
- 
- [Manager summary of Step 3 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)
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#### Agency Examples

- [North Central Texas Council of Governments REF](#)
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#### The goals of Step 4 are:

1. Create a regional-scale picture of potential and cumulative impacts on natural resources based on transportation scenarios.
2. Agree on preferences regarding avoidance, minimization, potential conservation, and restoration investments to support selection of the best transportation plan scenario.
3. Identify and quantify mitigation needs.

**Assessing Impacts and Alternatives.** The stakeholders evaluate the planning scenarios, jointly review and prioritize the affected resources, not unlike a project-level alternatives analysis, to optimize the transportation/infrastructure objectives *and* minimize adverse environmental impacts. The Science Team will play a significant role to quantify the important elements of the affected resources, (including the "must avoid" core habitats, minimum habitat sizes, connectivity), impacts. The team may also identify and prioritize retrofitting sites. At this point, modified to avoid and minimize impacts. The level of avoidance and minimization and quantification of impacts will depend on the resolution of the data. The need avoidable impacts can be identified, by type/resource, and the quantity. The goal is to obtain an estimate of the total mitigation needs of the program by type. document the process of avoidance and minimization, and quantifying impacts and ents. [Difference between the terms "Regional Ecosystem Infrastructure Development \(REID\)" and "Region Ecosystem Framework" \(REF\)?](#)



#### Library Resources

- [Eco-Logical Webinar on Step 4](#)
- [Summary of Step 4 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 4 from Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)  

- [Manager summary of Step 4 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)  


#### Agency Examples

[Southeast Michigan Council of Governments](#)

#### Related Links

[FHWA NEPA and Transportation Decisionmaking](#)

Read about the science of the Eco-Logical approach from TRB reports.



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The goals of Step 5 are:

1. Create a regional conservation, restoration, recovery, and mitigation strategy, with quantitative and qualitative valuation of mitigation sites.
2. Identify the preferred conservation and restoration actions needed to achieve the priority conservation goals.
3. Develop strategies and actions that consider regulatory requirements and programmatic implementation opportunities.
4. Identify crediting opportunities (see Step 6).
5. Designate a lead agency or agencies for each strategy and method for achieving each strategy.



Library Resources

- [Eco-Logical Webinar on Steps 1-5](#)
- [Summary of Step 5 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 5 from Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)
- [SHRP 2](#)
- [Manager summary of Step 5 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)
- [SHRP 2](#)
- [How can establishing ecosystem performance measures help to establish priorities and refine the actions in my Regional Ecosystem Framework?](#)

Agency Examples

- [Arizona Department of Transportation](#)

Read about what other DOTs and MPOs are doing with their Eco-Logical Program.

The resource agencies have already identified the habitats in most need of conservation and restoration in the planning area. This step evaluates these areas and others in the planning region to be defined in Step 4.

to the creation of Programmatic Mitigation Plans as laid out in MAP-21. The plan provides that a state DOT or Metropolitan Planning Organization may develop programmatic plans to address the potential environmental impacts of future transportation projects as part of the statewide or metropolitan transportation planning process. The plan is developed by the DOT or MPO in consultation with the resource agencies who provide the data and resources. MAP-21 also requires that a draft of the plan be available to the public for comment and that the public's comments be addressed in the final plan.

Step 5 involves the stakeholders building a mitigation plan to meet the requirements of the mitigation program at a regional level. These collaborative, holistic, regional-transportation and resource agencies to eliminate redundant investments, and to identify potential mitigation sites more effectively. The process is expected to reduce the level of coordination required on a particular project, and the uncertainty at the initiation of any project, for the transportation agency and the resource agencies, as to the potential ecological impacts and likely level of effort needed to address those impacts. It also provides the opportunity for stakeholders to pool their financial resources to achieve the greatest benefit.

