Evaluating Montana's ITEEM: Successes and Lessons for

Eco-Logical

ITEEM

EXECUTIVE SUMMARY

CONTENTS

U p until the late 1990s, the Montana Department of Transportation (MDT) performed environmental mitigation for transportation projects on an individual-project basis. Similar experiences at State Departments of Transportation (DOTs) nationwide have shown that this project-by-project approach to avoidance, minimization, and mitigation does not always provide the greatest environmental benefit and may do very little to promote ecosystem sustainability.

In 2002, MDT partnered with resource and regulatory agencies to develop the Integrated Transportation and Ecological Enhancements for Montana (ITEEM) program with the aim of establishing a better approach to mitigation that addresses ecosystem sustainability. ITEEM was intended to create a multidisciplinary approach for delivering transportation projects while addressing mitigation on an ecosystem scale and to take advantage of vanishing conservation opportunities.

Concurrent with the ITEEM effort, in 2006, the Federal Highway Administration (FHWA) and eight other Federal agencies signed and published *Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects (Eco-Logical).* The document endorses ecosystem-based mitigation and

sets forth a conceptual framework for achieving it through integrated planning. FHWA is now testing the *Eco-Logical* approach across the country as part of a grant program directed at agencies and organizations working to implement the approach.

FHWA studied the ITEEM pilot to document an application of the *Eco-Logical* approach that could be replicated nationwide. A research team from FHWA's Office of Project Development and Environmental Review and the Volpe National Transportation Systems Center (Volpe Center) traveled to Montana in June 2010 to participate in the final Highway 83 ITEEM pilot meeting, which focused on how interagency coordination might be further improved and on ways to continue the shift toward an ecosystem-based approach to infrastructure development and mitigation. The productive discussions led to the following suggestions:

- Encourage management within each agency to commit staff time and resources.
- Establish a joint vision for the appropriate events or benchmarks that would trigger an ITEEM-like collaborative streamlining process.

- Clarify expectations and roles of agencies and individuals at the start of each new project.
- Develop internal mechanisms within each agency to familiarize new and existing staff with the purpose of past activities and to maintain consistent agency involvement and support.
- Use targeted data-collection/integration activities to identify objectives, opportunities, and larger goals for the project corridor.
- Establish a mechanism for infrastructure agencies to receive credit for early mitigation, which is critical to sustaining a collaborative program.

This report documents the ITEEM process, the successes and lessons learned from ITEEM, next steps, and how ITEEM relates to FHWA's *Eco-Logical* program. ■

Introduction

In 2006, after several years of collaboration, the Federal Highway Administration (FHWA) and eight agency partners signed and published *Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects (Eco-Logical),* which endorsed an "*Eco-Logical* approach." The approach offered an alternative to the conventional practice of mitigating project impacts by replacing similar resources close to the impact site. The signatory agencies asserted that such on-site, project-by-project mitigation satisfied regulatory requirements but may not have led to the best environmental outcomes for the ecosystem. Instead, they contended, sustaining or restoring ecological systems and their functions and values on an ecosystem scale is possible when developing infrastructure projects if Federal, State, Tribal, and local partners use flexibility in regulatory processes.

To help agencies achieve this flexibility, *Eco-Logical* set forth a framework for integrating plans and data across disciplinary boundaries and identifying a region's ecological priorities through agency collaboration. The framework comprised eight key steps:

1. Build and Strengthen Collaborative Partnerships
2. Identify Management Plans
3. Integrate Plans
4. Assess Effects
5. Establish and Prioritize Opportunities
6. Document Agreements
7. Design Projects Consistent with Regional Ecosystem Framework
8. Balance Predictability and Adaptive Management

This report describes lessons learned from the Integrated Transportation and Ecological Enhancements for Montana (ITEEM) program and aligns these lessons with activities and outcomes from the FHWA *Eco-Logical* program. The assessment is intended to provide infrastructure and regulatory agencies with ideas on how to utilize the successes of ITEEM and *Eco-Logical* in order to identify and address the greatest conservation needs while moving forward with needed infrastructure construction and improvements.

ITEEM Program

The innovative ITEEM program implemented the *Eco-Logical* framework in Montana. The Montana Department of Transportation (MDT) and other State and Federal agencies created ITEEM to ensure that transportation projects could be developed in a timely manner while addressing ecosystem priorities.

MDT and other stakeholders initiated ITEEM to address that need for a new process and to respond to Executive Order 13274, Environmental Stewardship and Transportation Infrastructure Project Reviews (issued in September 2002), which called for environmental stewardship and streamlining of high-priority transportation projects across the United States. To begin to shape and implement the

ITEEM process, executives from several of Montana's transportation, resource, and regulatory agencies formed the ITEEM Interagency Review Team (IRT).[1] The IRT aims to foster collaboration among member agencies to enable them to make more environmentally sensitive transportation decisions. The resulting process provided a step-by-step approach to coordinate agency planning within a defined geographic area or corridor in advance of project development.

The IRT selected Highway 83, a resource-rich corridor to the northeast of Missoula, to test ITEEM and the new *Eco-Logical* approach. The Highway 83 ITEEM pilot, which concluded in June 2010, is an excellent example of a group of agencies trying to implement *Eco-Logical's* principles. The pilot led to these conclusions:

- Coarse-level planning considerations for Highway 83 showed the potential for ITEEM to facilitate future project scoping, design, permitting, and agency review.
- Partnerships identified through the pilot complemented ongoing conservation and restoration efforts in the study area.
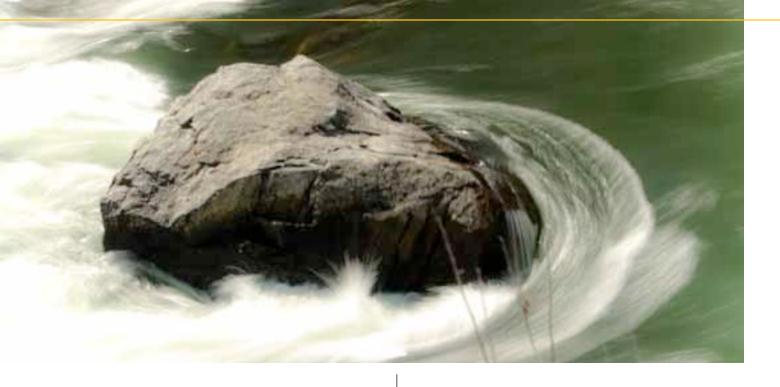- Data compilation and maps provided valuable planning tools for local agencies.

- Agencies found value in improved relationships, enhanced understanding of each other's missions, and identification of common goals.
- ITEEM was prevented from producing a written agreement prioritizing a list of ecological restoration opportunities for three reasons:
  - The projected timespan between the ITEEM pilot and anticipated highway design due to changes in available funding.
  - Enactment of the Montana Legacy Project (PBS&J, 2010).
  - The newness of the process and participating agencies' lack of familiarity with the process.
- To enhance the participation of agencies in future applications of ITEEM, initiators should address the commitment expectations and human-resource capacities of all participants prior to initiating the process (PBS&J, 2010).

