

# THE \$61 MILLION QUESTION:

How Can Transportation Enhancements Benefit Wildlife?





## **DEFENDERS OF WILDLIFE**

Defenders of Wildlife is a national, nonprofit membership organization dedicated to the protection of all native wild animals and plants in their natural communities.

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# FOREWORD

## Wildlife and Transportation: Making the Connection

**I**n 2007 wildlife professionals and advocates converged on the nation's capital in support of a worthy effort—secure over \$80 million of authorized but unappropriated funding to implement state wildlife action plans and other efforts to enhance wildlife habitat in all 50 states. In the course of this campaign the United States Department of Transportation notified state transportation agencies that, due to budget shortfalls, states had to give back about \$2 billion in already-distributed federal-aid highway funding authority. In response, state DOTs decided to cut (“rescind”) over \$600 million in Transportation Enhancement funds—the one highway program that explicitly funds efforts to reduce wildlife-vehicle conflicts and to improve wildlife habitat connectivity.



Lloyd Wolf

This useful manual will help assure this neglect of state wildlife protection efforts is not repeated. The answer to how state wildlife advocates and program managers can secure a proportionate share of Transportation Enhancement funding for wildlife protection is through self-help. In 1998 Congress intended, and funding was made available, for states to “replace the divots” created in the pre-NEPA days when federal-aid highways routinely slashed through wildlife habitat with little or no consideration to protection of habitat integrity or wildlife migration routes. However, it is up to state wildlife agencies and citizen advocates to sit down with state transportation agencies and map out plans for accomplishing these important “wildlife retrofits.” Many state transportation agencies do not have the in-house expertise needed to strategically program funds to maximize wildlife protection as a co-benefit of transportation planning and system management. Interagency agreements can address this problem, and citizen volunteers can help identify the wildlife-highway “hotspots” that need prioritized attention.

State transportation agencies are changing their stripes. Road-building is no longer their exclusive focus. System management, “fix-it-first,” and context sensitive planning are equal if not dominant state transportation priorities. This important manual will help you, as a state wildlife professional, a citizen advocate, and even as a state or local transportation professional, re-integrate wildlife into the everyday business of transportation. It will also reduce accidents, save lives, and help build more sustainable transportation systems for America.

## David Burwell

*David Burwell is a cofounder and former president and CEO of the Surface Transportation Policy Project (STPP), a nationwide network of more than 250 organizations devoted to improving the nation's transportation system. David served as chairman of STPP from 1990-1997. Prior to joining STPP, Mr. Burwell co-founded and led the Rails-to-Trails Conservancy, the nation's largest trails and greenways organization devoted to the conversion of abandoned rail corridors to public trail use. Mr. Burwell also worked as legal counsel for the National Wildlife Federation where he specialized in transportation, land use and air quality issues. He authored several books and articles on transportation, law and policy.*

## EXECUTIVE SUMMARY

**R**ecognizing that transportation is more than just concrete and steel, Congress created the Transportation Enhancements (TE) program in 1991 to fund a broad array of projects to complement and improve existing infrastructure while enhancing the overall transportation experience. Enhancements projects come in twelve categories, including bicycle and pedestrian facilities, scenic or historic easements, welcome centers and roadside beautification. Since its inception, the TE program has funded over 23,000 community-oriented transportation-related projects across the country.

In 1998, Defenders of Wildlife and other conservation partners convinced Congress that protecting wildlife and reducing wildlife-vehicle collisions would also benefit communities and enhance the transportation experience. The 1998 highway bill included a new activity eligible for funding under the TE program. Known as Activity 11, eligibility covers projects related to

**“Environmental Mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.”**



National Transportation Enhancements Clearinghouse



National Transportation Enhancements Clearinghouse



Chris Slesar



## DO THE MATH

\$8.1 billion authorized for TE since 1998

÷ 11 years

= \$734 million per year

÷ 12 categories

= \$61 million per year possible for wildlife

So why only \$11.5 million?

Unfortunately, this funding opportunity has gone largely unnoticed by wildlife conservation professionals. If each of the twelve categories received equal portions,\* that would mean **more than \$61 million per year**. However, because so few Activity 11 applications have been submitted, wildlife related projects have only received a **total of \$11.5 million** since 1998.

June 9, 2008 marked the ten year anniversary of Activity 11. As enthusiastic supporters of the Transportation Enhancements program and Activity 11, Defenders of Wildlife is proud to present, ***THE \$61 MILLION QUESTION: How Can Transportation Enhancements Benefit Wildlife?*** a handbook for prospective TE Activity 11 grant applicants. ***The \$61 Million Question*** guides the prospective grant applicant through the TE process, points out the pitfalls and

shines the spotlight on TE wildlife habitat connectivity success stories.

To celebrate the tenth anniversary of TE Activity 11, Defenders of Wildlife is also launching “**Operation TE 11 at 10.**” We are asking conservation advocates and resource managers to send their ideas for wildlife-related TE projects in their own back yards. We will review all nominations and choose five outstanding projects to receive support from Defenders of Wildlife professional staff.

By providing conservation advocates and natural resource managers with information and guidance on the TE program and Activity 11, we hope to inspire a new generation of TE wildlife habitat connectivity successes.

\* Note: States are not required to divide TE funds equitably among the twelve activities. These figures are simplified estimates for demonstration purposes only.

## HISTORY OF THE TRANSPORTATION ENHANCEMENTS PROGRAM

**W**hat does transportation mean to you? Do you think of your car? Your commute to work? Or that stop light that catches you every time? When we think about transportation, we generally think of massive interstate highways, traffic jams and busy intersections. But did you know federal gas tax dollars are also spent on pedestrian centers, bike trails, outdoor art, archaeological research, historic restoration, water quality and community revitalization?

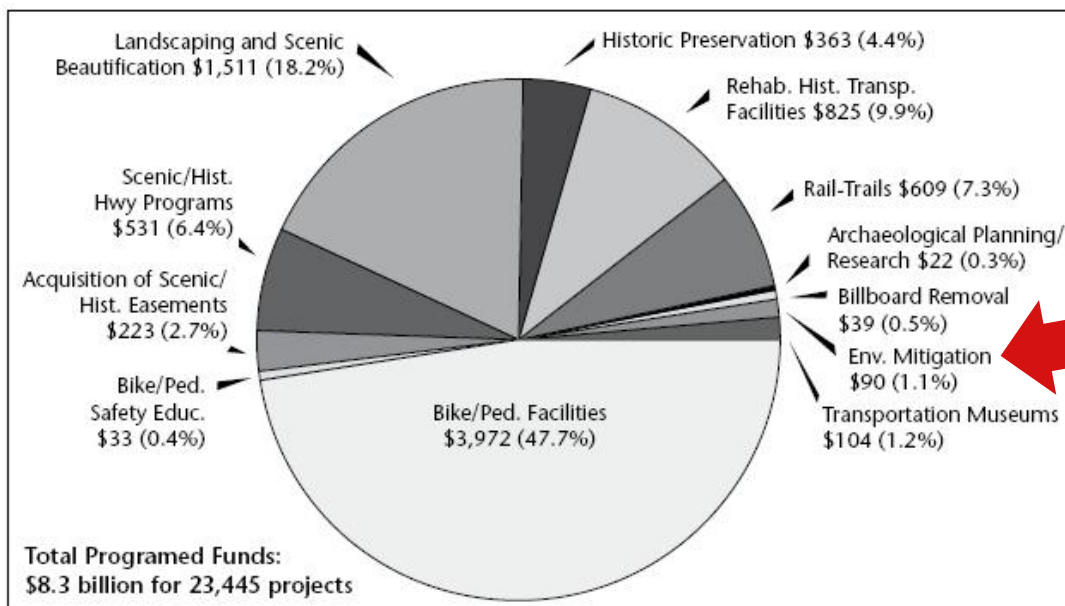
Congress created the Transportation Enhancements (TE) program in 1991 as part of the Intermodal Surface Transportation Equity Act (ISTEA), providing funding for projects that go above and beyond the concrete and steel of traditional highway construction. TE projects are ideally designed to increase multi-modal travel options and enhance the overall aesthetic, environmental, cultural, and historical transportation experience for everyone, not just motorists.



To date, the following federal dollars have been appropriated for all activities of the Transportation Enhancements program through federal transportation bills:

ISTEA	1991 – 1997	\$2.8 billion
TEA-21	1998-2005	\$3.6 billion
SAFETEA-LU	2005-2009	\$4 billion
	1991 - 2009	<b>Total: \$10.4 billion</b>

## Distribution of Federal Funds by TE Activity FY 1992 through FY 2007 (Federal funds in millions)



[http://www.enhancements.org/download/Spending\\_Report/TE\\_Spending\\_Report\\_FY07.pdf](http://www.enhancements.org/download/Spending_Report/TE_Spending_Report_FY07.pdf)

Over 20,000 Transportation Enhancements projects have been completed to date. Projects include pedestrian and bicycle facilities and safety activities, acquisition of scenic or historic easements and sites, tourist welcome centers, landscaping and scenic beautification, rehabilitation or establishment of transportation buildings and museums, converting abandoned railway corridors to trails, removing outdoor advertising, archeological planning and research, mitigating storm water runoff, building wildlife crossing structures and habitat connectivity planning.

States are required to set aside **10 percent** of their surface transportation funds for their TE projects. TE funds cannot be used for work

that would be required anyway using general project funds, such as standard environmental mitigation or routine maintenance. The federal government reimburses 80 percent of a TE project's costs, and the project sponsor pays the nonfederal 20 percent match, with some exceptions in states with large amounts of federal lands.

## 12 Transportation Enhancement Activities

1. **Pedestrians and bicycle facilities:** New or reconstructed sidewalks, walkways, curb ramps, bike lane striping, paved shoulders, bike parking, bus racks, off-road trails, bike and pedestrian bridges and underpasses.
2. **Safety and educational activities for pedestrians and bicyclists:** Programs designed to encourage walking and bicycling by providing potential users with education and safety instruction through classes, pamphlets, and signs.
3. **Acquisition of scenic easements and scenic or historic sites, including historic battlefields:** Acquisition of scenic land easements, vistas, and landscapes, including historic battlefields; purchase of building in historic districts or historic properties.
4. **Scenic or historic highway programs including tourist and welcome center facilities:** Construction of turnouts, overlooks, visitor centers, and viewing areas, designation signs, and markers.
5. **Landscaping and other scenic beautification:** Street furniture, lighting, public art, and landscaping along street, highways, trails, waterfronts, and gateways.
6. **Historic preservation:** Preservation of buildings and façades in historic districts; restoration and reuse of historic building for transportation-related purposes; access improvements to historic sites and buildings.
7. **Rehabilitation and operation of historic transportation buildings, structures, or facilities:** Restoration of historic railroad depots, bus stations, canals, canal towpaths, historic canal bridges, and lighthouses; rehabilitation of rail trestles, tunnels and bridges.
8. **Preservation of abandoned railway corridors and the conversion and use of the corridors for pedestrian or bicycle trails:** Acquiring railroad rights-of-way; planning, designing and constructing multi-use trails; developing rail-with-trail projects; purchasing unused railroad property for reuse as trails.
9. **Inventory, control, and removal of outdoor advertising:** Billboard inventories or removal of nonconforming billboards.
10. **Archaeological planning and research:** Research, preservation planning and interpretation; developing interpretive signs, exhibits, guides, inventories, and surveys.
11. **Environmental mitigation to address water pollution due to highway runoff or to reduce vehicle-caused wildlife mortality while maintaining habitat connectivity:** Runoff pollution mitigation, soil erosion controls, detention and sediment basins, river cleanups, and wildlife crossings.
12. **Establishment of transportation museums:** Construction of transportation museums, including the conversion of railroad stations or historic properties to museums with transportation themes and exhibits, or the purchase of transportation related artifacts.

## TE ACTIVITY 11: REDUCING COLLISIONS, RESTORING CONNECTIVITY

**A**s part of the 1998 Transportation Equity Act for the 21st Century (TEA-21), Defenders of Wildlife and other conservationists worked with Congress to include a new TE activity for “Environmental Mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.” Activity 11 allows communities to use TE funding to decrease the negative impacts of roads on the natural environment, such as wildlife habitat fragmentation and wildlife-vehicle collisions.

estimates indicate between 725,000 and 1,500,000 animals are struck on our roads annually. Wildlife-vehicle collisions can take a toll on species at the population level and in some cases, push some rare species closer to extinction. Statistics for human victims are grim as well — 200 fatalities, 29,000 injuries and more than \$1 billion in property damage every year as a result of wildlife-vehicle collisions.<sup>1</sup>

Effective wildlife mitigation techniques should result in a reduction in wildlife-vehicle collisions, hence they are as important to

human safety as they are to habitat connectivity. Human deaths and injuries are common when vehicles collide with larger species such as deer, elk and moose. In many rural regions, wildlife-vehicle collisions are the most common cause of highway collisions.