- PEL Home Page
- Program Goals
- Legislative Developments
- Regional Ecosystem Framework**
- Coordination and Consultation
- Streamlined Project Delivery
- Links and Publications
- Environment and Development Department Home
- Transportation Department Home

Select Language ▼

## Regional Ecosystem Framework

The Regional Ecosystem Framework (REF) is a geographic information systems based tool that can be used during development of infrastructure projects in North Central Texas. The REF consists of 10 Vital Ecosystem Information Layers focused on three central eco-logical parameters: Green Infrastructure, Water Considerations, and Ecosystem Value. The REF provides a foundation for using the watershed approach when considering the conservation and ecosystem based priorities during development of infrastructure projects.

The foundational concepts for the REF include "Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects." Eco-Logical articulates a vision of how infrastructure development and ecosystem conservation can be integrated to harmonize economic, environmental, and social needs and objectives. As a result of a 2010 Federal Highway Administration Eco-Logical Grant, NCTCOG developed the REF. The final REF report can be found below.



### 2013 Implementing Eco-Logical Project:

NCTCOG has recently been awarded a Federal Highway Administration Strategic Highway Research Program 2 (SHRP2) Implementing Eco-Logical (C06) funds to continue development of the Regional Ecosystem Framework.

This next phase of the project, will focus on implementation of the watershed approach concepts and further development of partnerships to evaluate opportunities as they relate to regional conservation goals and ecosystem-based mitigation while supporting transportation goals to avoid environmental impacts and improve the efficiency in delivery of transportation projects in North Central Texas.

als:

**Regional Ecosystem Framework prepared by North Central Texas Council of Governments!**

and Identify Mitigation Focus Areas

Apply REF to Corridor Feasibility Study

Implement a Regional Shared Value Mitigation Program

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#### Step 8 Core:

...planning processes to the project implementation phase.

...s and approaches into monitoring and adaptive management strategy.

...e recordkeeping and tracking of all commitments by the transportation agency.

...tion requirements for foreseeable projects, and documented agreement with the

...n requirements and priority sites, the transportation agency can pursue

... Priority sites that may not be accessible by the transportation agency alone may

...ert with other stakeholders.

...es for avoidance and minimization must still be practiced at the project level, in

...ements and protocols established in Step 7. The commitments and agreements

...the project level. Design standards to minimize impact must be included in the

...ely that many will be incorporated as environmental commitments in the NEPA

...conditions of regulatory authorizations and permits. The transportation agency

...stem for recording all mitigation requirements by project, actions taken, and

...n that is available to the regulatory agencies for verification.

Stakeholders can contribute to the success of the process by monitoring the outcomes of mitigation, design standards, and other specifications for opportunities to improve the outcome and benefits to the ecosystem.



Want to add your program to this page? Please [contact us](#) with your information!



#### Library Resources

- [Eco-Logical Webinar on Step 8](#)
- [Summary of Step 8 from Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)
- [Practitioner summary of Step 8 from Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)
- [SHRP 2](#)
- [Manager summary of Step 8 from Manager's Guide to the Integrated Ecological Framework, Volume 4](#)
- [SHRP 2](#)

#### Agency Examples

- [What does success look like?](#)
- [Interagency Team for Ecological Enhancements for Montana \(ITEEM\)](#)
- [SANDAG TransNet Advance Mitigation Program](#)

Share the success of your Eco-Logical program with us!

You can select this link to provide us your information and we will post it!

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Agencies Implementing the Eco-Logical Approach