On the basis of the initial findings, FHWA believes that the ITEEM pilot provides lessons about the

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1 The IRT comprises FHWA; Montana's Departments of Environmental Quality, Natural Resources and Conservation, Transportation, and Fish, Wildlife, and Parks; and the U.S. Army Corps of Engineers, Environmental Protection Agency, Forest Service, and Fish and Wildlife Service.

institutionalization of an ecosystem-based approach to infrastructure development and mitigation. The research team traveled to Montana in June 2010 to participate in the final Highway 83 ITEEM pilot meeting and discuss the pilot process and outcomes with ITEEM participants. (The complete methodology is provided in Appendix I.) The successes of and lessons learned from ITEEM, along with a focus on connections to *Eco-Logical* principles and other *Eco-Logical* pilots, enables nationwide application of the *Eco-Logical* approach.
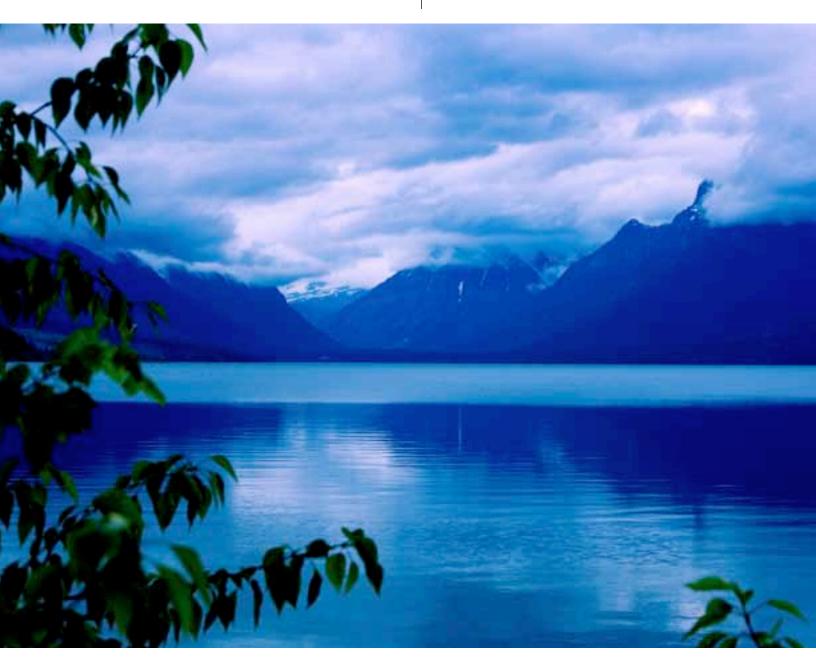
Before ITEEM

Prior to the creation and pilot of the ITEEM process, mitigation for transportation projects in Montana occurred on a project-by-project basis, following State and Federal regulations. These environmental permitting and mitigation efforts tended to be small, disjointed, and unable to address vanishing opportunities to preserve large, unspoiled ecosystems. A concern identified by MDT was that environmental permits are normally issued near the end of the project-design process, resulting in mitigation that is often out of sync with the project and the surrounding ecosystem. MDT also noted that, when regulatory requirements are identified at the end of the project-design process, it is difficult to incorporate mitigation into set

project-delivery schedules. In contrast, resource and regulatory agencies tended to blame MDT for perpetuating mitigation that did not maximize ecosystem-based conservation opportunities.

In addition, with interagency relationships limited to project-based consultation, transportation and resource agencies did not have any formalized means to meet and communicate regularly. The lack of communication and coordination bred misconceptions about agency goals and missions and misunderstandings about the complex factors that determined the missions.

FHWA and MDT management, along with several resource-agency staff, wanted to improve mitigation and environmental permitting and recognized the need for interagency collaboration in developing a better process. MDT also sought a predictable way to permit and authorize projects, such as a system that would give the agency credit for advance mitigation. MDT observed that development of an advanced mitigation system presented two key challenges. First, agencies had to agree on correlations between certain environmental impacts of transportation actions and the appropriate type of mitigation. Second, agencies needed to quantify the

amount of credit that a transportation agency would receive for performing advance mitigation. Overcoming these challenges required dialogue and cooperation among transportation, resource, and regulatory agencies.

The vanishing ecological opportunities, the struggle to improve the mitigation process, and the desire to overcome strained relationships set the stage for ITEEM. Montana's process was developed concurrently with the *Eco-Logical* approach, in large part due to the fact that several players within State and Federal agencies participated in both efforts. The closer collaboration among agencies that was facilitated by ITEEM initiators could lead to improved project delivery and better environmental outcomes. ■

Successes and Lessons Learned:
Sucesses

The successes of and lessons learned from ITEEM are of great value to future applications of the *Eco-Logical* approach.

1

ITEEM improved the predictability of project permitting, enhanced coordination among agencies, and streamlined environmental review by including mitigation, conservation, and interagency considerations in the scoping and planning processes.

ITEEM Process

During meetings of the Interagency Review Team Working Group (IRTWG) to develop the ITEEM process, agency staff established a protocol for how ITEEM could improve the predictability of permitting and thus lead to a streamlined environmental process. Staff determined that coordinating upfront on mitigation projects and agreeing on the type of highway project that the mitigation would offset allowed them to perform mitigation in advance.

The U.S. Forest Service (USFS) represents one example of how this principle of improved predictability was applied to the Highway 83 corridor. USFS proposed several culvert improvements and replacements that it believed would significantly improve fish passage and would be necessary for virtually any project along Highway 83. The other agencies at the table, notably the U.S. Army Corps of Engineers (USACE) and MDT, agreed with the USFS assessment. As a result, USFS planned to work with the Seeley Lake Community Council (SLCC) to implement these improvements for future work.

ITEEM Outcome

While ITEEM participants did not have measurable results for the use of advanced mitigation, they predicted that, through ITEEM, early-mitigation decisionmaking would become an integral part of the scoping and planning processes. Participants believed that regulatory agencies should provide input on the highest-priority mitigation and conservation opportunities and should begin small mitigation projects early in the process. Early coordination would allow MDT to minimize the likelihood of unexpected permitting hurdles during project development.

As one MDT participant noted, *"The advance coordination in ITEEM has the potential to streamline the environmental review and permitting process for our projects, thereby increasing predictability."* A USACE

North Central Texas Council of Governments (NCTCOG), a recipient of an FHWA *Eco-Logical* grant, produced a Regional Ecosystem Framework (REF) that incorporated an ecosystem and a watershed approach to integrating conservation with infrastructure planning and development. NCTCOG reached out to local government and resource-agency partners for input on the REF. NCTCOG planners now have clearer expectations of each partner agency's interests and can better collaborate to improve predictability in future projects.

http://www.nctcog.org/TRACES/Reg_Ecosystem_Framework.asp

participant said, *"We previously scoped, budgeted, and permitted, with mitigation often being an afterthought. Now, mitigation is part of the scoping and planning processes. It's an environmental cost but not evil. It's just a cost of doing business."* ITEEM participants believe that the relationships and coordination established through the ITEEM process will improve predictability as projects along Highway 83 begin to enter the scoping and permitting stages.