Strategies used to counteract roadkill

and habitat fragmentation range from site-specific projects such as underpasses to regional models that combine landscape ecology, conservation biology and human safety concerns with long-range transportation planning.

We have all witnessed the carnage, but how many animals are killed on our roadways? We may never know. Some victims are too small to see, some crawl off the road and die elsewhere and others are either eaten by scavengers or taken by motorists. Recent



Trisha White, Defenders of Wildlife

<sup>1</sup> Huijser, M. National Cooperative Highway Research Program NCHRP Project 20-5, Synthesis of Highway Practice 37-12

Despite Activity 11's title, TE funds **cannot be used for environmental mitigation** required for a transportation project. Federal Highway Administration (FHWA) guidance states, "Enhancement measures in the activities listed, which go beyond what is customarily provided as environmental mitigation, are considered as transportation enhancements. However, transportation enhancement activities might consist of activities not immediately connected to a nearby project being mitigated. States may not use TE funds to finance normal environmental mitigation work eligible under the regular federal-aid highway program."<sup>2</sup> TE funds also cannot be used for maintenance or routine highway improvements.

#### What about fish?

Activity 11 language specifically states "...to reduce vehicle-caused wildlife mortality while maintaining habitat connectivity." Because fish are not directly killed by vehicles, the Federal Highway Administration (FHWA) interpreted the language to only include terrestrial wildlife, and not aquatic species. As a result, some excellent fish passage restoration projects have been rejected.

#### What about Water Pollution?

TE Activity 11 covers "water pollution due to highway runoff." In fact, most of the TE funding awarded under Activity 11 has gone to retroactive stormwater mitigation. While cleaner water is also good for wildlife, the focus of this document is using TE funds to reduce wildlife-vehicle collisions and restore habitat connectivity.



Federal Highway Administration

## SHOW ME THE MONEY!



**W**ith millions of wildlife-vehicle collisions every year, the need for TE Activity 11 projects has never been greater. However, the demand for TE Activity 11 dollars remains miserably and inexplicably low. From 1998 through 2006, state transportation agencies programmed just **\$53 million** for Activity 11 projects, most of which went to stormwater projects. Only **\$11.5 million** was programmed to “reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.” Of the 23,000 TE projects, only 71 have been related to wildlife habitat connectivity. Just 20 states have implemented wildlife-related TE projects, averaging \$161,971 per project.

Conservation advocates and natural resource managers are missing a golden opportunity. Since TEA-21 in 1998, \$8.1 billion has been authorized for all TE projects. If each of the twelve categories received equal portions,\* that would mean **\$675 million for wildlife, more than \$61 million per year.**

Why has so little TE funding gone toward wildlife related projects?

**If you don't apply, you won't get funded.**

Conservationists, largely unaware of the TE program and the benefits for wildlife have submitted few applications. Even after ten years of TE Activity 11, our lack of participation has not only cost millions for wildlife, our state TE programs and selection committees still have very little experience with wildlife and habitat connectivity issues.

Conservation efforts are in a perpetual funding crisis. We cannot afford to leave any stone unturned, especially one with \$61 million beneath it. ***The \$61 Million Question*** is your guide to the Transportation Enhancements program and Activity 11. Armed with the right information, conservationists and natural resource managers will be well equipped to apply for TE wildlife habitat connectivity funding and make a difference for wildlife.

\* Note: States are not required to divide TE funds equitably among the twelve activities. These figures are simplified estimates for demonstration purposes only.

### DO THE MATH

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*So why only \$11.5 million?*

# IMPACTS OF ROADS ON WILDLIFE AND NATURAL RESOURCES

Most conservationists are well aware of the impacts of roads and highways on the natural environment. A massive body of research has documented these impacts and hundreds more studies are in progress. Perhaps the best overview of impacts was the sentinel article, *Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities* by Stephen Trombulak and Christopher Frissell first published in *The Journal of Conservation Biology* in April, 2000.<sup>3</sup> Trombulak and Frissell group all the impacts of roads on wildlife into seven categories:

**Mortality from Road Construction:** In the course of clearing the work site in preparation for road construction, many slow moving organisms are killed. Species that nest underground, like gopher tortoise (*Gopherus polyphemus*) are often buried alive or “entombed” when their dens are bulldozed and eventually paved over. Compared to mortality from road collisions, few studies have been done on the direct mortality caused during road construction. The actual clearing and construction may last for only weeks or months and few, if any wildlife agency staff would be on the construction site to witness and record the mortality.



U.S. Fish and Wildlife Service

**Mortality from Collision with Vehicles:** Perhaps more than any other impact, roadkill is clearly quantifiable and has been very well documented. Vehicle collisions claim individual animals regardless of age, sex or condition of the individual animal, and can have substantial effects on a population’s demography.

Trisha White, Defenders of Wildlife



**Modification of Animal Behavior:** The mere presence of a road in wildlife habitat can be enough of a disturbance to alter animal behavior. Roads and highways that bisect habitat can cause wildlife to shift entire home ranges, modify movement patterns and escape responses and change reproductive success and physiological state.



U.S. Fish and Wildlife Service





**Disruption of the Physical Environment:** Roads destroy and fragment the habitat wherever they are built and transform the environment well beyond the pavement's edge. At ground level, soil water content and density change leading to altered surface-water flow, run off patterns and sedimentation. By opening the canopy and removing vegetation, the amount of light and heat increases. Additional light invites different plant species, often replacing native communities. Road surfaces store heat, creating heat islands that attract species like birds and snakes. Traffic stirs up dust and other contaminants that settle on plants, blocking photosynthesis and transpiration. In addition, traffic noise can make roadside areas inhospitable to certain nesting songbirds.

**Alteration of the Chemical Environment:** Beyond the road itself, the vehicles that use the road instigate their own problems. Cars and trucks produce carbon dioxide, ozone and heavy metals that quickly contaminate the air, soil, plants, animals and water near roads. Because roads accelerate runoff, they reduce the buffering effects from riparian vegetation and deliver high levels of sediment, nutrients and pollutants to nearby waters. Among the concerns are reduced water quality from chemicals, metals, oil,

gasoline, de-icing salts and other contaminants entering water as non-point source runoff from roads and parking lots.

**Spread of Exotic Species:** The construction and presence of roads create perfect conditions for nonnative, invasive species to move in and ultimately displace native vegetation. Exotics are able to take advantage of the disturbed, altered conditions created when a road is originally built and native species are stressed or removed altogether. Roads also act as vectors for "hitchhiker" seeds that attach themselves to vehicles. Some roadside exotics are no accident. Transportation agencies have historically planted rapidly growing exotic species on bare ground and slopes after construction to control erosion.

**Changes in Human Use of Land and Water:** Roads are built for many uses—from mere access into remote areas to full blown development—but they are all built for human activities. Roads increase access to formerly remote areas, thus increasing the frequency and intensity of human activity—both legal and illegal.



## SUGGESTED ACTIVITY 11 PROJECTS

Trisha White, Defenders of Wildlife



- ◆ Wildlife crossing structures, including the necessary project feasibility, planning, research, scoping, designing, engineering and construction

- ◆ Bridge extensions to accommodate terrestrial crossing

- ◆ Habitat acquisition to re-establish habitat connectivity

- ◆ Installing wildlife exclusionary fencing or other structures to guide wildlife towards crossings

Western Transportation Institute



- ◆ Installing technologies to deter wildlife-vehicle collisions, such as radio collars or remote-sensing devices which trigger warnings to drivers

- ◆ Monitoring and data collection on habitat fragmentation

- ◆ Wildlife-vehicle collision data collection

- ◆ Identifying collision hotspots through tracking, telemetry, and wildlife cameras

- ◆ Researching and mapping wildlife habitat threatened by fragmentation

- ◆ Creating or updating state or regional habitat connectivity plans

- ◆ Researching migration patterns, habitat use, distribution, and crossing behaviors
- ◆ Restoring aquatic passages and watersheds to provide adequate wildlife corridors and stream flows
- ◆ Evaluating roadside vegetation, removing invasive species and planting native species along right-of-ways and in neighboring properties, which can provide wildlife habitat, erosion control, and storm water management
- ◆ Training and planning related to wildlife-vehicle collision reduction and habitat connectivity
- ◆ Motorist education to reduce wildlife-vehicle collisions



It is important to fully evaluate the effectiveness of any technology or structure before moving forward with a request for enhancements funding. Some suggested methods for reducing wildlife-vehicle collisions have not been proven effective or the claimed benefits are unsubstantiated such as roadside reflectors, deer whistles and exclusionary fencing without wildlife crossings. Before applying for TE funding, contact wildlife experts to make sure that your project has not already been attempted elsewhere with limited or no resulting benefits.

## READY, SET, GO!

Once you have a good project idea in mind, you are ready to begin your TE journey. Before you begin the application process, learn as much as possible about the program. Consult the TE website, [www.enhancements.org](http://www.enhancements.org). The National Transportation Enhancements Clearinghouse (NTEC) has created the ultimate library of information on the TE program. Rookies should start their TE journey by visiting the website and reading [Enhancing America's Communities: A Guide to Transportation Enhancements](#)<sup>4</sup>. If you have any questions along the way, NTEC provides a free support line, 1-888-388-NTEC.

You should also visit your state's TE page, usually found on your state transportation agency's website. Many of the state TE pages are thoroughly informative, providing potential applicants with all the information you will need to get started.

Once you have the basics down, contact your state TE Coordinator and FHWA representative. Each state transportation agency has a TE Coordinator, responsible for providing guidance on the specific TE policies and procedures for your state. Trained in disciplines like architecture, engineering or planning, TE Coordinators are friendly, helpful professionals who know your state TE program inside and out and are ready to help you navigate the process. TE Coordinators can provide valuable feedback on the eligibility and competitiveness of your application.

Start with an e-mail, and follow up with a phone call if necessary. Find contact information for your TE Coordinator at [NTEC's contacts page](#)<sup>5</sup>.

### *My Enhancements Coordinator:*

**Name:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

## SAMPLE EMAIL TO YOUR TE COORDINATOR

**TO:** TE Coordinator  
**FROM:** Conservation Advocate or Natural Resource Manager

Hello Mr. /Ms. Coordinator,

My name is (name) and I am with (organization). We are very interested in utilizing the Transportation Enhancements program to address conflicts with wildlife.

Do you offer any TE workshops or seminars?

When is the next TE selection cycle?

Where can I find the application?

Can you share examples of successful TE applications from previous cycles?

What is the selection process?

Who is on the selection committee, and is wildlife represented?

Thank you for your assistance. We look forward to working with you on this exciting program.

Name

Organization

# APPLICANT OR SPONSOR: WHO CAN APPLY?

**L**ike many other aspects of the Transportation Enhancements program, eligibility for funding varies from state to state. Some states, such as Florida, allow non-profit or local community groups to submit applications if they secure a municipal, county, state, or federal agency as a sponsor, guaranteeing the matching 20% funding and future maintenance.

Other states, such as Colorado, require a government agency to act as the official applicant. Private, non-profit, and civic organizations may still participate as partners.

## TAKE CHARGE!

Because many resource agencies are understaffed and overcommitted, conservation advocates should take the initiative. NGO partners can meet with resource managers and provide them with information on the TE program, Activity 11, and how this funding can help wildlife and your community. Give them a copy of *The \$61 Million Question*. Offer to get the ball rolling by organizing meetings with partners, collecting the necessary information, drafting the application and securing sponsorships with other agencies and organizations.

U.S. Forest Service



## BASIC ELEMENTS OF AN APPLICATION

1. Applicant information: Group name, address, phone, point person and contact information
2. Sponsor information: Agency, address, phone, point person and contact information
3. Proposal name, location and jurisdiction
4. Enhancement activity type(s) (in most states, the more activities an application qualifies for, the better ranking it gets)
5. Proposal description, demonstrating a clear relationship to transportation, public access and community benefits
6. Definition of the scope of work and include preliminary studies, and land acquisition or construction
7. Workplan with a timeline
8. Budget
9. Source of the matching funds, including letter(s) to verify their availability
10. Maps, photographs of the site, preliminary sketches or plans
11. Plan for project maintenance
12. Letters of support, minutes from public meetings, and newspaper clips about the project

## THE APPLICATION AND SELECTION PROCESS

**T**o strengthen and encourage partnerships between state and regional agencies and increase the public role in transportation planning, Congress deliberately left the details of the TE programs to the states. Specific procedures, documents and deadlines will vary from state to state. What that means to you, the applicant, is that you will need to familiarize yourself with the TE program in your state.

**Oregon's** selection cycle is biennial, in conjunction with Statewide Transportation Improvement Program (STIP) update. Applicant workshops are offered in several locations around the state at the beginning of each application period. Applicants must submit a "Notice of Intent" in March and receive approval to proceed with a full application in June. All projects must comply with local and statewide plans such as the Oregon Plan, Oregon Transportation Plan, and Oregon Highway Plan.