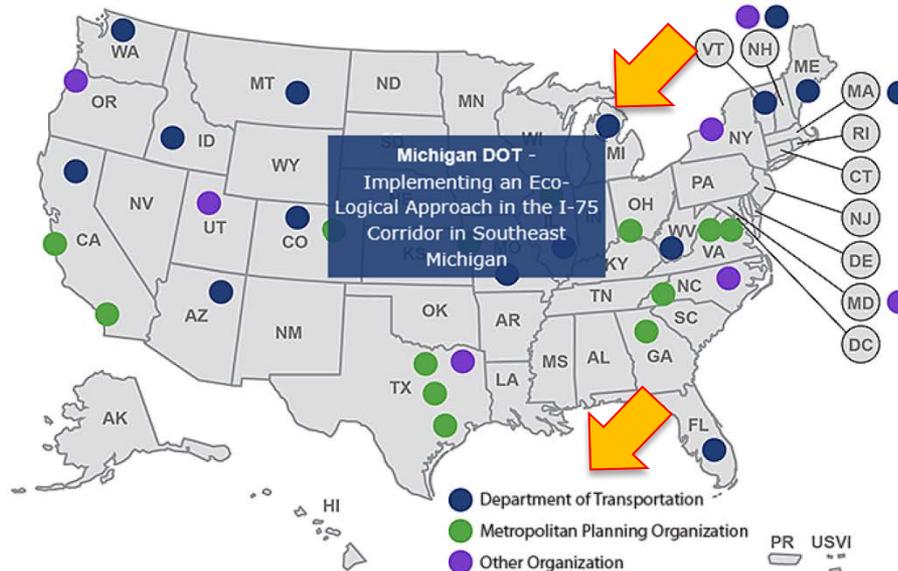


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Learn more about the organizations (DOT, MPO, or other) implementing the Eco-Logical approach to improve delivery and environmental results for their programs.

To learn about the successes of each organization, please click on the dots on the map of the United States.



Who else is implementing Eco-Logical? DOTs, MPOs, other agencies?

**YES!**

Read about their programs and accomplishments.

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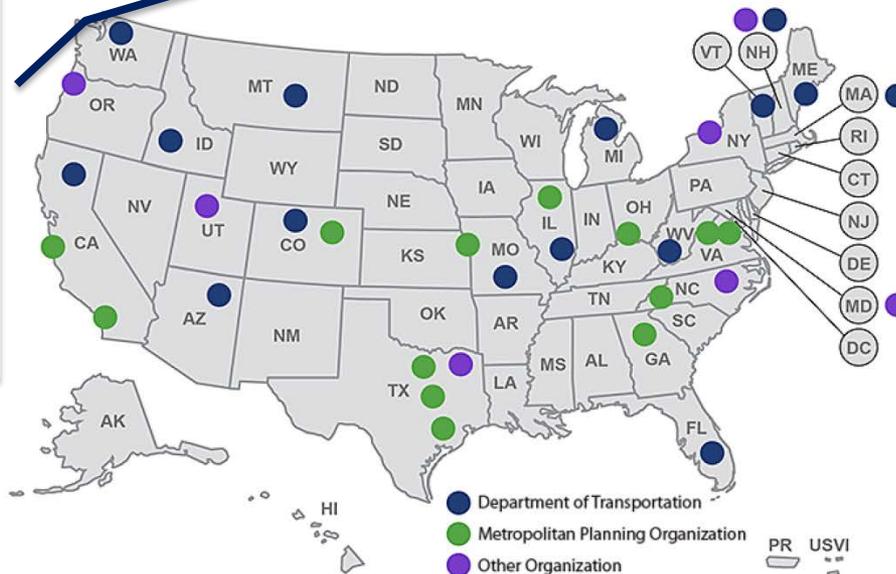


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Do you want to put your agency on the map?

Contact us!  
Share your information with us and...

We will post it!

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FHWA distributed 14 Implementation Assistance Grants to State DOTs and MPOs to advance implementation of the Eco-Logical Approach in their agencies.

Lead Adopter Incentives

Lead Adopter Incentives support practitioners that have completed early steps of the Eco-Logical Approach and have developed or used REFs.

- [Atlanta Regional Commission \(ARC\)](#)  
ARC is developing protocols and models to link economic factors with green infrastructure to encourage development in the Atlanta region.
- [Charlottesville-Albemarle MPO](#)  
The MPO is testing the application of an existing REF in transportation projects and conservation projects in the Charlottesville-Albemarle MPO region.
- [Idaho Transportation Department \(ITD\)](#)  
ITD is partnering with the Idaho Department of Fish and Game to improve data delivery and develop a data portal that enables staff and customers to view ITD data sources. ITD's proposal includes refining data sharing protocols and establishment of data sharing protocols. This will result in saving time and money and protecting the ecology along the corridors.
- [MaineDOT](#)  
MaineDOT is applying its REF to Categorical Exclusion projects, including gap analysis, process streamlining, and programmatic agreements.
- [Michigan DOT \(MDOT\)](#)  
MDOT is implementing the IEF steps in the I-75 corridor in the southeast Michigan/Lake Erie region.
- [North Central Texas Council of Governments \(NCTCOG\)](#)  
NCTCOG is updating its REF and identifying sub-watershed focus areas for mitigation, then applying the REF to a Pilot Corridor Feasibility Study and implementing mitigation as part of a regional shared mitigation program.
- [Pikes Peak Area Council of Governments \(PPACOG\)](#)  
PPACOG is establishing an Integrated Regional Mitigation Plan to improve mitigation projects in the Pikes Peak area and applying it to project evaluation in the LRTP.