Eco-Logical Principle: "Balance Predictability and Adaptive Management"

Eco-Logical defines predictability as the knowledge that all commitments made by agencies will be honored. ITEEM allowed each agency involved in infrastructure decision-making to have the opportunity to contribute expertise from its disciplinary area, early and often.

2

ITEEM improved communication among agencies by clarifying misconceptions and assumptions.

ITEEM Process

Directors and managers from State and Federal agencies in Montana signed a Memorandum of Agreement (MOA) establishing ITEEM. The MOA represented a promise of better collaboration on resource and transportation planning and a commitment by all of the signatory agencies to pursue ecosystem-scale planning and mitigation. Despite the MOA, some signatory agencies were uncertain about their role in ITEEM, but all agreed that the MOA was an important first step toward improving environmental outcomes in Montana.

ITEEM meetings at the IRTWG level helped to change misconceptions about each agency's priorities and activities. IRTWG staff began to recognize each other as individuals who could engage in discussions and make joint

decisions. For example, one MDT representative believed that, because resource agencies could not provide hard data on where wildlife crossed highways, those agencies were exaggerating crossings on the Highway 83 corridor. Once the crossing data were available, the MDT representative was able to see the extent to which wildlife crossings occur and to understand their importance to terrestrial mitigation along this corridor.

ITEEM Outcome

ITEEM yielded new and important positive relationships among agencies that had previously interacted negatively. At the regular ITEEM meetings, participants communicated both formally and informally. Since ITEEM's inception, participants have contacted each other to discuss environmental issues and mitigation opportunities for ITEEM and non-ITEEM projects. These personal relationships have helped to erase historical biases or misconceptions that some agency staff held about other agencies.

Over the course of the ITEEM pilot, staff in participating agencies began to more fully appreciate each other's missions and core responsibilities. According to one FHWA participant, *"ITEEM helped build more trust and credibility; it erased misconceptions."* Another participant noted, *"Relationships are built between people, not between agencies. ITEEM opened our eyes as to what was possible and took away assumptions about agencies."* Some participants anticipated that the relationships gained through ITEEM would make future interagency collaboration more effective and efficient.

Eco-Logical Principle: "Build and Strengthen Collaborative Partnerships"

Eco-Logical asserts that collaborative partnerships among diverse groups can help groups to identify overlapping interests and concerns, which can in turn help to form the basis for an integrated planning process. For participating agencies, the partnerships and agreements developed through ITEEM had both immediate and long-term effects. Balanced, non-polarized commitment from all parties ensured that misconceptions about other agencies that may have existed in the past will not be hindrances in the future.

An MDT highway project had identified significant impacts to habitat near Kalispell in northwest Montana that required MDT to perform costly mitigation. A strong working relationship with Montana Fish, Wildlife, and Parks (MFWP) developed through ITEEM, resulting in an opportunity for MDT to make a contribution to an existing MFWP project as mitigation. This mitigation fulfilled a regional-priority project for MFWP and allowed MDT to meet its mitigation obligations with less funding than originally expected.

3

Agencies gained a better understanding of each other's constraints, needs, and missions by working together to create and implement ITEEM.

ITEEM Process

Each ITEEM agency has its own missions and constraints, based on a variety of factors, such as regulations, management direction, and available resources. While agencies could use regulatory flexibility in applying ITEEM, there was usually a bottom line that could not be compromised. Agencies' knowledge of each other's bottom line is crucial to the success of ITEEM.

To overcome this challenge, MDT engaged a facilitator, who led a discussion, at an early IRTWG meeting, on the missions and constraints of each participating agency. For example, USACE has very specific mitigation requirements, which its staff often felt forced to reiterate. This effort enabled other agencies to understand these constraints more fully and to incorporate them into the ITEEM approach on the Highway 83 pilot.

> *One participant called the experience "an epiphany to those involved."*

Another example of improved understanding is how USFS used geographic information system (GIS) maps to illustrate several stream reaches on its lands. While analyzing a map of fish blockages, participants identified an opportunity to open an entire drainage basin by clearing just one blockage. Participants saw that understanding one agency's mission and how it can be realized on the ground could lead to

mutual benefits for all ITEEM agencies. One participant called the experience *"an epiphany to those involved."*

ITEEM Outcome

Through ongoing interaction and collaboration, ITEEM agencies became increasingly aware of each other's missions and constraints and how the ITEEM process would need to dovetail regulatory requirements. According to one participant, *"We got agencies with fundamentally different missions to do a good job of sharing concerns and issues and also of sharing basic resource and planning information."* With a foundation of mutual understanding and respect, ITEEM participants were able to establish a framework to explore conservation and mitigation opportunities.

Eco-Logical Principle: "Build and Strengthen Collaborative Partnerships"

Through consistent effort and meetings, ITEEM agencies were able find the intersections of their missions while ensuring that no one felt others were infringing on their boundaries.

Capital Area Council of Governments (CAPCOG) received an FHWA *Eco-Logical* grant to expand the Travis County Greenprint for Growth to three additional counties in the Central Texas region. CAPCOG and its partner, Envision Central Texas, engaged a variety of stakeholders, including the Trust for Public Land, throughout the process. Grant recipients recognized that the Greenprint could have broader applications for agencies with diverse missions, including transportation-project evaluation and the provision of developer incentives for new growth. Working closely with stakeholders from local governments and conservation agencies, CAPCOG created a tool that could meet the needs and address the constraints of partners throughout the region. Used appropriately, this tool will have wider applicability and influence than would one created for transportation planning alone.

http://data.capcog.org/Information_Clearinghouse/map/GreenprintforGrowth/gmviewer.html

4

The ITEEM site visit helped all participating agencies to identify and understand concrete, ecosystem-scale opportunities for mitigation.

ITEEM Process

A key goal of the ITEEM pilot was to bring all participating agencies to the same level of understanding about environmental and transportation issues in the Highway 83 corridor. Implementation of the ITEEM process began with a workshop to identify, field-check, and prioritize environmental opportunities.

In late October 2009, ITEEM member agencies held a three-day workshop at the Seeley Lake Community Center, which included a full-day site visit along the Highway 83 corridor. Pre-workshop conversations were conducted with stakeholders who had not previously been involved in ITEEM. A skilled facilitator was present at the workshop. Prior to the meeting, MDT gathered and aggregated data from all stakeholders for the corridor so that the information would be available.