The TE Program Manager reviews all applications for eligibility before sending them to DOT staff for technical review and a public comment period. Approximately 30 applications advance to the selection or advisory committee; comprised of four representatives from local government, four Oregon DOT staff, two at-large members and the Oregon Transportation Commissioner. Final approval of projects is by the Oregon Transportation Commission. Funds are awarded through statewide competitive selection (75%) and the Director's Discretionary Account for urgent needs (25%). Project awards range from \$200,000 to \$1.5 million.

**Rhode Island** also uses a biennial selection cycle, and awards all TE funds on a competitive basis. The Transportation Enhancement Advisory Committee (TEAC) is chaired by the State Historic Preservation Office (SHPO) and includes members of Rhode Island DOT's Environmental Management Office, the governor's office and citizen representatives. The TEAC reviews applications and recommends projects to the Director of Transportation and eventually to the Governor for final approval.

**Arizona** has an annual selection cycle, beginning with a call for projects each September. ADOT staff reviews proposals for eligibility, then passes them off to an interagency advisory committee including representatives from regional planning organizations and the historic, arts and bicycling communities. Applications are scored and ranked based on criteria such as project need, cost effectiveness and community benefit. Recommendations go on the state transportation board for final approval. ADOT sets aside 10% of TE funds for highway projects under development, and awards the remaining 90% on a competitive basis.

### HOW MUCH FUNDING CAN WE EXPECT?

Many states set both a minimum and maximum allowance for any one TE award. The range can vary greatly, in part due to the great variability in state sizes and funding available. A small state like Vermont has a minimum of \$10,000, while some larger states set maximums of a million dollars or more. California, which has no maximum, funded the Hearst Ranch acquisition with \$23 million in TE money in 2004.

## GOT A MATCH? FINDING YOUR 20% MATCHING FUNDS

**I**n general, the federal award is 80 percent of the TE project cost, and the sponsor contributes the balance of 20 percent, or the non-federal match. The federal share is even higher in states with large proportions of land in the public domain.<sup>6</sup>

Matching funds for most projects come from the community to meet the federal requirement of a local match for the project. So where can you find the other 20 percent?

- Local funds (tax, bond)
- State funds (tax, bond)
- Donated property
- Donated materials
- Donated services or labor (including from individuals, volunteers, private sources, businesses, non-profit organizations or local governments)
- In kind donations
- Fundraisers
- Federal land management agency funds

Typically, federal funds cannot be used to match a federal award. However, because of the special nature of the TE program, FHWA allows funds and the value of contributions received from federal land management agencies to be credited toward the non-federal share with some limitations. Conservationists should look into these good examples:

- The 2005 highway bill authorized the use of **Federal Lands Highway Program** funds as a qualifying non-federal match for TE funds.
- **National Coastal Wetlands Conservation Grant Program**<sup>4</sup> (U.S. Fish and Wildlife Service). Provides grants to acquire, restore, and enhance wetlands of coastal states.
- **Five-Star Restoration Program**<sup>5</sup> (U.S. Environmental Protection Agency). Provides grants for restoration projects that involve five or more partners, including local government agencies, elected officials, community groups, businesses, schools, and environmental organizations.



TE is not a grant program.  
You will be expected to  
cover the initial costs and  
be reimbursed.





Transportation projects take time and money. TE projects are often multi-year commitments, so be prepared to stay in it for the long haul. Even if your project is chosen for TE funding, you may not receive the entire amount all at once. Selection committees may award you with a portion of the funding to complete preliminary research, feasibility studies, environmental review and design.

## CALENDAR OF OPPORTUNITIES

TE funding cycles are different for every state, so it is crucial to check with your TE Coordinator to find out when the window opens in your state. Here are some examples of upcoming and ongoing TE opportunities:

- ◆ Michigan is now accepting applications on a continuous basis, with no deadline for submittal. Applicants can even submit applications online. The timeframe for the review process takes approximately three months.
- ◆ Virginia accepts applications on an annual basis, submitted on or before November 1<sup>st</sup> of each year.
- ◆ In Arizona, each Metropolitan Planning Organization (MPO)/Council of Governments (COG) accepts applications during the summer months and submits their choices to Arizona DOT in early September.
- ◆ North Dakota begins their application period around Labor Day with applications due in mid November.

## MAKING THE CASE FOR WILDLIFE

**M**ost TE funding goes to pedestrian paths, bicycle routes, streetscaping and other human-focused projects. Even after ten years, Activity 11 remains among the least funded categories in the TE program because so few Activity 11 applications have been submitted. **If you don't apply, you don't get funded.**

Selection committees are often made up of representatives from the historic preservation, pedestrian or trail communities, and few have backgrounds in wildlife conservation. And because so few Activity 11 applications have been submitted, committee members may be unfamiliar with road ecology, wildlife crossings or the benefits of reducing wildlife-vehicle collisions.

If you are applying in a state that has not awarded Activity 11 projects in the past, you may need to include additional information in your application packet on the many justifications and benefits of restoring habitat connectivity across highways and providing wildlife with safe passage across roads.

**Safety:** A million or more wildlife-vehicle collisions each year, 200 human fatalities and 29,000 injuries.

**Economic benefits:** Virginia Transportation Research Council conducted a cost-benefit analysis of two underpasses and concluded that a structure is cost-effective in terms of savings to property damage alone when it prevents just 2.6 collisions per year.<sup>9</sup>



Alex Levy

**Litigation:** Jerry Booth successfully sued the state of Arizona for \$3 million after he was injured in a collision with an elk on the road. Even though Arizona had installed wildlife crossings in other parts of the state, a jury found that the state failed to guard against foreseeable collisions.<sup>10</sup>

Corbis



**Aesthetics:** Road kill, be it large mammals, birds, or frogs are all undesirable roadside attractions.

Trisha White, Defenders of Wildlife



**Biodiversity:** Endangered species are priceless and managing them is very expensive. Certain taxa like herpetofauna and carnivores are particularly susceptible to impacts from roads and highways. If existing road impacts are not addressed through mitigation measures, highly vulnerable species could quickly be relegated to endangered status.

U.S. Fish and Wildlife Service



## BECOME A COMMITTEE MEMBER

For the truly ambitious, consider becoming a member of your state or region's TE selection committee. If you have a background in wildlife, biology, ecology, habitat connectivity or natural resource management, you would be an invaluable asset to the committee. Contact your TE Coordinator to inquire about available selection committee seats and nomination process.



U.S. Fish and Wildlife Service

## LESSONS LEARNED: CONVERSATIONS WITH VETERAN APPLICANTS



“Talk to local jurisdictions to see what projects they are proposing and how your project competes or can leverage their work. Make your case compelling – other TE activities are typically prioritized over wildlife. Assist your sponsor, making it easier for them to hop on board. Engage early and often in the transportation planning region that decides which TE projects are chosen. Your presence and participation can make or break your chances.”

*Monique DiGiorgio, Southern Rockies Ecosystem Project*



“Don’t give up! Try again if you are not successful the first time around. Find partners to build support for and advocate on behalf of your project with persistence. Demonstrate how this project is an important transportation enhancement for the state and the region. Don’t expect the TE Selection Committee members to be as well versed in or passionate about wildlife crossings and habitat connectivity as you are. They are used to thinking about traditional enhancement projects like sidewalks and streetscapes for enhancing the economic vitality or quality of life for humans in a community. Take extra time to educate committee members about the importance and value of wildlife habitat connectivity.”

*Chris Slesar, Chair of the Monkton Conservation Commission*



“Document the need with irrefutable scientific information and data. Make a compelling case using maps, photographs, vegetative cover data, wildlife corridor/crossing locations and road kill information, etc. Also make sure to do your homework on land ownership and right of way issues.”

“Line up support for the project. In Florida, public support is a major criterion used to select projects. Choose partnering agencies and organizations early on and clearly define one another's roles and responsibilities. Determine how the 20% contribution to the project will be met. In our case, the sponsor committed to project maintenance and monitoring into the future. Finally, design a project and keep an eye on the calendar and deadlines so the application can be completed in a timely manner.”

*Elizabeth Fleming Defenders of Wildlife Florida office*

## HELPFUL HINTS

- Get a head start!
- Find ways to exceed the non-federal requirements
- Demonstrate strong local enthusiasm with support letters, newspaper articles, phone calls
- Provide hard data, not anecdotal evidence to demonstrate need
- Show how your project complements existing plans
- Garner support from regional or municipal planning organizations
- Show how your project meets a need or provides a benefit
- Keep your plan, schedule and cost estimates realistic
- TE award recipients must follow all applicable federal environmental, cultural resource, labor and financial laws and procedures.

## RESOURCES

You are not alone! A large and growing volume of peer-reviewed academic research and expert resources is available on transportation enhancements and wildlife habitat connectivity, and many experts willing to provide you with the input and guidance you need.

### **National Transportation Enhancements Clearinghouse**

<http://www.Enhancements.org>

### **Federal Highway Administration Transportation Enhancements Guidance**

<http://www.fhwa.dot.gov/environment/te/guidance.htm>

### **Wildlife and Roads: A Resource to Help Mitigate Roads for Wildlife**

<http://www.wildlifeandroads.org>

### **Getting Up to Speed: A Conservationist's Guide to Wildlife and Highways**

<http://www.GettingUpToSpeed.org>

### **The International Conference on Ecology and Transportation (ICOET)**

<http://www.ICOET.net>

### **Road Ecology: Science and Solutions. 2003. Forman, et al.**

[http://islandpress.com/bookstore/details.php?prod\\_id=968](http://islandpress.com/bookstore/details.php?prod_id=968)

## TE ACTIVITY 11 HALL OF FAME

The following case studies highlight a variety of successful wildlife connectivity projects from across the country. Each project's diverse set of partners approached the TE process in unique ways in order to tackle different issues. Read these stories for ideas and inspiration for forming your own creative partnerships, funding opportunities, outreach strategies, and other methods to create a successful Activity 11 wildlife application and project.

### VERMONT: Monkton Road Wildlife Crossing Project (2007)

On a few wet nights every spring, thousands of amphibians, including rare Blue-spotted Salamander and Spotted Salamander, attempt to cross a busy 0.8 mile section of Monkton Road in western Vermont. Biologists consider the stretch one of the most important seasonal migration crossing areas for amphibians in the state. Yet roadkill levels in the area are so high that experts believe these populations may simply cease to exist in coming years.

Looking for a permanent fix to this problem, in

2006 the town of Monkton applied for Transportation Enhancements funding as an Activity 11 project to plan and construct a series of culverts and retaining walls to safely usher the native amphibians, reptiles, and mammals under the road.

*A small northeastern town teams up with local conservation and planning commissions to receive funding for the first Activity 11 Enhancements project in Vermont.*



*“Funding for reduction of vehicle-caused wildlife mortality is not limited to threatened and endangered species, and should be based on migration patterns, habitat use, and distribution and crossing characteristics of the wildlife through data collection on safety of motorists, habitat fragmentation and wildlife mortality.”*

(Vermont Agency of Transportation 2008 Grant Application Form and Instructions. 2008. <http://www.aot.state.vt.us/progdev/Documents/LTE/Enhancements/2008APPLICATION.pdf>)

Chris Slesar

With this strong network of public support, community outreach, and local media attention, the Monkton Road project proved successful in 2007. The Town of Monkton received \$25,000 to perform scoping and planning of the project, the very first Activity 11 project in Vermont.

Chris Slesar



But this is just the beginning. The project is now in the scoping and planning phase, as the town of Monkton and its allies explore more funding options. The entire project, from design through construction may cost as much as \$300,000. Additional funding may come from the U.S. Department of Agriculture, Natural Resources Conservation Services, which has expressed interest in funding a portion of the required matching funds with a Wildlife Habitat Incentives Program (WHIP) grant.

Project proponents cite the supportive network of partners as a contributing factor to the success of their second application. Another major factor was the wealth of existing data proving the biological necessity of these crossings. A certified wildlife biologist from the Vermont Fish and Wildlife Department had been observing the site for eleven years, documenting the extent of the road kill issue.

Laura Slesar



Partners:

- Town of Monkton
- Monkton Select Board and Conservation Commission
- Addison County Planning Commission
- Lewis Creek Association
- USDA Natural Resources Conservation Services
- Defenders of Wildlife
- University of Massachusetts Amherst

## FLORIDA: Panther Underpass on U.S. 41 at Turner River Bridge (2006)

*In 2007, 15 Florida panthers were killed by cars, a grim new record. With an estimated 80-100 individuals remaining in the wild, this critically endangered species needs all the help it can get. A collaborative partnership between Defenders of Wildlife and several public agencies may make at least one stretch of road safer for panthers and other wildlife.*

The Florida panther, which once ranged throughout much of the southeastern United States, has been pushed into a fraction of its historic range by past persecution and continuing development of its habitat. With only a single breeding population in south Florida, strong conservation efforts are needed to assure its long-term viability and recovery. When the Florida panther was designated as an endangered species by the U.S. Fish and Wildlife Service in 1967, only about 30 individuals remained in Florida. Recovery actions over the last 25 years have enabled the population to increase to approximately 100 animals today. The greatest threat to panther survival remains development and fragmentation of habitat.