Meet the current award recipients and read about their programs.

**Lead Adopters and User Incentives are the agencies that received funding from FHWA to support their Eco-Logical program goals!**

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Eco-Logical Approach



Agencies Implementing the Eco-Logical Approach



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Eco-Logical Grant Program Projects

Agency	Project Title
Capital Area Council of Governments (CAPCOG)	<a href="#">Central Texas Greenprint for Growth – A Tool for Balancing Sustainable Conservation Goals with the Infrastructure Needs of our Rapidly Urbanizing Region</a>
Chicago Department of Transportation (CDOT)	<a href="#">Sustainable Infrastructure Standards for Urban Ecology</a>
Colorado Department of Transportation (CDOT)	<a href="#">Developing a Regional Ecosystem Framework for the I-70 Corridor, Colorado: An Eco-Logical Approach</a>
Envision Utah	<a href="#">Blueprint Jordan River: A Lake-to-Lake Approach</a>
Houston-Galveston Area Council (H-GAC)	<a href="#">Developing a Regional Decision Support System for the Houston-Galveston Area</a>
Land-of-Sky Regional Council (LOSRC)	<a href="#">Linking Lands and Communities in the Land-of-Sky Region</a>
Mid-America Regional Council (MARC)	<a href="#">An Eco-Logical Approach to Transportation Planning</a>
New Hampshire Audubon (NHA)	<a href="#">Creating Tools to Support Integrated Transportation and Resource Planning in New Hampshire</a>
North Carolina Department of Environment and Natural Resources (NCDENR)	<a href="#">Integration of North Carolina's Conservation and Transportation Planning</a>
North Central Texas Council of Governments (NCTCOG)	<a href="#">North Central Texas Regional Ecological Framework</a>
Oregon State University (OSU)	<a href="#">Using the Eco-Logical Approach to Develop and Implement Conservation and Mitigation Priorities for Oregon</a>
Thomas Jefferson Planning District Commission (TJPDC)	<a href="#">Integrating Green Infrastructure and Transportation Planning</a>

Read about the early Eco-Logical pilot projects that started in 2007.

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Technical assistance activities have and will be offered to agencies implementing Eco-Logical. Please see the list below to review the activities that have and will be conducted.

#### Peer Exchanges

[Eco-Logical Grant Recipient Peer Exchange for Implementation of the Eco-Logical Approach](#)

[GIS Applications in Eco-Logical Grant Projects – Peer Exchange Summary Report](#)

#### Other Meetings

Workshops - [Coming Soon!](#) ★

[Webinar Series](#)

Our Technical Assistance program is underway!

You can participate by reviewing our past peer exchanges...



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Workshops - [Coming Soon!](#) ★

[Webinar Series](#)

Or review a prior webinar....or participate in an upcoming workshop!

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**Implementing Eco-Logical On-Call Technical Assistance Team**

The Federal Highway Administration (FHWA) has created an On-Call Technical Assistance Team to provide guidance and support to State DOT, MPOs, resource and regulatory agencies as they implement support of the SHRP2 Solutions Implementation Plan for Implementing Eco-Logical (C06B).