Participants considered the site visit to be the most valuable component of the workshop as it gave them the opportunity to develop camaraderie and to discuss issues about the corridor-related ecosystem while seeing important ecological priorities firsthand. *"The field visit forced everyone to look at the corridor and talk about opportunities while staring at them. [That] opened so many eyes,"* one ITEEM participant observed.

Interestingly, prior to the workshop, some ITEEM participants thought that a wildlife-crossing structure should be a major component of mitigation for the Highway 83 corridor. Once participants were at the potential crossing site on the highway, they realized a wildlife-crossing structure would not be a practical solution since wildlife cross throughout the corridor rather than at key points. The group then discussed methods for encouraging crossings at certain areas that would make sense on the corridor, such as vegetation-clearing and intelligent transportation system (ITS) applications.

Another major topic of discussion during the site visit was fish passage and culverts. Participants who had visited each of the existing and potential fish passages came to a consensus on conditions at individual stream crossings and discussed the most needed improvements. The agencies most closely involved in stream mitigation then created a plan to address these crossings as development occurs.

ITEEM Outcome

The workshop helped all members of the ITEEM Pilot Oversight Group to identify the most pressing issues in the Highway 83 project area. By traveling the corridor and spending three days together at the workshop, ITEEM participants learned more about each other's perspectives and reached agreement on many issues. *"[During the field visit], we came to the realization that we are all interconnected,"* said one participant. Participants expressed the belief that this shared field experience would simplify the design process once Highway 83 projects reached the design and construction phases.

Eco-Logical Principle: "Establish and Prioritize Opportunities"

Eco-Logical emphasizes the importance of using data and experience, first to establish environmental opportunities in a region and then to prioritize them. Through the ITEEM site visit, participants were able to view mitigation and conservation opportunities, then to use the experience of having seen the opportunities on the ground to understand which were the most important and feasible.

5

Transportation-agency staff gained a greater appreciation of environmental concerns in Western Montana and of the role that mitigation and conservation play in addressing them.
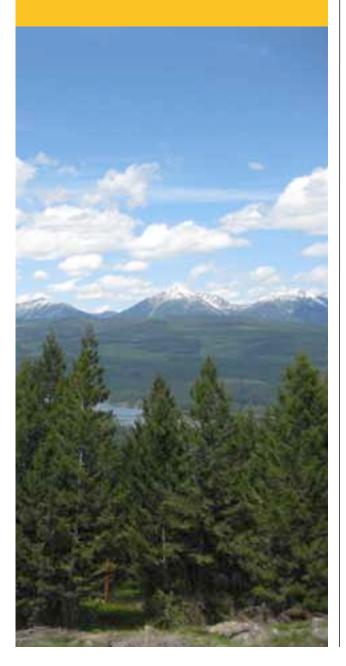
ITEEM Process

Several MDT district engineers and FHWA Montana Division Office staff believed that early identification of off-site mitigation would reduce downstream design changes and lessen the overall project cost because the mitigation could be incorporated in the original project design. With growing emphasis on ecosystem considerations at the State and Federal levels, environmental considerations in transportation became a clear focus of MDT and FHWA.

During the pilot meetings and workshop, MDT staff, who previously did not have an environmental focus, began to fully understand the benefits of identifying off-site mitigation early. Through the ITEEM process, MDT and FHWA worked with their resource- and regulatory-agency partners to establish and prioritize areas of ecological opportunity, using the resource agencies' best available data. This pre-planning allowed MDT to save time in the transportation planning and project delivery processes by avoiding ecologically sensitive areas.

ITEEM Outcome

ITEEM elevated MDT's and FHWA's awareness of the interaction between transportation and the environment. Previously, MDT would define project impacts, then wait for biologists to assess required mitigation. Through ITEEM, resource agencies and biologists worked closely with transportation staff to identify the ecological value of mitigation opportunities as well as the most feasible mitigation strategies. MDT and FHWA were also able to demonstrate their environmental sensitivity to their agency partners. Now, according to one resource-agency staff member, *"MDT's reputation of doing good things for the environment is growing."*

Eco-Logical Principle: "Assess Effects"

Opportunities for ecosystem-scale mitigation available now may no longer exist when a transportation project is implemented. Also, increasing land costs or additional development may prohibit capitalizing on these opportunities at a later date. Due to the often limited availability of good mitigation opportunities, *Eco-Logical* encouraged early assessment of proposed infrastructure projects. Through ITEEM, participating agencies collaborated to gather key data from each agency. Using this information, agencies deduced the likely impacts of potential transportation projects that would significantly affect important wildlife-habitat areas. In the future, agencies will be able to redesign or relocate portions of a project or to move mitigation to the most environmentally advantageous sites.

6

ITEEM participants learned to view infrastructure and mitigation projects in ecosystem contexts, resulting in agencies being more comfortable with taking a longer-term perspective on environmental mitigation.

ITEEM Process

When IRTWG members designed the ITEEM process, they incorporated several core principles of ecosystem-based mitigation. First, they believed that mitigation could be done on a larger scale, off site, and before transportation projects were developed or named. Second, they thought that, through the ITEEM process, mitigation could yield greater environmental benefits. Prior to the ITEEM pilot, neither of these concepts had been adequately tested in Montana.

When ITEEM participants decided to pilot the ITEEM process on the Highway 83 corridor, they sought to define the parameters of the project area. They settled on what would become known as "the football," an area that contained two intact watersheds along the Highway 83 corridor. Terrestrial mitigation performed anywhere in "the football" would be able to offset the environmental impact of a transportation project anywhere else in the planning area. Aquatic mitigation performed in a relevant watershed could take the place of restoration to a comparable or lesser resource in the same watershed.

Agencies participating in ITEEM had different definitions of the term "mitigation." For resource and regulatory agencies, mitigation was an action performed in response to a negative environmental impact. The ITEEM process expanded the definition to include action taking place prior to the negative impact if it yielded a better environmental outcome. Through these open discussions about advance mitigation, agencies shifted their definitions to include two new components: conservation opportunities, which could be taken advantage of as they become available, and early

conservation where appropriate, which could count as mitigation for later impacts to relevant resources.

ITEEM Outcome

For agencies that previously considered mitigation only on a project-by-project basis, ITEEM demonstrated that successful mitigation could be achieved on larger scales. Through ITEEM, participants set out to determine how transportation agencies would receive credit for out-of-kind, advance mitigation. ITEEM did not produce a statewide crediting system, although it significantly increased the potential for application of such a system in the future. As one participant noted, *"If we had sufficient resources, we could hire an outside expert to come up with a quantified metric to bring before the team."* Participating agencies also achieved a paradigm shift to a broader, longer-term view of mitigation. "ITEEM has helped train people to think beyond simply near-term project actions," observed one participant. Ecosystem-based mitigation could be especially beneficial in Montana, which still has large, intact natural ecosystems.