Roads fragment panther habitat and collisions with vehicles have been identified as a significant

cause of panther mortality and injury. From 1972 through 2007, 110 panthers were killed on Florida roads, with 70 of those deaths since 2000. Vehicle collisions constitute a serious obstacle to panther recovery by inhibiting range expansion.

While the state has made significant strides towards protecting panthers and drivers from collisions by building wildlife underpasses and bridge extensions and fencing on I-75 and other roads, many panthers are still being killed on Florida's roadways. In 2007, 15 panthers were lost on Florida's highways, setting a deadly new record for annual panther mortality.

One spot in particular has claimed more than one panther. In recent years, seven panthers have been struck in the vicinity of Turner River Bridge on U.S. 41 that passes through the Big Cypress National Preserve, a stronghold for the species. Recognizing the need and opportunity, Defenders of Wildlife applied for a TE grant to construct a crossing under the bridge, incorporating safe passage for panthers.

Elizabeth Fleming, Defenders of Wildlife





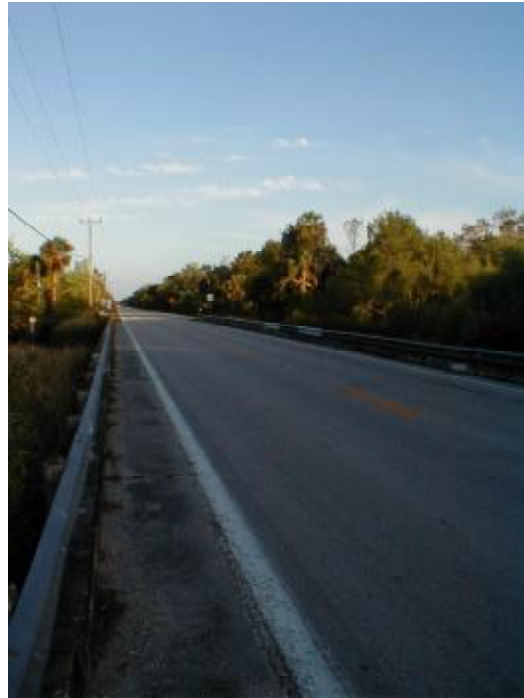
Defenders' Florida staff worked with the National Park Service and the U.S. Fish and Wildlife Service to develop a proposal in 2006. The application requested \$4 million for the entire project which would extend the Turner River Bridge to allow panther passage. Florida's TE selection committee awarded \$675,000 to complete the project design and environmental review. With the project in design, the partnership will now need to secure additional funding to complete the project. Site-specific analyses determined that, instead of a bridge extension, the project should consist of two crossings, one on each side of the river.

U.S. Fish and Wildlife Service



## Keys To Success:

- Plenty of existing data on a high profile, endangered species
- Previous FDOT experience with panther crossings. All agencies aware of issue wanted to support this project
- Good relationships among Defenders of Wildlife, U.S. Fish and Wildlife Service and National Park Service
- Many letters of support, including agency colleagues, respected panther biologists, conservation organizations and members of the public



Trisha White, Defenders of Wildlife

# COLORADO: Wildlife Collision Reduction on US 550 (2007)

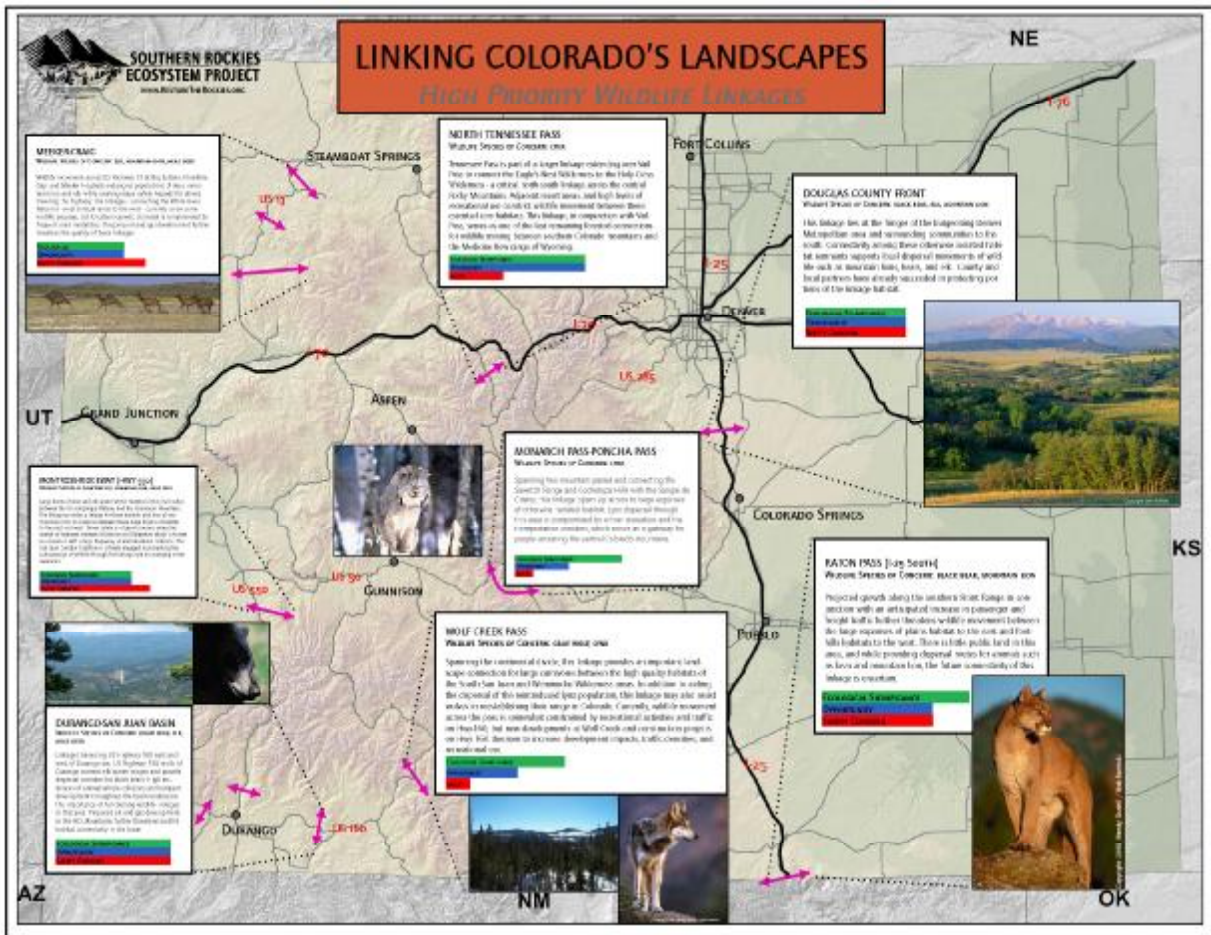
*A hotspot for wildlife-vehicle collisions will be safer for both people and wildlife after fencing and one-way deer gates are fixed and wildlife escape ramps are installed.*

During the construction of the Ridgway Dam in the 1980s in Ouray County, Colorado, fencing was installed along eight miles of US 550 to keep wildlife off the road, complete with one-way gates so wildlife could exit the road if they got trapped in between the fences. Over time, the area continues to be a hotspot for accidents as wildlife enter the right of way through driveways and other gaps, and the one-way gates are now either broken or have proven ineffective.



Monique DiGiorgio

In 2004, this stretch was identified as one of twelve high priority wildlife linkages in *Linking Colorado's Landscapes*, a collaborative effort between the Southern Rockies Ecosystem



Project (SREP), Federal Highway Administration (FHWA), Colorado Department of Transportation (CDOT), The Nature Conservancy (TNC) and Colorado State University. In 2007, SREP and Ouray County received a TE Activity 11 grant for \$108,090 (with a \$41,320 local match) to remove broken one-way deer gates, replace them with escape ramps and extend the fencing to tie into the landscape and guide wildlife off the highway and into adjacent habitat. For more information, visit SREP's website, <http://www.restoretherockies.org>.

## KEYS TO SUCCESS

- ◆ Diverse partners – counties, cities, state wildlife agency
- ◆ Provided more than 20% matching funds
- ◆ Proven effectiveness of escape ramps
- ◆ Letter of support from county also competing for funds

Monique DiGiorgio



Monique DiGiorgio



## WASHINGTON: Elk-Vehicle Collision Reduction (Highway 101 – Sequim Bypass) (1999)

*Along a three mile stretch of Highway 101 on the Olympic Peninsula, Washington, an innovative idea to create an elk “crosswalk” is now a reality thanks to Transportation Enhancements funding. Elk-vehicle collisions have dropped from an average 2.5 every year to only one in the past 7 years.*

The Dungeness herd, 65-70 elk living in the Sequim Valley in Washington State is a popular attraction with locals and tourists alike, and provides ceremonial and subsistence resource for the Point No Point tribes. The herd frequently crosses the busy Highway 101 where up to 10,000 travelers pass each day. As a result, from 1994-2000 an average 2.5 elk-vehicle collisions occurred each year in this area.

In 1997, citizens teamed up with the Washington State Department of Fish and Wildlife (WDFW) to form the Sequim Elk Habitat Committee and create a management plan to address road safety issues and property damage caused by foraging on private lands. The following year, they applied for a TE Activity 11 grant to fund an innovative and effective elk “crosswalk” to reduce elk-vehicle collisions. Ten percent of the elk were fitted with special radio collars. When a collared elk moves within ¼ mile of Highway 101, a relay signal activates flashing lights attached to caution signs with an image of an elk with “Elk Present When Flashing” labeled underneath.

Before applying for funding, WDFW consulted with the lead engineer on the bypass project as well as other Washington Department of Transportation (WDOT) staff to ensure approval for use of the right of way. WDOT provided

price estimates for the construction, installation, and electrical service connections for the elk crosswalk at \$48,000.

Recognizing a distinct public good in managing a sustainable herd as well as the obvious safety issue, many agencies and organizations wrote letters of support for the project, including: Clallam County Commissioners Office, City of Sequim, Washington Department of Natural Resources, Olympic National Forest, Point No Point Treaty Council, the Sequim Elk Habitat Committee and WDOT.

WDFW requested \$75,000 and partners raised the 20 percent match of \$15,000 from WDFW, Point No Point Tribes, Rocky Mountain Elk Foundation and the Sequim Elk Habitat Committee. Sequim Police Department agreed to assist with traffic control during elk capture operations and with post-project monitoring and the Sequim Elk Habitat Committee agreed to provide routine maintenance.



U.S. Fish and Wildlife Service

This small investment has yielded tremendous results. From 1994-2000, a total 15 elk-vehicle collisions occurred along Highway 101 near Sequim. Since the system became fully functional in the fall of 2000 only one elk-vehicle collision has occurred through 2007.

## CALIFORNIA: Harbor Boulevard Wildlife Underpass (2004)

**W**hen the Los Angeles' Harbor Boulevard was built in 1990, the four-lane highway effectively divided 18,000 acres of contiguous habitat in the Puente-Chino Hills Wildlife Corridor. A decade later, a study determined that the location was a habitat chokepoint and recommended a wildlife underpass to decrease wildlife-vehicle collisions and restore habitat connectivity.

The Habitat Authority, a group charged with acquiring and maintaining habitat, mustered widespread support for a wildlife underpass. Before applying for TE funding, Los Angeles County Sanitation District put together a cost estimate for a wildlife underpass. The Habitat Authority paid for project design that was later supervised and reviewed by LA County Sanitation District and Public Works.

California distributes 75 percent of TE monies through regional transportation planning agencies and the other 25 percent at the state level. This project utilized both. Public Works and the Habitat Authority applied for TE funding at the regional level, receiving \$901,000 in regional funds. California State Parks applied for statewide TE funding and received \$337,000. The Habitat Authority

*Los Angeles County is a metropolitan region of nearly 20 million people, with few remaining large blocks of wildlife habitat. To reconnect a rare and vital wildlife linkage fragmented by a four lane highway, numerous municipalities, political representatives and community groups worked together to construct a large wildlife underpass.*

contributed a local match of \$146,265 for a total project price tag of \$1,384,265. Construction of the underpass began in September 2005 and was completed less than a year later. The end result: a safer road for people and wildlife in one of southern California's remaining unique wild areas.

Read a detailed summary of the project from the [Habitat Authority website](http://www.habitatauthority.org/pdf/Harbor_Bldv_Underpass.pdf).<sup>14</sup>

Habitat Authority



<sup>14</sup> [http://www.habitatauthority.org/pdf/Harbor\\_Bldv\\_Underpass.pdf](http://www.habitatauthority.org/pdf/Harbor_Bldv_Underpass.pdf)

## PENNSYLVANIA: Wildlife Passage Study (2000)

**I**n many places, further research is necessary before authorities can make decisions about where wildlife crossings are most needed. By locating, mapping, and prioritizing key habitats and integrating this data into transportation planning, states are able to preserve intact wildlife linkage corridors, or even reconnect areas once fragmented. These comprehensive analyses, generally referred to as habitat connectivity or wildlife linkage plans, are a proactive approach to habitat and wildlife conservation while addressing state and federal transportation needs.