The Team can assist with organizational, technological, regulatory, or scientific issues. Technical assistance, including the Eco-Logical approach, could include such things as:

- Gaining general Eco-Logical implementation information
- Building collaboration and coordination within an agency
- Establishing connections and dialogue among agencies, including FHWA Division Offices, MPOs (MPOs), State Department of Transportations (State DOTs), and Federal and State resources
- Building geospatial data based regional ecological and infrastructure development frameworks
- Developing crediting strategies
- Prioritizing ecological actions and conservation objectives

The Team is comprised of a set of experts from:

- Federal Highway Administration,
- Environmental Protection Agency (EPA),
- U.S. Army Corps of Engineers (USACE),
- U.S. Fish and Wildlife Service (USFWS),
- U.S. DOT Volpe Center, and
- Eco-Logical Champions.

New!

Submit an on-line request for technical assistance to FHWA.

Subject Matter Experts are available to help you attain your Eco-Logical goals!

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### Eco-Logical at 2015 Meetings

- [Transportation Research Board Meeting \(booth\), January 11-12, 2015](#)
- [AASHTO's Conference on 21<sup>st</sup> Century Mobility for Freight and Passenger Transportation, August 17-19, 2015](#)
- [International Conference on Ecology & Transportation, September 20-24, 2015](#)

### 2014 Standing Committee on the Environment Meeting

#### Presentations

- Arizona Department of Transportation**  
[Eco-Logical and Integration of Geospatial Tools and Data](#)  
- Todd Williams, Environmental Services Director
- Michigan Department of Transportation**  
[I-75 Corridor Conservation Plan](#)  
- Margaret Barondess, Environmental Services Section, Bureau of Development
- Maine Department of Transportation**  
[Implementing Eco-Logical in a World of Schedules and Salmon](#)  
- Judy Gates, Director, Environmental Office
- North Central Texas Council of Governments**  
[Implementing Eco-Logical in North Central Texas \(SHRP2 C06\)](#)  
- Kendall Wendling, Transportation Planner
- Federal Highway Administration**  
[Eco-Plan and Eco-Plan Advanced – Two National Level Planning Tools for Pre-NEPA Planning](#)  
- Brian Yanchik, Lead Ecologist, Federal Highway Administration Resource Center  
- Shari Schafflein, Director, Office of Human Environment, Federal Highway Administration

### 2013 AASHTO Annual Meeting

We are at the meetings and conferences you attend!

Review our past presentations.

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Below is a list of the Eco-Logical resources available by topic.

#### Implementation Tools

Website Tool Webinar - **Coming Soon!** ★

Practitioner's Handbook - **Coming Soon!** ★

[AASHTO Annual Meeting Brochure](#)

[Eco-Logical Fact Sheet](#)

[Webinars](#)

#### Technical References

[Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects](#)

[Annual Reports - Eco-Logical Successes](#)

#### Transportation Research Board Reports

[An Ecological Approach to Integrating Conservation and Highway Planning, Volume 1](#)

[An Ecological Approach to Integrating Conservation and Highway Planning, Volume 2](#)

[Practitioner's Guide to the Integrated Ecological Framework, Volume 3](#)

[Manager's Guide to the Integrated Ecological Framework, Volume 4](#)

[Integrated Eco-Logical Framework Outreach Project](#)

[Expedited Planning and Environmental Review of Highway Projects](#)

We have a lot of information to share to help you with your Eco-Logical program.

- ✓ Tools
- ✓ Research
- ✓ Agency Examples
- ✓ Webinars

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**Coming Soon!**

AASHTO is preparing a Practitioner's Handbook on Eco-Logical!

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Contact us to learn more about Eco-Logical.

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### For questions or feedback about Eco-Logical, please contact:

David Williams  
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 10 S. Howard St., Suite 4000  
 Baltimore, MD 21226  
 Phone: (410) 962-2482  
 Email: [David.Williams@dot.gov](mailto:David.Williams@dot.gov)

Mike Ruth, Ecologist  
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 Office of Project Development and Environmental Review  
 1200 New Jersey Ave, SE  
 Washington, DC 20590  
 Phone: (202) 366-9509  
 Email: [Mike.Ruth@dot.gov](mailto:Mike.Ruth@dot.gov)