The 2008 release of the new *Joint U.S. Environmental Protection Agency (USEPA)/USACE Final Compensatory Mitigation Rule* and the 2010 release of the *USACE Stream Mitigation Guidelines* formally encouraged ecosystem- and watershed-scale mitigation. The Rule and Guidance placed a preference on mitigation banking and in-lieu fee programs as compared with project-based mitigation. These regulatory developments supported the work done by ITEEM, making it easier to realize the vision of conserving large tracts of important land through mitigation projects. Thus far, the ITEEM process, along with the Final Compensatory Mitigation Rule, has resulted in better designs, fewer permitting conflicts, and new projects that have fewer negative ecological impacts.

Eco-Logical Principle: "Design Projects Consistent with Regional Ecosystem Framework (REF)"

Eco-Logical emphasizes the importance of agencies developing an REF to relate proposed infrastructure actions to the distribution of terrestrial and aquatic habitat, or resource "hotspots." The REF can help agencies and partners to understand the types and distribution of proposed infrastructure projects so that potential impacts can be listed in advance of project implementation. ITEEM did not specifically develop an REF, but it did begin to establish a framework for how to capitalize on mitigation opportunities in Western Montana. The early framework was poised to help MDT and FHWA design transportation projects in ways that will conserve important natural resources. ◼

Envision Utah developed the Blueprint Jordan River report (the Blueprint) through an FHWA *Eco-Logical* grant. The project team embarked on a broad public-visioning process that called on key local and agency officials as leaders in the Blueprint. The Blueprint resulted in an active Jordan River Commission that will implement report recommendations. As the Commission addresses projects that cross the Jordan River, its members will work with State and Federal agencies to ensure long-term preservation of the river ecosystem. Already, the Blueprint has led to implementation of mitigation projects along the river corridor, and transportation agencies plan to initiate more such projects in the near future.

http://www.blueprintjordanriver.slco.org/index.html

Successes and Lessons Learned:
Lessons Learned

1

Establish a joint vision for appropriate events or benchmarks that would trigger the use of ITEEM or a similar, collaborative streamlining process.

ITEEM Process

During development of the ITEEM process, participants envisioned its initial application as addressing mitigation needs on a corridor other than Highway 83. However, because projects along the other corridor were already undergoing the National Environmental Policy Act (NEPA) process, the IRTWG determined that it was too late to initiate the ITEEM process.

The IRTWG then selected Highway 83 as the official ITEEM pilot. MDT had identified the need for reconstruc-tion projects on the corridor but had not determined specific projects and designs. The IRTWG hoped that this timing would allow ITEEM to:

- Conduct early coordination and discuss, resolve, and document natural resource and planning considera-tions relative to future potential MDT reconstruction projects along approximately 15 miles of Highway 83 between the community of Seeley Lake and the Clear-water River divide to the north.
- Identify, discuss, and prioritize terrestrial and aquatic natural-resource-restoration partnership opportuni-ties (for which MDT would receive credit for financial participation) in defined portions of the Seeley/Swan/Blackfoot watersheds (PBS&J, 2010).

Unfortunately, between the time that IRTWG selected Highway 83 and the final pilot meeting, project nomina-tion was significantly delayed due to the economic recession and changing regional priorities. This delay further called

into question the appropriate timing of ITEEM and how to balance the priorities of early coordination with holding the interest and commitment of ITEEM participants.

> **While the authors of *Eco-Logical* set out to define it as a process, over time it has come to represent an ethic and a way of doing business.** The *Eco-Logical* signatory agencies have adopted the philosophy that, in order to ensure the widespread use of *Eco-Logical,* they must promote it from the head-quarters level down to regional, State, and local levels. If this is achieved, *Eco-Logical* will not have a start or finish within a region but will be woven into day-to-day business practices.

ITEEM Outcome

One challenge in determining the appropriate time to initiate ITEEM was that the process does not fall into the traditional infrastructure-development timeline. Several ITEEM participants suggested benchmarks or trigger points for starting ITEEM, including:

- **Three to five years ahead of NEPA:** Starting as far ahead as possible would allow agencies to preserve large, intact ecosystems and other natural resources well ahead of project selection.
- **Just prior to project nomination:** Some ITEEM members suggested that agencies may be reluctant to commit to working in a region with no named projects. By working in a specific area just before projects are named, agencies could identify areas for conservation while keeping the ITEEM timeframe relatively concise.
- **Project nomination:** ITEEM-agency representatives suggested that starting ITEEM just after specific projects were named but before the design phase would allow for more environmental consideration in the planning process. However, waiting until after projects are named may preclude the use of avoidance as a conservation tactic.
- **In coordination with the Montana corridor-planning process:** MDT has a comprehensive process that

accomplishes corridor plans in six to twelve months, meaning that ITEEM could be completed in less than one year. The flaw in the corridor planning approach is that ITEEM was designed to consider whole ecosystems rather than individual corridors, so the two approaches may not be fully compatible.

While the authors of Eco-Logical set out to define it as a process, over time it has come to represent an ethic and a way of doing business.

At the final pilot meeting, ITEEM participating agencies did not jointly select an appropriate time to start the ITEEM process but maintained that the IRT would continue to meet until it had selected a new project to test ITEEM.

Eco-Logical Principle: "Balance Predictability and Adaptive Management"

Eco-Logical stresses the importance of flexibility in application of the *Eco-Logical* approach. Agencies leading implementations of *Eco-Logical,* such as ITEEM, must be flexible and willing to alter their approach on the basis of their experience over time. Adaptation of the ITEEM process to each pilot will allow agencies to test ITEEM and suit it to each new situation in Montana.

2

Establish a system for compensation or funding for early mitigation. Paying for mitigation from a pooled conservation fund or establishing a mechanism for infrastructure agencies to receive credit for early mitigation is critical to supporting environmental sustainability.

ITEEM Process

Early in the development of the ITEEM process, managers and staff recognized that developing a mechanism for infrastructure agencies to receive credit for performing advance mitigation is crucial to incentivizing such mitigation. Participating agencies struggled with finding the best method to identify the debit associated with each negative impact and the credit associated with each mitigation action. As the facilitator noted, *"Credit does not need to mean a specific number so much as an assurance that MDT's obligation to offset impacts has been met."* Participating agencies were never able to develop a compensation system and decided that piloting the rest of ITEEM was more important than spending time dwelling on a credit/debit system for mitigation. Instead, participants agreed to use "negotiated trade-offs" and discussed developing a land-trust fund, but they were never able to achieve a consensus on how to implement either of these approaches (Hardy et al., 2007).

ITEEM Outcome

Since the establishment of ITEEM, the use of mitigation banking and in-lieu fee programs has increased dramatically across the country, thereby making the practice of receiving advance credit for aquatic mitigation more commonplace and no longer an issue for ITEEM. The field of terrestrial mitigation has advanced somewhat with the recent emphasis by the U.S. Fish and Wildlife Service (USFWS) on conservation banking for habitat mitigation, but it is still in its infancy.