In 2000, Pennsylvania Department of Transportation (PennDOT) and the Pennsylvania Game Commission submitted a TE Activity 11 application to study the effectiveness of existing box culverts, arches and bridges on U.S. 15 across three counties. PennDOT received \$120,000 in TE funding and contributed \$30,000 as the local match. The purpose of the project was not construction of wildlife crossings, but to study the effectiveness of existing structures in allowing safe passage for wildlife.

Researchers evaluated culverts and bridges by first measuring the dimensions of all such structures in the study area. According to the study, characteristics such as size, surrounding habitat, fencing, approaches, topography, noise levels, and average daily traffic should be considered in the creation of drainage culverts in order for them to be useful to wildlife. When planning and designing culverts, engineers should incorporate the habitat requirements of specific species. Connectivity zones should be based upon landscape analysis and used to concentrate mitigation efforts.<sup>15</sup>

PennDOT now uses the findings to help improve state highway design practices in order to conserve

*Pennsylvania Department of Transportation (PennDOT) and the Pennsylvania Game Commission teamed up to study wildlife passage along U.S. 15 in three counties. The study's recommendations now inform PennDOT's decisions on how to best incorporate wildlife connectivity into its projects.*

and enhance habitat connectivity for wildlife, in an effort to reduce wildlife-vehicles collisions.

## FLORIDA: I-75 Overpass (2000)

*Built to serve animals by night and humans by day, a land bridge over I-75 in Florida is a testing ground for the effectiveness of multi-use wildlife crossings.*

When I-75 was constructed as a major north-south corridor for the southeastern United States, it fragmented many natural areas, including what is now the Marjorie Harris Carr Cross Florida Greenway,



Alan Bryant, Florida Department of Transportation

widely used for both human recreation and wildlife habitat.

Over the years, the Florida Department of Environmental Protection's Office of Greenways and Trails recognized the need to reconnect the greenway and allow safe passage for recreationists and wildlife across I-75. Working in collaboration with Florida Department of Transportation (FDOT), the project was awarded \$3.6 million to build a land bridge. Inspired by the many wildlife ecoducts in Europe, project designers were seeking a multiple-use concept, allowing for human passage during the day and wildlife passage at night.

Completed in September, 2000, the overpass has a natural dirt covering and high vegetated walls to block headlight glare and traffic noise. "The vegetation on the bridge was intended to give bikers, equestrians and hikers the feeling that they were not leaving the "forest", it also worked for wildlife," says Mariano Berrios, FDOT's Environmental Programs Administrator.

The Greenway is now a popular area for bikers, walkers and equestrians. Sporadic monitoring has also captured images of bobcat and coyote using the bridge and users have seen indigo snake and gopher tortoise on the bridge, both of which are listed species in Florida. Mickey Thompson, Central Region Manager for Office of Greenways and Trails at the Department of Environmental Protection acknowledges that while the I-75 overpass may not be the equivalent of a



DMJM/Harris

Dutch "ecoduct" it still is a success for both people and wildlife. "Although separate connectors for wildlife and people would be ideal I think we have gotten substantial benefit for both needs."

# OPERATION TE11 @10

## WE WANT YOUR IDEAS!

**D**o you have a great idea for TE Activity 11 project in your state? Are your salamanders in need of a culvert? Do your moose need a crosswalk? Could your state use a habitat connectivity analysis?

To celebrate the tenth anniversary of TE Activity 11, Defenders of Wildlife is looking for your TE project ideas from across the country. If you are a conservation advocate or resource manager with a great idea for a TE project, please let us know! Fill out the nomination form and send it to us by August 29, 2008. We will review all the nominated projects and choose five outstanding projects that will receive support from Defenders of Wildlife professional staff.





DEFENDERS OF WILDLIFE  
OPERATION TE11 @ 10

Nomination Form

**APPLICANT INFORMATION**

Name  
Title  
Organization  
Website  
Address  
Phone  
Email

**SPONSOR INFORMATION**

Name  
Title  
Organization  
Website  
Address  
Phone  
Email

**PROJECT INFORMATION**

Name  
Location  
Description  
Benefit to wildlife and community  
Estimated cost  
Potential source(s) of matching funds  
Partners and Supporters  
(Please include photos, maps or any other supporting information available)

**YOUR STATE TE INFORMATION**

Your TE Coordinator(s)  
Date of next TE Selection Cycle

**Cut and paste this into a Word document, fill out the information and email to [twhite@defenders.org](mailto:twhite@defenders.org).  
DEADLINE FOR SUBMISSION IS AUGUST 29, 2008**

# TRANSPORTATION ENHANCEMENTS AND THE NEXT TRANSPORTATION BILL REAUTHORIZATION

**T**he Transportation Enhancements program has been an incredible boost to communities and has great potential to provide benefits to wildlife and habitat. However, the TE program is far from perfect. Some conservationists have encountered difficulties in navigating the TE application and selection process.

Fortunately, the highway bill is up for reauthorization in 2009, granting an opportunity to make improvements to the TE program. In order to maximize the benefits for wildlife, Defenders of Wildlife makes the following suggestions for improvement:

**TE Activity 11 should include eligibility for aquatic wildlife and fish passage projects.** Activity 11 language specifically states "...to reduce vehicle-caused wildlife mortality while maintaining habitat connectivity." Because fish are not directly killed by vehicles, FHWA has interpreted the language to only include terrestrial wildlife, and not aquatic species. As a result, some excellent fish passage restoration projects have been rejected.

At their August 2007 meeting, state TE Program Managers and FHWA suggested the following revision to Activity 11:

- (i) Environmental mitigation to address water quality degradation due to highway runoff; and
- (ii) Environmental mitigation to reduce transportation-related wildlife mortality and to restore or maintain habitat connectivity, including land and aquatic species.

**Funding rescissions should be equally distributed across programs.** Each state transportation agency had the flexibility to choose the programs from which the funds would be

taken. Sadly, many states chose to take a disproportionately large chunk from the TE program. Congress and states should continue the trend of making rescissions more proportional across programs.

**The application and selection process should be transparent, fair and equitable.** Each state is allowed to develop its own application and selection process. Some have done better jobs than others.

**Make the TE process transparent:** Applying for TE funds will never be easy. However, the TE application and selection processes should be easily accessible to all potential applicants. Information, forms, deadlines and contact information should be kept up to date and easy to find.

**Remove bias from selection committees:** TE activities cover a wide range of disciplines, yet selection committees can be rather homogenous. People with potential conflicts of interest should recuse themselves from the selection process. Elected leaders may unfairly favor projects in their home district.

**Share funds among all TE activities:** There are 12 different TE activities, yet the lion's share of the funding goes to just 2 or 3 activities. This disparity is partly due to the lack of applications submitted for Activity 11 and partly because selection committees rarely have representatives who are familiar with wildlife habitat connectivity.

**Support your TE Coordinator:** Applicants are dependent upon the coordinators to guide them through the process. The best TE Coordinators are those that have sufficient resources and internal cooperation from agency leadership that values the TE program.

## CONCLUSION

**A**s 2008 marks the ten year anniversary of Transportation Enhancement's Activity 11, we begin a new era of merging wildlife conservation with better transportation policy and practice. With a spirit of innovation and partnership, it's up to conservationists to take full advantage of this opportunity, demonstrating how to improve human communities while reducing the impact of roads and highways on wildlife and habitat.



Chris Slesar

# APPENDIX

## TE GLOSSARY

**Categorical Exclusion (CE)** — A technical exclusion for projects that do not result in significant environmental effects; such projects are not required to prepare environmental assessments or environmental impact statements.

**Eligibility** — The criteria established by the FHWA by which a project qualifies for Transportation Enhancements funding. In determining eligibility, the FHWA has stipulated that a project must be one or more of the 12 TE activities, and be related to surface transportation. States may have additional eligibility requirements.

**Federal Share** — The portion of the project cost funded by the federal government. These Federal funds are normally matched with State and/or local government funds. The federal share is 80 percent for most projects (higher in states with large proportions of federal lands).

**In-Kind Contributions** — Allowable (chargeable) costs of a project contributed by other government entities or private parties, and including donations of cash, real property, materials and (voluntary) contribution of professional services and labor.

**Matching Funding (Non-Federal Funding Share)** — The percentage of non-federal funds required for almost all Federal-aid programs to match a Federal contribution. The standard ratio is a 20 percent match from State and local sources (lower in some western States).

**National Environmental Policy Act (NEPA)** — Federal law that requires every Federal agency to prepare a detailed report evaluating environmental impacts and alternatives to a proposed action.

**National Historic Preservation Act of 1966 (NHPA), Section 106** — This section requires Federal agencies to consider the potential effects of a project on a property that is listed in, or eligible for, the National Register of Historic Places.

**Right-of-Way (ROW)** — A linear corridor of land such as used for transportation or other facilities such as highways, roads, streets, railroads, trails, light-rail, and utilities.

**Section 4(f) of the U.S. Department of Transportation Act** — Section 4(f) resources consist of publicly owned parks, recreation areas, wildlife and waterfowl refuges, and national, State or local historic sites. Section 4(f) land cannot be used for U.S. DOT-funded projects unless it is determined that no feasible and prudent alternative exists.

**Soft Match** — The value of activities outside the project scope but directly related to the project which are credited toward the non-Federal share of a project.

**Sponsor** — One or more individuals, partnerships, associations, private corporations or public authorities recommending a particular project and committed to its development, implementation, construction, maintenance, management and financing. In most States, a project sponsor must be a public entity with tax-bearing authority.

**Surface Transportation** — All elements of the intermodal transportation system including water transport. TE funds cannot be used for military or aviation related projects.

**Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as Amended** — Federal law that provides procedural and other requirements in the acquisition of real property and provides for relocation payments and advisory assistance in the relocation of persons and businesses impacted by Federal or Federally-assisted projects.

# SAMPLE APPLICATIONS

## SAMPLE APPLICATION—BLANK

Virginia

[http://www.virginiadot.org/projects/resources/Final\\_EN\\_Application\\_2008-2009.doc](http://www.virginiadot.org/projects/resources/Final_EN_Application_2008-2009.doc)



COMMONWEALTH OF VIRGINIA

**FY 2008 - 2009  
PROJECT APPLICATION FORM  
\*\*APPLICATION DEADLINE NOVEMBER 1, 2007\*\***

Date (mm/dd/yyyy) \_\_\_\_\_

Use **TAB KEY** to reach each field.

Instructions for completing each field appear on the status bar at the bottom of the active window. Press **F1** for additional help.

<b>A. Applicant</b> (Group, Agency, etc.)	Name: Address: City, State Zip Telephone: Email Address:				
<b>B. Project Sponsor</b> (if different from A.) Name and Address	Name: Address: City, State Zip Telephone: Email Address:				
<b>C. Responsible Person/Title – Sponsor:</b>	Name: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Telephone:</td> <td style="width: 40%;">Fax:</td> </tr> <tr> <td colspan="2">Email:</td> </tr> </table>	Telephone:	Fax:	Email:	
Telephone:	Fax:				
Email:					
<b>D. Project Manager:</b>	Name: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Telephone:</td> <td style="width: 40%;">Fax:</td> </tr> <tr> <td colspan="2">Email:</td> </tr> </table>	Telephone:	Fax:	Email:	
Telephone:	Fax:				
Email:					
<b>E. Project Title:</b>					
<b>F. Project Description:</b>					
<b>G. Transportation Enhancement Categories (Check all that apply – See Enhancement brochure for details of categories)</b>					
1. <input type="checkbox"/> Pedestrian and Bicycle Facilities 2. <input type="checkbox"/> Pedestrian and Bicycle Safety and Education 3. <input type="checkbox"/> Acquisition of Scenic or Historic Easements and Sites, including Historic Battlefields 4. <input type="checkbox"/> Scenic or Historic Highway Programs, including Tourist and Welcome Centers 5. <input type="checkbox"/> Landscaping and Scenic Beautification 6. <input type="checkbox"/> Historic Preservation 7. <input type="checkbox"/> Rehabilitation and Operation of Historic Transportation Building, Structures, or Facilities 8. <input type="checkbox"/> Preservation of Abandoned Railway Corridors and Conversion to Trails 9. <input type="checkbox"/> Inventory, Control, and Removal of Outdoor Advertising 10. <input type="checkbox"/> Archaeological Planning and Research 11. <input type="checkbox"/> Environmental Mitigation of Runoff Pollution and Provision of Wildlife Connectivity 12. <input type="checkbox"/> Establishment of Transportation Museum					

<b>II. Relationship to a Previously Funded Enhancement Project</b>	
--	--

<b>I. Critical Milestone Dates and Endorsements</b>	(Attach copy of the public notice and all resolutions endorsing the project)
a. Public Hearing	
b. Local Government Endorsement	
c. MPO Resolution Endorsement	<input type="checkbox"/> Check if not applicable

<b>J. Federal Enhancement Funds Requested in this Application</b>	(Maximum 80%)	
---	---------------	--

<b>K. Match Required</b> <b>AUTOMATIC FT for details</b>	(Minimum 20%)	0.0
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L. Match Breakdown by Source (include value of in-kind/donations)	Status (check appropriate status)	Amount
	<input type="checkbox"/> Confirmed <input type="checkbox"/> Anticipated	
	<input type="checkbox"/> Confirmed <input type="checkbox"/> Anticipated	
	<input type="checkbox"/> Confirmed <input type="checkbox"/> Anticipated	
	<input type="checkbox"/> Confirmed <input type="checkbox"/> Anticipated	
<b>THIS TOTAL MUST MATCH ENTRY IN ITEM K</b>	<b>TOTAL</b>	\$0.00

M. Other Funding Sources Available (beyond match requirement)	Status (check appropriate status)	Amount
	<input type="checkbox"/> Confirmed <input type="checkbox"/> Anticipated	
	<input type="checkbox"/> Confirmed <input type="checkbox"/> Anticipated	
	<b>TOTAL</b>	\$0.00

**N. Project Budget:** As Attachment A, enclose a complete project budget. If the project includes multiple phases, show each phase. Budget projections should reflect the total project cost, including that for federal and non-federal funds.