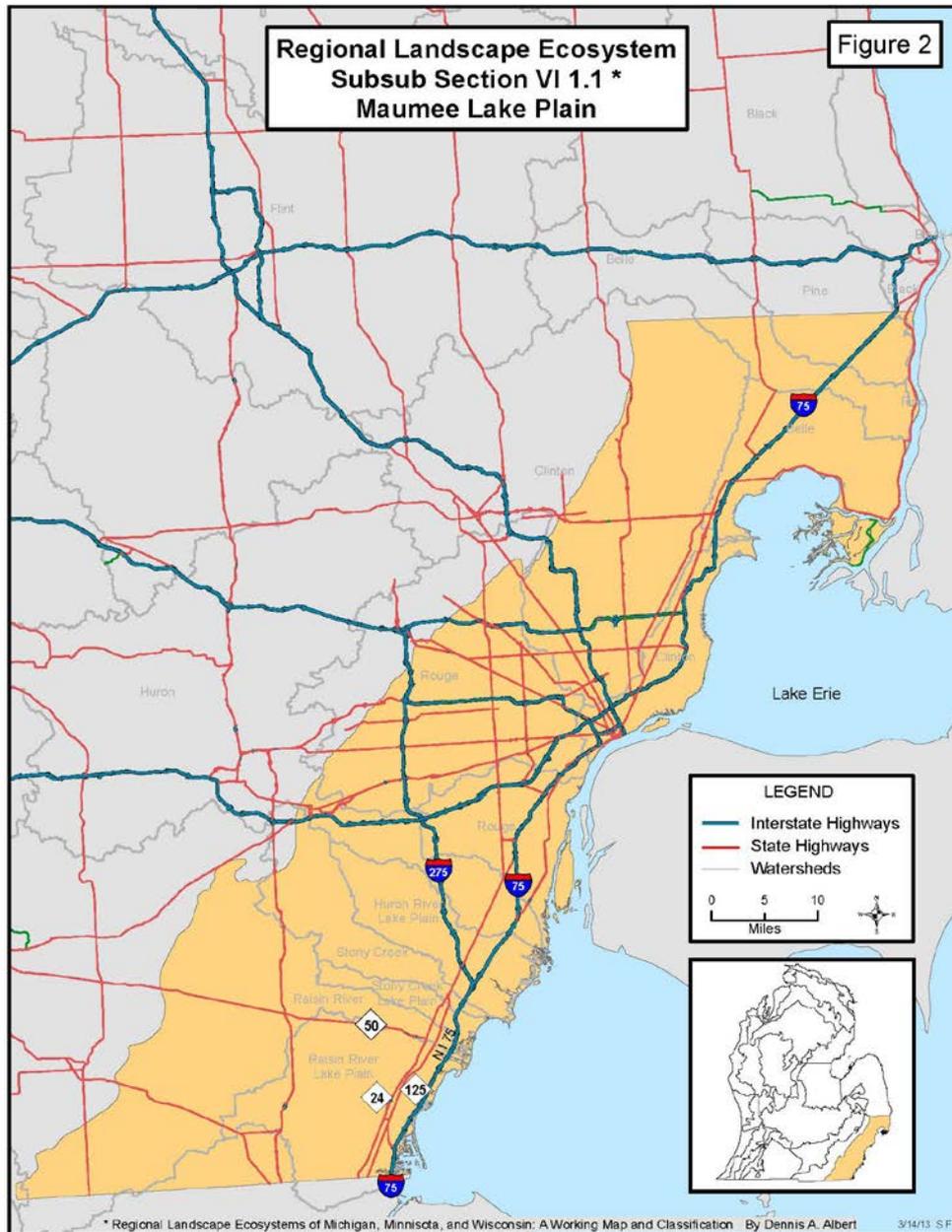
Request technical assistance!

Need to request technical assistance for your Eco-Logical program? Please [submit](#) a request.

If you have information to be posted on this website, please [email](#) your request.

If you have general questions or problems with this website, please send [feedback](#) to the web administrator.

Do you have information to share with others? Please submit it to us!