Resource-agency staff believed that, given appropriate time and staff resources, it would still be possible to establish a compensation system for terrestrial impacts. Specifically, staff expressed that, if ITEEM could contract with a group of biologists and economists for a significant amount of time, these experts might be able to work out the compensation mechanism needed to establish a satisfactory advance terrestrial mitigation system. One participant noted, *"We may have to separate aquatic and terrestrial mitigation. I don't know that we could come up with one mitigation that would fit all needs."*

Not all ITEEM participants agreed on the importance of establishing a compensation system for advance mitigation, given the challenges in creating the system. However, MDT and USFWS in particular noted that both agencies would be better able to participate in advance mitigation if an estab-

The goal of the USEPA Region 6 *Eco-Logical* grant project is to develop a Regional Ecological Assessment Protocol (REAP) as an expansion of the Texas Ecological Assessment Protocol (TEAP). The TEAP and REAP are tools that use existing GIS data to classify land on the basis of ecological importance. The REAP will cover Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. A key benefit of the REAP is its ability to establish a value for different wildlife habitats, which may help partner agencies to develop a credit/debit system for advance mitigation.

http://www.epa.gov/region6/index.htm

lished system were in place. Other participants suggested that a compensation system for advance terrestrial mitigation would become more important as future growth in Montana further threatens intact habitat.

Eco-Logical Principle: "Establish and Prioritize Opportunities"

Eco-Logical places an emphasis on establishing mitigation and conservation opportunities and then prioritizing those opportunities. Establishing a compensation system for early mitigation would create a numerical mechanism for calculating the ecological worth of each mitigation or conservation activity. A concrete compensation system would allow ITEEM agencies to more formally prioritize opportunities with use of a rigorous, scientific approach.

3

Encourage management within each agency to commit staff time and resources to the ITEEM effort.

ITEEM Process

All ITEEM participants expressed constraints with regard to time and resources available within their own and other agencies for participation in ITEEM. Although all ITEEM-agency leadership agreed on the same goals and activities for ITEEM, each communicated differently with their staff regarding levels of effort for participation.

The varied levels of staff commitment became a challenge when all agencies served on the same team but were directed to devote different amounts of time and resources. For example, the managers of one staff member directed him to limit his activity in ITEEM unless the agency could see a short-term benefit. Because the benefits of ITEEM are long-term, he significantly limited his engagement with the IRTWG. Without all agencies at the table at key decisionmaking points, the IRTWG had difficulty in making concrete decisions in a timely manner.

USFWS had some of the strongest ongoing participation in ITEEM. The staff member involved in the IRTWG and the Oversight Group held a transfer-funded position dedicated to highways, which ensured that he was available and committed to ITEEM for the duration of process development and the pilot. However, participants recognized that this model would not be feasible for all agencies.

ITEEM Outcome

The IRTWG should establish the minimum participation required by each agency and the key decision points at which participants need to be present since a coordinated commitment of staff time and resources from all participating agencies is critical to success.

The ITEEM pilot also raised questions about agency representation at the IRTWG and Oversight Group tiers. ITEEM leaders should develop a formula for the amount and type of staff required at each tier to ensure that each agency is on equal footing and that staff are able to complete the desired amount of work to achieve future ITEEM iterations.

The assignment of certain staff capabilities to specific ITEEM tasks would help ITEEM to better realize its goals. Technical and regional knowledge should be considered when assigning ITEEM staff responsibilities. It is possible that major ITEEM decisions, such as the creation of a credit/debit system, were never reached because the right staff were not involved for the right amount of time. As one participant recommended, *"If you want a reasonable outcome at the end, commit upfront to expenditure of time, money, and resources. It's not easy, but if you do it right, it is well worth it."*

Eco-Logical Principle: "Document Agreements"

Establishing and honoring agreements between agencies is a major component of *Eco-Logical*. By documenting agreements, agency leadership recognizes its commitment and should ensure that staff honor it as well. Early establishment and clarification of the terms of agreements could help to prevent confusion over future roles and responsibilities. In ITEEM, the participating agencies committed to participation but did not reach consensus on the meaning of that participation.

For the ITEEM Pilot Oversight Group, some agencies selected regional staff who worked directly on the corridor as their representatives. For example, USFS engaged the district ranger who worked along Highway 83 to work in conjunction with staff at the regional office. The blend of regional and technical expertise proved to be effective during the workshop and site visit. This particular staffing mix will likely lead to ongoing participation in implementation of the Highway 83 pilot, as USFS was able to make concrete recommendations that were adopted by the Oversight Group.

4

Clarify expectations and roles of agencies and individuals at the start of each new ITEEM pilot. Ensuring that each agency's staff understands their responsibilities will help to keep projects moving smoothly through the planning and project delivery processes.

ITEEM Process

The ITEEM process established several levels of participation, each serving a different function:

- The IRT comprised executive-level decisionmakers, who directed strategies and discussed high-level issues pertaining to ITEEM.
- The IRTWG provided a more concrete framework for ITEEM and worked to begin applying the ITEEM process to an on-the-ground pilot.
- The Oversight Group and its technical representatives worked directly on the Highway 83 pilot, integrating the ITEEM process with decisions for Highway 83.

Selecting and assigning the correct staff to participate in ITEEM was a challenge throughout the ITEEM process and pilot. Agencies individually determined how to select staff for

participation. Each of the nine ITEEM agencies assigned a director-level staff member to the IRT, but staff assigned to the IRTWG and the Pilot Oversight Group, and technical representatives from the Oversight Group, were from a mixture of levels, some with decisionmaking power and some without it. Some staff served in more than one group, which created further confusion. Some participants lacked a clear understanding as to how roles differed both within their agency and among other agencies participating in ITEEM.

The pilot project also called into question the role of local organizations with a stake in Highway 83. Prior to the pilot, the agencies that developed the ITEEM process had not considered how they would engage local partners. The Highway 83 workshop demonstrated that local organizations had a great deal of field expertise, and these organizations may already have initiated ecological-data-collection efforts. The Oversight Group enlisted local and technical experts on an ad hoc basis but never clarified their full role.

The intent behind these goals is to institute credibility among agencies and establish public trust in the process.

ITEEM Outcome

ITEEM participants agreed that the roles for each agency and staff member involved in ITEEM need to be clarified from the outset. The list below contains aggregated suggestions from ITEEM participating agencies on how to better clarify roles and responsibilities.

1. For each pilot implementation, facilitators and the IRTWG should clarify:
    *   Time commitments.
    *   Funding commitments.
    *   Types of staff to include at various stages

*   Terminology.
*   Schedule, including key or priority points in the pilot, and scope.