**O. Selection Criteria:** Complete Attachment B. Include pictures, maps and support documents. Attach additional sheets as needed.

By signing below, Project Sponsor indicates their understanding that these are federal funds, that project development must comply with all federal and state guidelines, and that they are responsible for future maintenance and operating costs of the completed project.

**P. Sponsor Signature (person responsible)**

**Date**

**MAILING ADDRESS AND TECHNICAL ASSISTANCE**

**Please mail FIVE copies of your completed application package to the following address:**

Mr. Michael A. Estes  
Local Assistance Division  
Virginia Department of Transportation  
1401 East Broad Street  
Richmond, Virginia 23219

Winky Chenuault  
Pamela Liston  
Drica Jeter  
Cynthia Clark

For Technical Assistance Contact:  
(804) 786-2264    Toll Free: (800) 444-7832  
(804) 786-2734    Fax: (804) 371-0847  
(804) 786-9125  
(804) 371-6289  
[EnhancementProgram@VDOT.Virginia.gov](mailto:EnhancementProgram@VDOT.Virginia.gov)



COMMONWEALTH OF VIRGINIA

FY 2008 - 2009  
**ATTACHMENT A**  
**PROJECT BUDGET TEMPLATE**

**PROJECT BUDGET REQUIRED BY ALL APPLICANTS**

This template is an example for creating a detailed project budget – not a form that must be completed online. The number of construction phases, number and types of tasks, and budget items will vary by project. However, **every budget must include totals for all applicable phases** -- Preliminary Engineering, Right of Way and/or Construction (highlighted in gray). Also, please note that **all** projects should have some money budgeted for Preliminary Engineering, including environmental and VDOT review charges.

Task by Project Development Phase	Construction Phase 1	Construction Phase 2	Construction Phase 3	TOTAL Project Costs
<b>PRELIMINARY ENGINEERING PHASE</b>				
Engineering/Design Fees				
Environmental Document				
Surveying Fees				
Estimated VDOT review charges (we recommend budgeting for 3-5% of total project cost)				
Grant Administrative Costs				
<i>Add rows as needed</i>				
<b>PE Phase TOTAL COSTS</b>				
<b>RIGHT OF WAY PHASE</b>				
Right of Way Purchase				
Utility Relocation				
<i>Add rows as needed</i>				
<b>RW Phase TOTAL COSTS</b>				
<b>CONSTRUCTION PHASE</b>				
<i>*Include construction line items from engineer's estimate, add rows as needed</i>				
Inspection Fees				
Construction Management				
Contingency				
<i>Add rows as needed</i>				
<b>CN Phase TOTAL COSTS</b>				
<b>TOTAL COSTS (PE, RW &amp; CN)</b>				

EXHIBIT





**D. If this project has received Enhancement funds in prior years, complete the following:**

Enhancement Award by Year (include Federal Enhancement funds only, do not include applicant match or other non-federal participation). Identify if the award was applied to a prior phase of a multi-phased project.

Year	Award	Applied Toward/Phase
1993		
1994		
1995		
1996		
1997		
1998		
1999		
2000		
2001		
2002		
2003		
2004		
2005		
2006		
2007		
Total	\$0.00	

**SAMPLE APPLICATION – COMPLETED**

**FFY 98/99  
TRANSPORTATION ENHANCEMENT  
APPLICATION**

**MPO/RTPO** \_\_\_\_\_

**Regional Priority** \_\_\_\_\_

**Previously Submitted in 19** \_\_\_\_\_

**1. Project Title** Elk/Vehicle Collision Reduction (Highway 101- Sequim Bypass)

**2. Lead Agency** Washington Department of Fish and Wildlife

**3. Contact Person** Shelly Ament Wildlife Biologist  
(Name) (Title)

**4. Phone:**

**Address** P.O. Box 1933  
Sequim Washington 98382  
(City) (State) (Zip Code)

**5. Non-Certification Acceptance (CA) Agency (Identify CA Agency expected to provide assistance):**

Washington State Department of Transportation, Olympic Region

**6. Type of Enhancement Project: (Italicized type indicates new activities under TEA-21)**

\_\_\_ Provision of Facilities for Bicycles

\_\_\_ Provision of Sidewalks/Facilities for Pedestrians

\_\_\_ Acquisition of Scenic Easements and Scenic or Historic Sites

\_\_\_ Scenic or Historic Highway Programs (*Including Tourist and Welcome Center Facilities*)

\_\_\_ Landscaping and other Scenic Beautification

\_\_\_ Historic Preservation

\_\_\_ Rehabilitation and Operation of Historic Transportation Buildings, Structures or Facilities

\_\_\_ Preservation of Abandoned Railway Corridors

- \_\_\_\_\_ Control and Removal of Outdoor Advertising
- \_\_\_\_\_ Archaeological Planning and Research
- X   Mitigation of Water Pollution due to Highway Runoff *or reduce Vehicle-Caused wild-life mortality while maintaining habitat connectivity*
- \_\_\_\_\_ *Provision of Safety and Educational Activities for Pedestrians and Bicyclists*
- \_\_\_\_\_ *Establishment of Transportation Museums*

**7. Total Project Description: (attach detailed 8 2@ x 11@ vicinity map) Explain the nature of the entire project. Indicate the major work involved, a brief comparison of existing and proposed conditions, and type of use etc.)**

This project is an innovative approach to minimize the collision of vehicles with elk on Highway 101 and the proposed new Bypass within the city limits of Sequim. It is essential to provide some background information about the local elk herd, referred to as the Dungeness elk herd, prior to describing the details of the proposed project. Historical summaries suggest that Roosevelt elk were abundant on the Olympic Peninsula when European settlers arrived in the 1800's. Settlers have documented that large numbers of elk once wintered around Sequim and Discovery Bay. As a result of over hunting, the population of elk became dramatically low by 1900. From 1905-1933 the Washington State Legislature made it unlawful to kill elk statewide. Since 1933 the Washington Department of Fish and Wildlife (WDFW) has regulated elk hunting. The Dungeness elk herd was estimated to consist of 150 animals in 1926. The home range of the elk herd encompasses Olympic National Forest lands within the northern Quilcene Ranger District, Department of Natural Resources (DNR) land in the vicinity of Burnt Hill, and private land within and adjacent to the city of Sequim (Figure 1). Over harvest, along with urbanization and predation, reduced the herd population to the point where long-term viability was in jeopardy by 1960. From 1993-1996 a conservation closure for elk hunting was imposed in the northeast and east region of the Olympic Peninsula. During this closure the Dungeness herd population increased over 40% due to limited mortality rate, a slight increase in cow to calf ratio, and immigration into the herd. Heavy snows (> 40cm) occurred during the winter of 1992-1993 on the Olympic Peninsula. As a result of the lack of available forage, the Dungeness elk herd moved off Burnt Hill to lower elevations and inhabited the Sequim valley. Since this snow event, the herd has demonstrated non-migratory behavior. Except for calving, the elk remain in the lowland area year-round. The area they inhabit is mostly private land consisting of predominantly pastures and residential development. Since the Dungeness elk herd moved into the Sequim valley they have adopted the area as their year-round home, with only some cows leaving briefly to calve in late spring. The number of elk presently within the main Dungeness elk herd ranges from 65-70 animals. Reduced levels of forage on State and National Forest lands, high recreational traffic (especially ORV use) on state lands, and high cougar populations

The elk herd presently poses a very serious safety concern when crossing Highway 101. In April of 1995 a total of 17 elk from the herd were captured and relocated away from the Dungeness drainage. In 1997 and 1998 a permit only limited hunt was initiated to assist with management of this controversial elk herd. All these efforts have only slightly reduced property damage and safety concerns associated with the elk crossing Highway 101. The actual ground herding of the elk away from Highway 101 and private lands has proven to be one effective way to minimize conflicts. Unfortunately, the WDFW no longer has sufficient funds to employ the part-time elk herders.

In December of 1997, the WDFW requested that a Sequim citizen's committee be established to evaluate management options to reduce safety concerns and property damage associated with the elk herd. This non-profit group, known as the Sequim Elk Habitat Committee (SEHC), has developed a two phase plan for managing the elk herd. The first phase is for the short-term and includes herding the elk away from Highway 101 and the Bypass, creating and enhancing forage on federal and state lands, reducing vehicle access to key elk-use areas, and beginning public education efforts. The long-term phase includes establishing an elk viewing site(s), expanding education and interpretation programs, and maintaining forage and calving areas. Representatives from the WDFW, Olympic National Forest, Washington Department of Natural Resources, and Point No Point tribes are planning efforts to implement the Committee's plans.

All of these groups, along with the SEHC, Washington Department of Transportation (WDOT), and local city officials, recognize that a herd management plan must incorporate a method of reducing elk/vehicle collisions along Highway 101 and the Sequim Bypass which is presently under construction. State Highway 101 serves as a regional touring and commuter route, as well as a primary freight route, for the Olympic Peninsula. If not herded away by the WDFW or city law enforcement officers, the elk herd will often cross busy Highway 101. The death of elk, along with significant damage to vehicles and some minor injuries to motorists have resulted. The safety risk to both elk and human life will become even more severe when the Sequim Bypass is opened in the fall of 1999.

This proposed project is designed to prevent elk/vehicle collisions by warning motorists traveling along Highway 101 and the new Bypass when the elk herd are in close vicinity of the roadways. The specific project area is a two mile section along Highway 101 and the bypass located between Palo Alto Road to the east and Still Road to the west (Figure 1). Within this well documented elk crossing zone, signs will be installed on the south and north side of each roadway within the designated WDOT Right of Way. A total of at least 10 signs will be needed to properly warn motorists passing on both the Highway 101 and the Bypass. The exact location of each sign will be coordinated with WDOT to maximize safety for motorists. The

together for simultaneous activation. It will be possible to program the signs so that only a portion will be activated at a given time. The relay trigger source to activate the lites on the signs will be two receiving stations specially designed by Advanced Telemetry Systems, a company from Minnesota which specializes in designing and manufacturing telemetry systems for wildlife. These two stations will be positioned approximately one mile apart within the defined project area. They will be installed within the designated WDOT Right of Way along the Bypass. The WDFW will coordinate with WDOT on the optimal location for each station. The receiver station will include a receiver unit and a data collection computer. A protective structure, approximately 24" x 36", will be provided at each station to keep equipment items secure and waterproof. A total of four custom-tuned antennas will be installed at each receiver station. Each data collection unit will be manually programmed to have the receiver continuously scan for specific frequencies within a designated local distance. The receiver may be programmed to discriminate for specific frequency pulse codes within a certain distance (ex: 1/4 mile from the station). If a programmed pulse code is detected a relay trigger connected with the sign power source is activated and the lites on the signs will initiate flashing action. Selected elk within the Dungeness herd will serve as the activation component of the designed system. At least 8 elk within the Dungeness herd will be fitted with Advanced Telemetry Systems collar mounted transmitters. Each transmitter will include a special circuitry that transmits a coded-pulse, along with a designated frequency. When collared elk within the herd approach within 1/4 mile of Highway 101 and the Sequim Bypass a relay signal will activate the sign lites to caution motorists that the elk may attempt to cross the roadway. When the elk herd is detected near the roadways a team of elk herders will then assist with moving the elk safely across or away from the highways to prevent elk/vehicle collisions.