# 7 Conservation Priorities

Aerial Migrants



Coastal Tributaries



Migratory Fish



Coastal Marsh



Inland Wetlands



Amphibians  
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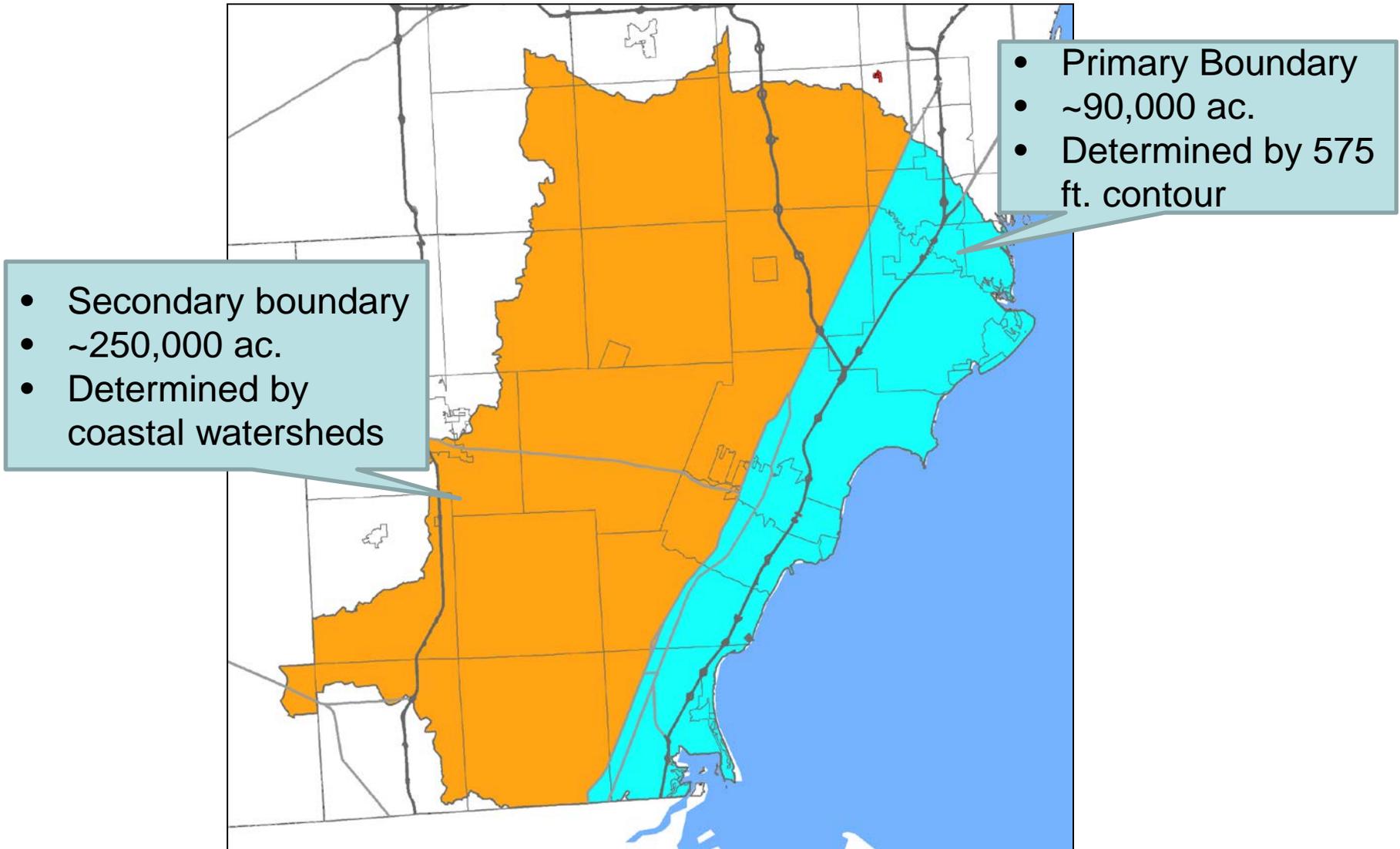
Rare Plant  
Communities