2. The IRTWG should present a clear purpose for ITEEM meetings and workshops. In the absence of identified projects in the pilot corridor, the IRTWG must strategically define goals and desired outcomes for interagency meetings and workshops as well as staff types needed to achieve goals.
3. The facilitator should meet individually with agency representatives prior to key project events to define the ITEEM-project purpose and roles.
4. The IRTWG must specify whom to include and when to include them, recognizing that earlier engagement of local nongovernmental organizations (NGOs) may help to avoid duplicative data collection and to leverage additional funding sources.

Eco-Logical Principle: "Build and Strengthen Collaborative Partnerships"

The *Eco-Logical* approach has goals of increasing predictability and transparency in the infrastructure-development and mitigation processes. The intent behind these goals is to improve credibility among agencies and establish public trust in the process. ITEEM sponsors and facilitators need to set clear roles and expectations so that participants can better assess how involved they can and should be in the process, and to better honor their resource commitments throughout the process.

Colorado DOT (CDOT) received an FHWA grant to create an *Eco-Logical* tool that would aid in planning for wildlife crossings along the Interstate 70 corridor. CDOT engaged a multiagency team that met annually for collaboration on the *Eco-Logical* tool and related corridor projects. CDOT maintained a project website, which clearly and simply defined the roles and terms of engagement for partner agencies. The publicly accessible delineation of partnership expectations was extremely helpful in strengthening relationships and ensuring project success.

http://i-70wildlifewatch.org

5

Develop internal mechanisms within each agency to familiarize new and existing staff with ITEEM's mission and activities as well as to maintain consistent agency involvement and support.

ITEEM Process

When participating agencies developed ITEEM, they did not anticipate how the ITEEM process would account for transitions in ITEEM participants, such as staff leaving their positions or changing roles within their agency. Departing staff did not always inform new members of ITEEM about the history of the ITEEM process or its relevance to their agencies. In some cases, this lack of training of new staff occurred at the leadership level, creating a more complex challenge. Participants observed that, when agency leadership did not understand the value of ITEEM, it was more reluctant to provide adequate staff resources to support the effort.

When ITEEM's focus shifted from the original proposed corridor to the Highway 83 pilot, the participating group of staff, agencies, and stakeholders differed from participants who were originally involved in developing the ITEEM process. Without a formal way of familiarizing new staff and organizations with ITEEM's mission and activities, it became difficult to maintain consistency in the process, goals, and objectives. For example, at the pilot workshop, a facilitator had originally planned to include a brief introduction to ITEEM before turning to more in-depth discussion about how ITEEM could be applied to Highway 83. Instead, more time was needed to train participants on the background of ITEEM since many were unfamiliar with its purpose and goals. The need for training significantly slowed ITEEM's progress in the Highway 83 corridor.

ITEEM Outcome

Participating agencies recognized the importance of establishing a mechanism for training new staff and agencies on the ITEEM process. Some IRTWG-level participants

noted that, if ITEEM becomes the long-term way of doing business in Montana, agencies should train all of their staff on ITEEM concepts. Agency leadership could also play an important role in instituting staff and resource commitments. Strong intra-agency communication and prioritization of ITEEM goals will be necessary to translate the ITEEM process into effective mitigation actions.

ITEEM's real strength came from the vigorous involvement of its participating agencies. Without intra-agency training and communication, ITEEM members believed that some of this strength could be lost when staffing changes occurred and that ITEEM would "lack the teeth" to bring about change in Montana.

Eco-Logical Principle: "Balance Predictability and Adaptive Management"

Transferable knowledge is an invaluable attribute that is essential to adaptive management in ITEEM. Adaptive management ensures that plans and commitments can be adapted to future needs, including resource and political

Land-of-Sky Regional Council (LOSRC), an FHWA *Eco-Logical* grant recipient, had two full-time staff devoted to its *Eco-Logical* project of developing a regional green infrastructure network. The project team worked collaboratively with LOSRC and a consultant to capture the expertise of a retiring staff member, shift project responsibilities, educate new staff, and adjust the project timeline to meet all goals.

http://www.landofsky.org/planning/p_linking_lands.html

constraints. ITEEM participants must enable adaptive management through the transfer of process and project knowledge among a variety of their agency staff.

6

Use targeted-data-collection and integration activities to identify objectives, opportunities, and larger goals for the project corridor.

ITEEM Process

Data were compiled from all of the agencies involved with the pilot to establish priorities for the Highway 83 corridor. Many individuals involved in ITEEM believed that this effort should include local partners. However, participating agencies held varying opinions on the level of data most appropriate for ITEEM. Some asserted that an extensive collection of habitat and watershed GIS data layers would be necessary to help shape decisions, while others believed that this intensive data-compilation effort could have been replaced with strategic conversations with regional experts to identify ecological opportunity areas.

The data generally did not play a crucial role in shaping actual outcomes. Initially, many agencies believed the data could be used for identifying mitigation projects that would be implemented following the pilot study. As the pilot progressed, participants realized that projects would not be built for several years, prompting some to question time invested in the compilation of data that would be outdated before implementation could occur. Participants recommended that future efforts be scaled back to what could be done easily with use of available resources and that new data collection occur only if all participants recognized a critical data gap.

The North Carolina Department of Environment and Natural Resources (NCDENR) received an FHWA *Eco-Logical* grant to develop a wildlife-habitat-mapping data tool. NCDENR collected data with several outcomes in mind; the data would support the North Carolina Green Growth Toolbox with more robust wildlife-habitat information and would coordinate with the State wildlife action plans and vegetation-mapping system. The focused goals directed the data-compilation process. The resulting conservation-planning tool is widely used among infrastructure, resource, and local government agencies throughout the State.
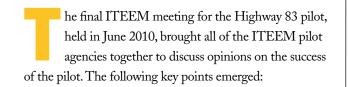http://www.ncwildlife.org/greengrowth/

ITEEM Outcome

Data must be integrated with the goals and objectives of the project corridor. Prior to a call for data, ITEEM participants should clarify goals and objectives for the use of these data. ITEEM participants also should investigate the content, form, and accessibility of existing data. As one participant summarized, *"Data collection should hone in on what is relevant, and facilitators should ensure that everyone understands the endgame. Once everyone is familiar with the endgame for the data-collection process, the data request would be more focused."*

Eco-Logical Principle: "Integrate Plans"

Eco-Logical recommends the creation of an REF to overlay resource and habitat data as a means of identifying opportunities to improve ecosystem health. The ITEEM process revealed that data compilation and mapping could be both contentious and time-consuming unless a clear goal for data usage is established first. Data within the REF are meant to be a tool for prioritization and performance measurement, and data outcomes may be lost amid the challenges of data compilation. ◼

Conclusions

The final ITEEM meeting for the Highway 83 pilot, held in June 2010, brought all of the ITEEM pilot agencies together to discuss opinions on the success of the pilot. The following key points emerged:

- Certain agencies believed that the success of the pilot should be measured by the completion and documentation of the *Eco-Logical* process.
- Since the ITEEM process concluded prior to the implementation of transportation or mitigation projects, other agencies believed that the Highway 83 pilot was a good coordination exercise but that it did not accomplish any real conservation or streamlining. These participants believed that implementation of mitigation opportunities would determine the pilot's success.
- Nearly all of the ITEEM agencies indicated that ITEEM had been a worthwhile effort that was leading to smaller successes across Montana, including the Kalispell mitigation project, described earlier in this report.