**8. Transportation Enhancement Project Description: Explain those activities of the total project that will be completed using Transportation Enhancement funds.**

The WDFW is requesting \$75,000 to implement this creative project to protect elk and motorists. The funds from the grant will be used to implement nearly all aspects of this project. No portion of the proposed enhancement project will be initiated without the awarding of this grant. The WDFW and the local Sequim Elk Habitat Committee have been seeking other funding sources to assist with the specific prevention of elk/vehicle collisions in the Sequim vicinity but they have been unsuccessful to date. The new Astate of the art@ designed telemetry system proposed for use in this specific project, combined with the proven effectiveness of flashing signs to warn motorists to decrease driving speed, should prove useful in the possible acceptance of this grant proposal. The elk collar-activated cautions signs and ground herding of the elk are the key components to the success of this project.

will go towards items required for the elk collaring effort - (\$2,900 for elk collars, \$1,800 for capture drugs, \$500 for misc. items).

The WDFW was advised that the scope of the transportation enhancement grant would not allow for funding of the salary of elk herders. Our agency and the SEHC are actively seeking other funding sources to employ two full-time herders to assist with this integral part of the proposed project. They are optimistic that this supplemental funding will be provided in the very near future. It will be necessary to provide equipment for these herders in order for them to locate the elk, assist with physically moving the elk away from roadways, and also gather important biological information on the Dungeness herd. A portion of the grant funding, approximately \$7800, will be used to provide herders with telemetry receivers/antennas, radios, visual aids, and safety vests.

**Complete items 9 through 11 as applicable.**

**9. Preliminary Engineering/Design:**

**Estimated Start Date:** November 1998      **Estimated End Date:** February 1999

**Phase status (Work already completed, In progress, Awaiting funding, etc. and factors that may slow phase progress.**

The WDFW has previously initiated communications with Advanced Telemetry Systems to assist with the design of the specialized telemetry system which will be used for the project. The receivers and data collection computers have been designed and manufactured. The collar mounted elk transmitters are presently available but it will take approximately one month to allow for the pulse-code programming for each collar.

The preliminary design plan for the construction and installation of the caution signs with lites has been developed cooperatively with the Washington Department of Transportation. A sign specialist with WDOT was consulted to provide input on a proper sign design which would meet standards and safety requirements. A WDOT electronics engineer provided very useful information for obtaining a local electrical power source, as well as outlining a design for a successful interface between the receiving stations and connections to activate the flashing lites.

**10. Right of Way: Required      Yes X      No**

**11. Construction / Implementation:**

**Estimated Start Date:** February 1999 **Estimated End Date:** March 2000

**Phase status (Work already completed, In progress, Awaiting funding, etc. and factors that may slow phase progress.**

The construction and implementation phases of this project are presently awaiting funding. The WDFW, Point No Point Tribes, Sequim Police Department, Sequim Elk Habitat Committee, and local chapter of the Rocky Mountain Elk Foundation have already committed funds for various parts of this inventive enhancement project. The Washington Department of Transportation will be responsible for the construction and installation of the elk crossing signs. They will also oversee all project associated work within the Right of Way for both Highway 101 and the Bypass.

**12. Describe the source of matching and other funds and whether they have been approved for use on this project or the status of your efforts to obtain the proposed matching or other funds. (Matching funds must be available at the time of funds obligation)**

The Washington Department of Fish and Wildlife has committed \$7,200 for implementation of the project. They will serve as lead agency for the enhancement project and work closely with all associated project partners. The funding from WDFW will be used to organize and conduct elk capture operations, coordinate with Advanced Telemetry Systems and WDOT for installation of receiver stations, and for initial training of elk herders. The Point No Point Tribes have contributed \$2,400 to assist with the project. Two tribal biologists which have experience with the immobilization and collaring of elk will be provided to assist with the elk capture operations. The tribes have also dedicated funding for efforts to monitor the Dungeness elk herd to gather valuable information about herd locations and age/sex composition. The Sequim Police Department has pledged \$2,000 to assist with traffic control during elk capture operations and provide WDFW with support on monitoring the success of the project proposal. The local chapter of the Rocky Mountain Elk Foundation has enthusiastically dedicated \$2,200 to the project. Members of this private organizations will assist the elk collaring associated projects. The Sequim Elk Habitat Committee has committed \$1,200 for the project to assist WDFW with project implementation. They will provide the materials, complete construction, and provide routine maintenance of the weatherproof secure boxes which will house the two telemetry receiver stations.

**13. Budget Summary (Minimum 13.5% Match Required)**

<b>FUND SOURCE</b>	<b>PE PHASE</b>	<b>RW PHASE</b>	<b>CN PHASE</b>	<b>TOTAL PROJECT</b>
Enhancement	\$ _____	\$ _____	\$ <u>75,000</u>	\$ <u>75,000</u>
Other Federal	\$ _____	\$ _____	\$ _____	\$ _____
*State	\$ _____	\$ _____	\$ <u>7,200</u>	\$ <u>7,200</u>
*Local Agency	\$ _____	\$ _____	\$ <u>2,000</u>	\$ <u>2,000</u>
**Private	\$ _____	\$ _____	\$ <u>3,400</u>	
**Other	\$ _____	\$ _____	\$ <u>2,400</u>	\$ <u>2,400</u>
<b>Total</b>	\$ _____	\$ _____	\$ <u>90,000</u>	\$ <u>90,000</u>

\* Eligible Match

\*\* Can be eligible match under selected conditions (Clarify through RTPO before

**14. Describe the extent to which the project has been reviewed and approved by the Local Jurisdictions and the State. (identify public meetings, environmental review, legislative actions, supporting organizations, inclusion in the adopted plan, etc.)**

The Sequim Elk Habitat Committee (SEHC) recently notified the WDFW about the Transportation Enhancement Grants which are available under TEA 21. A short-term goal of this committee has been to work closely with the WDFW to help minimize and possibly prevent any further elk/vehicle collisions along Highway 101. This group of local citizens was formed at one of the public meetings held by WDFW to address concerns over the elk herd. The members are devoted to the protection of the Dungeness elk herd and have been meeting since December of 1997. The non-profit organization has volunteered over 800 hours of their time to develop a management strategy for the elk herd which inhabits Sequim. This committee fully supports this proposed project and postulates that implementation of this project



dispatched to assist with the investigation of an accident involving an elk or to assist with herding the elk herd away from the highway. Fortunately, no one has been seriously injured to date but government officials fear that it is a matter of time before a citizen is killed. This risk will increase greatly with the opening of the new high-speed Bypass. Local officials have expressed their concerns to the WDFW. At least three public meetings, sponsored by local officials and the WDFW, have been held since 1995 to discuss possible solutions for this issue. Officials representing both local and regional governments urge for favorable action on this proposed project. Both the Sequim Police Department and the Clallam County Sheriff's Department have pledged full support for the project.

An agency committee, consisting of representatives of the WDFW, Quilcene District of Olympic National Forest, Washington Department of Natural Resources, and the Point No Point Tribes, was formed in early 1998. This committee was developed to implement the Dungeness herd management plan which was cooperatively developed with SEHC. The group has conducted a total of six meetings during the past year to discuss various proposals. They view this project as an important step in establishing a solution for reducing elk-vehicle collisions.

Other organizations, such as local chapter of the Rocky Mountain Elk Foundation, and most local residents of Sequim have widely expressed their support for this resourceful project.

Letters of support from the following agencies and groups have been submitted with this application: Clallam County Commissioner's Office, City of Sequim, Washington Department of Natural Resources, Olympic National Forest, Point No Point Treaty Council, and the Sequim Elk Habitat Committee. A support letter from the Washington Department of Transportation was also provided to the Regional Transportation Planning Organization.

**15. Describe how or why the project relates to the transportation system. (Projects must be primarily for transportation purposes rather than recreational purposes. Projects lacking a functional, proximity or impact linkage to a transportation facility are not eligible.)**

This project directly relates to a transportation system since the designated project area is a two mile section of State Highway 101 and the new Sequim Bypass which is presently under construction. The Transportation Equity Act for the 21st Century (TEA-21) established a program to provide funding for grants and research to investigate and address the relationship between transportation and community and system preservation. A specific goal of the program is to plan and implement strategies which reduce environmental impacts of transportation. A new criteria which has been listed as an eligible activity within the scope of

elk were either killed by the impact of a vehicle or were seriously injured and then humanly dispatched by investigating officers. The WDFW reports that the elk herd has inhabited the lower Sequim Valley more frequently during the past two years. The agency was able to hire two part-time ground herders in September of 1997. They assisted with reducing elk/vehicle collisions by minimizing the number of times the elk crossed the highway. The herding effort was discontinued in the spring of 1998 due to recent funding reductions in the WDFW. The number of elk/vehicle collisions along the local transportation system have significantly increased in recent months. Two bull elk and two elk calves were killed within the defined elk crossing zone this past fall. The Sequim Bypass, which is being constructed to improve the local transportation system, will cut across the area between the State and Federal lands and Highway 101. Unfortunately, this is an area frequently used by the elk. This second highway will have more lanes to allow for merging traffic and a 60 mph speed limit. The concern for the safety of motorists and the protection of elk will significantly increase when this highly demanded transportation route is open for public use. This proposed project to advise motorists when elk are present will hopefully help minimize the number of elk/vehicle collisions which may occur on this Bypass in the future.

**16. Describe why this project is an enhancement project and not part of another transportation project. (Note: Environmental enhancement must be more than what is normally provided, that is they must be actions which are not found as mitigation measures in an Environmental Impact Statement (EIS) or Mitigated Declaration of Non Significance (MDNS)).**

The WDOT Project Manager for the Sequim Bypass reports that an Environmental Impact Statement was prepared as a requirement of approval for this significant regional transportation project. The standard WDOT condition of clearing vegetation along the Right of Way (ROW) will be implemented. Grass will be planted along the ROW and will be maintained in the future. These efforts are recognized as mitigation measures for motorists to improve the visual detections of wildlife which may cross the highway. A four foot chain-link fence will be installed along the ROW of the Sequim Bypass. This fence will certainly not inhibit the elk from approaching or crossing the Bypass. There are no specific references to the local Sequim elk herd or conditions provided in the EIS to protect the elk or motorists. In 1996 the regional office of WDOT and the Port Angeles chapter of the Rocky Mountain Elk Foundation worked cooperatively on a project to install two AElk Crossing@ signs near prominent elk crossing areas along Highway 101 within the city limits of Sequim. Motorists have paid little attention to these typical game-crossing signs. The caution signs have proved ineffective at reducing elk/vehicle collisions.

Other transportation systems within Washington, and even throughout the country, could benefit from the results of implementation of this proposed enhancement project.

**17. Are there any circumstances that could delay this project and/or are there any critical times associated with this application? (e.g., right of way acquisition, environmental documentation, other funds needed to match other applications, etc.)**

If a transportation enhancement grant is awarded for this project the WDFW will work cooperatively with the WDOT to complete all the associated work with the installation of signs and receiving stations within the Right of Way of the new Sequim Bypass prior to the opening of this transportation route.

The WDFW veterinarian advises that the optimal times of year to conduct an elk collaring effort is in early spring or possibly mid to late July. This is based on less stress from winter health or summer heat conditions for the animals, less chance of impacting cow pregnancies or young calves, and the avoidance of any associated conflicts with hunting seasons which occur from August - December. The Transportation Improvement Grant Board will not be submitting the list of selected enhancement projects to the Legislature and Governor for final approval until the end of March 1999. As a result of this proposed time frame, our agency may be pushing the window of opportunity for elk capturing this spring but could also conduct the elk collaring effort mid summer when the elk calves are more fully developed. The WDFW could certainly organize for a two-day elk capture effort within a few weeks. However, at least a one month notice will be necessary to allow for modifications required on the elk collars and for obtaining the immobilization drugs needed for the operation.

**18. Statewide Significance - Explain how this project benefits tourism, improves safety, enhances connections to regional or statewide systems? Is this project recognized as a scenic highway or is it on the state or national historic register?**

As many as ten thousand travelers have been documented to pass through Sequim on Highway 101 in one day. A large number of motorists who travel past are tourists en route to explore the natural beauty of Olympic National Park and other regions of the peninsula. The herd of Roosevelt elk which frequents Sequim is also considered a significant attraction for tourists and local residents. The WDFW is aware that elk numbers on the Olympic Peninsula are decreasing at a disturbing rate. This innovative project will assist with the protection of one of the more popular elk herds within the region. This project significantly improves the safety for individuals who may be traveling on the roadways within the elk crossing zone within the city

**QUESTION 19 is OPTIONAL**

**19.a Community Service Program \_\_\_\_\_**

**Describe the degree the proposed project meets needs of the community in the areas of Education, Community Improvement, Human Services, Conservation and the Environment, Public safety. The number of different groups that benefit from this project. These may include Students, Seniors, Unemployed, Disadvantaged, Disabled and Others**

All motorists and associated passengers who may be travelling along the highway within the designated elk crossing zone could possibly benefit from the implementation of this project. The risk of a vehicle colliding with an elk will be significantly reduced if the motorists acknowledge the flashing signs and become more perceptive of the presence of elk near the roadway. A goal of both the WDFW and the Point No Point Tribes is to ensure that there will be healthy elk populations for current and future generations. Elk are known to provide an important ceremonial and subsistence resource for all of the Point No Point tribes. A viable elk herd can provide the public with various recreational opportunities, such as viewing or hunting. This project will help protect the long term integrity of the Dungeness elk herd. Opportunities to educate the general public on the elk herd will be pursued in the future at a rest area which is proposed along the Sequim Bypass.