# Technical Advisory Committee

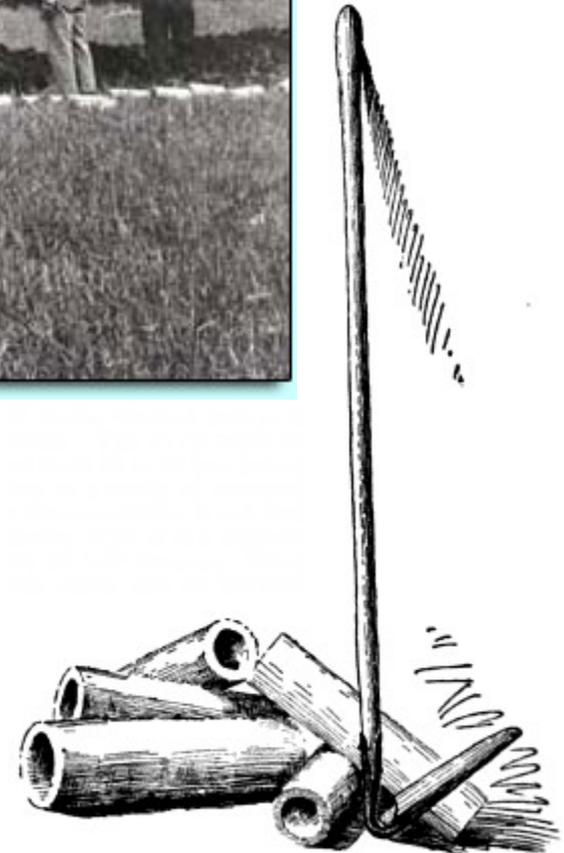


# Project Boundary





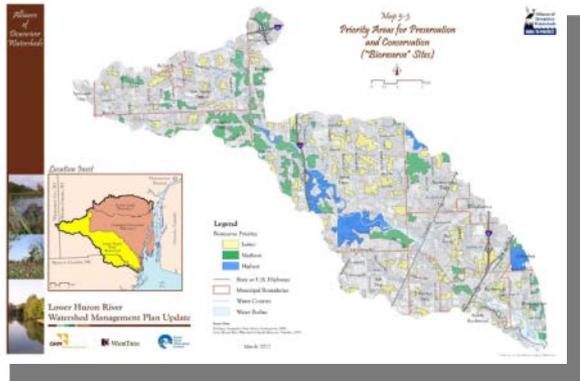
# Farm Field Tiling



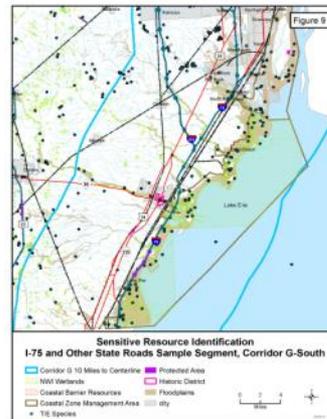
1349. Common cylindrical drain-tile; and a scoop for preparing the bed for the tile.

# Resources to Inform IEF

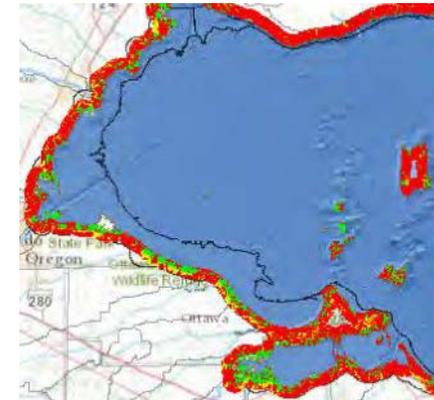
- Existing Cons. Plans



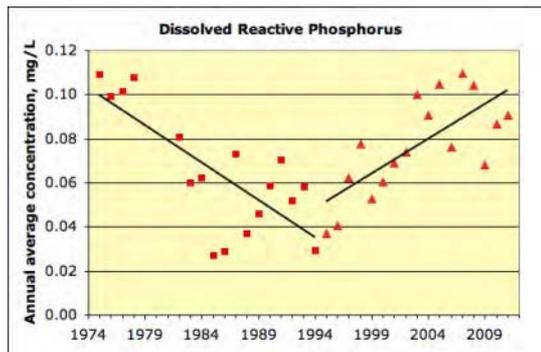
## Data Layers



## Models



## Research



## Experts