The group discussed transfer of responsibility for the pilot to local agencies, recognizing that mitigation implemen-tation would be based on the timing of MDT projects. Some ITEEM members suggested that SLCC, which was a local champion during the pilot, should take over responsibility for implementation of the pilot's outcomes. At the end of the meeting, the group still had unanswered questions regarding the appropriateness of having SLCC serve as the agency ultimately implementing ITEEM. Some participants preferred a stronger Federal- or State-agency role.

Next Steps for ITEEM

During the final pilot meeting, participants commented on how to approach the next steps of ITEEM:

- Participants expressed ambitious visions for ITEEM and cited its potential to guide infrastructure develop-ment and mitigation projects throughout Montana in a variety of settings beyond transportation projects.
- Participants emphasized that use of ITEEM would require a statewide shift in the way of doing business and that any agency should be allowed to initiate the process at any time.

- Participants generally agreed that support for ITEEM must permeate all levels of participating agencies, not just the management or director level.

Participants recognized that resource constraints limited ITEEM's success during the Highway 83 project and that this challenge would continue to encumber its application. With a dedicated funding source and devotion of staff time and resources, participants believed that many of the technical challenges they faced could be overcome and could lead to a greater realization of advanced, broad-based, ecosystem-based mitigation goals.

The final meeting concluded without identification of a sustainable funding source, a lead agency to take responsibility for initiating ITEEM in the future, or other, prospective ITEEM projects. However, the ITEEM IRT will continue to meet twice a year.

Overall Lessons Learned

Other groups across the country that are considering implementing a process similar to ITEEM should fully understand the following:

- **The value of interagency collaboration.** ITEEM participants appreciate that future infrastructure projects will likely proceed more smoothly because the broad representation of agencies at the table creates a sense of trust that will enrich discussions about project issues.
- **Management-level commitment of staff time and resources within each agency,** and the importance of establishing a joint or collective timeline for appropriate events or benchmarks that would trigger the use of an ITEEM-like collaborative streamlining process.
- **The need to clarify expectations and roles of agencies and individuals at the start of each new project.** Ensuring that agency staff understand their responsibilities will help to keep projects moving smoothly through the planning and project-delivery processes.
- **The importance of developing internal mechanisms within each agency** to familiarize new and existing staff with the purpose of past activities and to maintain consistent agency involvement and support.

- **The use of targeted data-collection/integration activities** to identify objectives, opportunities, and larger goals for the project corridor.
- **The value of establishing a system for compensation or funding of early mitigation.** Paying for mitigation from a pooled conservation fund or establishing a mechanism for infrastructure agencies to receive credit for early mitigation is critical to supporting environmental sustainability.

Continuing to Apply the *Eco-Logical* Approach

In addition to these lessons, FHWA continues to explore other ways to promote the possibilities of the *Eco-Logical* approach.

In 2007, FHWA funded 15 cooperative agreements totaling approximately $1.4 million to pilot the *Eco-Logical* approach. FHWA also supports ongoing meetings and collaboration among *Eco-Logical* signatory agencies to identify opportunities to provide guidance and support to groups shifting toward the *Eco-Logical* approach.

In 2010, the signatory agencies reconvened to discuss methods and activities for more broadly implementing the *Eco-Logical* approach in their own daily practices and in those of their local and regional counterparts. Representatives from each agency identified opportunities to work together to further incorporate *Eco-Logical* principles in their programs and projects.

Signatory agencies have also begun to identify points of overlap among the goals of their *Eco-Logical*-based activities. Joint opportunities include the development of outreach materials, the creation of multiagency technical assistance teams for groups attempting to implement the *Eco-Logical* approach, and a webinar series to share *Eco-Logical* grant recipients' stories and to broaden understanding of the *Eco-Logical* approach among transportation- and resource-agency staff.

Through these and other activities, the signatory agencies hope to ensure that *Eco-Logical* implementation will be achieved nationwide, leading to the efficient development of sustainable and environmentally sensitive infrastructure. ■

Appendix 1
Methodology

A research team from the FHWA Office of Project Development and Environmental Review and the Volpe National Transportation Systems Center (Volpe Center) engaged in the study of the ITEEM process and pilot, with research conducted in the spring and summer of 2010. The team traveled to Missoula and Helena, Montana, in June 2010, to participate in the final Highway 83 ITEEM pilot meeting and to interview agency participants and early ITEEM leaders about the ITEEM process and pilot.

Prior to the Montana visit, the research team conducted phone interviews with key ITEEM stakeholders involved in development of the ITEEM process (from 2002 to 2007) and in implementation of the Highway 83 pilot (from 2008 to 2010). These pre-visit interviews focused on the background and purposes of ITEEM, the roles of participating agencies, and the guidance for structuring the site visit.

Once in Montana, the research team conducted in-person interviews with at least one representative from each agency participating in ITEEM. The focus of these interviews included expectations and evaluations of the ITEEM process and pilot, interagency collaboration, credit/debit systems, and future applications of ITEEM. In addition to observing the ITEEM-pilot final meeting, the team led an interactive session of the meeting in which participants reflected on their current visions of ITEEM and the elements that would contribute to its future success. The team also toured a section of the Highway 83 corridor to better understand the pilot context and scale.

Volpe Center staff worked closely with FHWA staff to synthesize findings from the Montana visit within the broader context of FHWA's *Eco-Logical* program.

The findings presented in this report derive from two main sources: information collected from telephone and face-to-face interviews with stakeholders involved in the ITEEM program, and reviews of annual *Eco-Logical* grant-program reports to find parallels between successes and lessons learned across the various agencies working to implement the *Eco-Logical* approach. ∎

Appendix 2

Acronyms

CAPCOG	Capital Area Council of Governments
CDOT	Colorado Department of Transportation
DOT	Department of Transportation
FHWA	Federal Highway Administration
GIS	geographic information system
H-GAC	Houston-Galveston Area Council
IRT	Interagency Review Team
IRTWG	Interagency Review Team Working Group
ITEEM	Integrated Transportation and Ecological Enhancements for Montana
ITS	intelligent transportation system
LOSRC	Land-of-Sky Regional Council
MDT	Montana Department of Transportation
MFWP	Montana Fish, Wildlife, and Parks
MOA	Memorandum of Agreement
NCDENR	North Carolina Department of Environment and Natural Resources
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
NGO	nongovernmental organization
REAP	Regional Ecological Assessment Protocol
REF	Regional Ecosystem Framework
SLCC	Seeley Lake Community Council
TEAP	Texas Ecological Assessment Protocol
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Appendix 3

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