**19.b Employment Program \_\_\_\_\_**

**Describe the amount of training provided to the participants in the areas both in the area of on the job training and in the area of Personnel and Career Development. The degree to which the under employed group targeted for employment is represented in the community.**

This question is not applicable for the proposed enhancement project.

**19. Approval of Lead Agency**

**This project has the concurrence of the agency, is consistent with the agency comprehensive plan, and this agency will provide ongoing maintenance and operations of the proposed project.**

**LEAD AGENCY** Washington Department of Fish and Wildlife

**DATE:** \_\_\_\_\_ **BY:** \_\_\_\_\_

**(WDFW Wildlife Program Manager - Region 6)**

# National Transportation Enhancements Clearinghouse



## Transportation Enhancement Activity 11

Projects related to Wildlife (not stormwater mitigation)

	YEAR	ST	PROJECTName	Description	FEDERAL	MATCH	TOTAL
# of Projects: 71					\$19,780,117	\$11,807,341	\$31,587,458
x	1992	AR	Hwy. 65 Bypass (Wetland Enhancement)		\$18,400	\$4,600	\$23,000
x	1992	MI	Road/Stream Crossings	Road Crossing	\$99,737	\$99,737	\$199,474
x	1993	CO	Spring Creek Water Anaylsis	Water Quality	\$200,000	\$50,000	\$250,000
x	1993	CT	Cove River wetland restoration, DEP		\$192,000	\$48,000	\$240,000
x	1993	CT	Field Creek Wetland Restoration, DEP		\$200,000	\$50,000	\$250,000
x	1993	CT	Restore wetland at Mill Meadow, DEP		\$65,533	\$16,383	\$81,916
x	1993	CT	Sybil Creek Wetland Restoration, DEP		\$206,800	\$51,700	\$258,500
x	1993	GA	Lake Oconee Parkway Gateway Enhancement and stormwater management	Construction Project. Landscape with hardwood trees, shrubs, and wildflowers and Storm Water Management	\$100,000	\$25,000	\$125,000
x	1993	MD	Fish Passages - Year 1	Designed and retrofited SHA culverts with fish ladders and modification of stream invert to eliminate stream blockages and improve fish passage to natural spawning areas. Ten year program done in cooperation with DNR. Sites selected each year.	\$260,583	\$64,202	\$324,785
x	1993	PA	Cleanup Progr.Start. Kits	PENNA CLEANWAYS MULTI COUNTY TRANSPORTATION ENHANCEMENTS PROGRAM	\$3,000	\$0	\$3,000
x	1993	PA	Environmental Process	STATEWIDE / VARIOUS ENHANCEMENT PROJ'S ENVIRONMENTAL PROCESS STREAMLINING SCOPING VARIOUS PROJECT TYPES TRANSPORTATION ENHANCEMENTS PROGRAM LOCATED NEAR I-81 REST AREA. LOCATE AND MONITOR WETLAND TO COLLECT STORMWATER RUNNOFF FROM HGWY.	\$30,000	\$7,000	\$37,000
x	1993	PA	Susq. River Basin Wetland	TRANSPORTATION ENHANCEMENTS PROGRAM	\$88,000	\$22,000	\$110,000
x	1994	AK	BADGER RD MP 0-.6 RECON & ENVIRON RESTORATION	NORTHERN REGION	\$52,542	\$5,216	\$57,758

	YEAR	ST	PROJECTName	Description	FEDERAL	MATCH	TOTAL
x	1994	MD	Fish Passages - Year 2	Designed and retrofited SHA culverts with fish ladders and modification of stream invert to eliminate stream blockages and improve fish passage to natural spawning areas. Ten year program done in cooperation with DNR. Sites selected each year.	\$101,955	\$19,296	\$121,251
x	1994	MD	Fish Passages - Year 3	Designed and retrofited SHA culverts with fish ladders and modification of stream invert to eliminate stream blockages and improve fish passage to natural spawning areas. Ten year program done in cooperation with DNR. Sites selected each year.	\$74,643	\$146,870	\$221,513
x	1994	MD	Fish Passages - Year 4	Designed and retrofited SHA culverts with fish ladders and modification of stream invert to eliminate stream blockages and improve fish passage to natural spawning areas. Ten year program done in cooperation with DNR. Sites selected each year.	\$100,000	\$150,000	\$250,000
x	1994	NY	Ketchams Creek Wetlands Restoration Project		\$6,400	\$1,600	\$8,000
x	1994	NY	Seaford Creek Wetlands and Checkdams		\$229,600	\$57,400	\$287,000
x	1994	UT	Decker Lake Restoration Project		\$350,000	\$150,000	\$500,000
x	1995	AK	SOLDOTNA TE: WATER QUALITY MITIGATION (MARYDALE)	CENTRAL REGION	\$604,471	\$73,001	\$677,472
x	1995	CA	Hollenbeck Lake Purification	purification, filter, aeration	\$546,000	\$105,000	\$651,000
x	1995	GA	Murphey Candler Lake Restoration	Construction Project. Sediment removal from lake acting as a BMP for I-285 runoff and neighborhood resource.	\$1,000,000	\$250,000	\$1,250,000
x	1996	AR	Lower Delta Wetland Mitigation Area (S)		\$168,000	\$42,000	\$210,000
x	1996	MI	Mt Fredric Rd Crossings	Stream Crossing Improvement	\$37,105	\$10,640	\$47,745
x	1996	MI	Roadstream Crossings	Improvements	\$82,865	\$82,865	\$165,730
x	1996	NE	Willow Island Wildlife		\$101,119	\$0	\$101,119
x	1996	NY	Santapogue Creek, Tidal Wetlands Restoration.		\$161,600	\$40,400	\$202,000
x	1996	VA	Wetland Construction - Oakland Presb. Church		\$134,300	\$34,300	\$168,600
x	1996	WA	Ingvald J. Gronvold Waterfront Park		\$52,800	\$52,672	\$105,472
x	1996	WY	Wetlands Evaluation, Statewide		\$68,000	\$7,000	\$75,000
x	1997	CA	Carpinteria Salt Marsh Restoration	improve drainage and develop pollution control for wetlands	\$700,000	\$192,000	\$892,000
x	1997	CO	Clear Creek Clean Up		\$77,000	\$19,000	\$96,000
x	1997	MA	Merrimack River Estuary Study		\$71,120	\$17,780	\$88,900

	YEAR	ST	PROJECTName	Description	FEDERAL	MATCH	TOTAL
x	1997	NE	Bassett NE Wetlands Bank		\$110,400	\$0	\$110,400
x	1997	NE	Rainwater Basin Wetlands		\$322,035	\$0	\$322,035
x	1997	NE	Bank		\$447,086	\$0	\$447,086
x	1997	NE	Tarnov Wetlands		\$164,686	\$0	\$164,686
x	1997	NE	Waverly Interchange Wetland		\$187,232	\$0	\$187,232
x	1997	NE	Whitehorse Creek Wetlands				
			ACQUISITION OF				
			BANCROFT PARCEL IN				
			CONWAY FOR MITIGATION				
x	1997	NH	BANKING		\$728,028	\$182,007	\$910,035
x	1997	VT	Riparian Zone Imprvmnt, Rte		\$8,440	\$2,110	\$10,550
x	1998	MA	5/Barton Rvr				
x	1998	MA	Buzzard's Bay Shellfish		\$113,804	\$28,451	\$142,255
x	1998	MD	Restoration	Replacement of tidal and non-tidal wetlands throughout Maryland.	\$500,000	\$500,000	\$1,000,000
x	1998	ME	Wetlands Restoration Program	DEVELOP LAKE PROTECTION			
			STATEWIDE, LAKE	PRO- GRAM-IDENTIFY &			
			PROTECTION	PRIORITIZE --- STATEWIDE			
x	1998	ME	PROTECTION	LAKE PROTECTION PROGRAM	\$48,720	\$2,731	\$51,451
x	1999	CO	Monte Vista Watchable Wildlife	Wildlife Viewing Turnouts off of SH15 near Monte Vista	\$180,480	\$45,120	\$225,600
x	1999	GA	Deer-Vehicle Collision	Install and maintain Strieter-Lites on 6 county roads along 11 segments totaling 8.7 miles known for high incidence of deer-vehicle collisions for the purpose of reducing as much as 80% the incidence of deer-vehicle collisions.	\$85,786	\$21,447	\$107,233
x	1999	NE	Reduction Project		\$308,892	\$77,223	\$386,115
x	1999	NE	Bassett Wetlands Bank		\$8,000	\$0	\$8,000
x	1999	NE	Rainwater Baisn Wetlands		\$150,000	\$37,500	\$187,500
x	1999	OH	Bank		\$264,000	\$108,005	\$372,005
x	1999	OH	Tarnov Wetlands	Wetland			
x	1999	OH	Cross County Wetland				
x	1999	WA	Elk/Vehicle Collision Reduction Project	This project will be used to reduce Elk/Vehicle Collision on the new SR-101 Sequim Byass. The project will include an state of the art telemerty system, flashing warning signs and will require capture and elk collaring.	\$64,974	\$342	\$65,316
x	2000	MD	Little Pipe Creek Restoration Initiative	Restoration activities by DNR's Watershed Restoration Division on four properties located along Little Pipe Creek to improve stream health. The projects are to restore stream, riparian and flood plain function to offset impairments resulting from a varie	\$102,012	\$102,012	\$204,024
x	2000	MD	Rock Creek Watershed Restoration	The Rock Creek watershed drains approximately 60 square miles. In an effort to restore and protect Rock Creek watershed, this project will construct 3 new stormwater management ponds along Turkey Branch and Stoney Creek, restore approximately 12,000 feet	\$2,028,690	\$2,048,584	\$4,077,274

	YEAR	ST	PROJECTName	Description	FEDERAL	MATCH	TOTAL
x	2000	MD	Watershed Revitalization Partnership Program	Establish a partnership program with local sponsors (local governments, municipalities, neighborhoods and Tributary Teams) to expand existing efforts to protect and restore in-stream fish and wildlife habitat in targeted urban/suburban watersheds.	\$4,692,000	\$4,692,000	\$9,384,000
x	2000	ME	STATEWIDE, ANIMAL-VEH.CRASH	Wildlife mortality study.	\$68,747	\$19,971	\$88,718
x	2000	MI	Freeway Study of Deer Mirror Project	Study Effectiveness of Wildlife Reflectors on Mortality	\$12,000	\$3,000	\$15,000
x	2000	MI	Non-Freeway Study of Deer Mirror Project	Study Effectiveness of Wildlife Reflectors on Mortality	\$12,000	\$3,000	\$15,000
x	2000	MI	Pere Marquette Watershed	Road & Stream Crossings	\$97,938	\$102,937	\$200,875
x	2000	MI	Pine River Watershed	Road & Stream Crossings	\$78,969	\$83,969	\$162,938
x	2000	MI	Wild-Link Public Awareness	Public Outreach & Habitat Improvements	\$50,000	\$12,500	\$62,500
x	2000	NC	Scenic beautification and pond restoration on NC 280	Scenic beautification and pond restoration on NC 280 near US 64 in Pisgah Forest	\$16,480	\$4,120	\$20,600
x	2000	PA	Wildlife Passage Study	TRANSPORTATION ENHANCEMENT TO STUDY EFFECTIVENESS OF WILDLIFE PASSAGES CONSTRUCTED DURING HIGHWAY CONSTRUCTION ON SR 15 IN LYCOMING, TIOGA AND UNION COUNTIES.	\$120,000	\$30,000	\$150,000
x	2001	MD	Fish Passages - Year 5	Remediation of fish blockages at bridges crossings of the Jones Falls under MD 133 Ruxton Road at Falls Road in Baltimore County and on Stoney Run under US 40 in Cecil County. Projects will restore ecological function of the stream channels, increase the	\$200,000	\$200,000	\$400,000
x	2002	ME	STATEWIDE, LOW FLOW HYDROLOGY	LOW FLOW HYDROLOGY FOR FISH PASSAGE CRITICAL HABITAT STATEWIDE	\$24,500	\$0	\$24,500
x	2003	MI	Developing Predictive Models for Wildlife Crossing Sites in Michigan	Research to identify wildlife crossings on highways along I-75 & US-127	\$108,754	\$27,189	\$135,943
x	2004	CA	Harbor Boulevard Wildlife Underpass	new underpass	\$337,000	\$169,000	\$506,000
x	2004	MD	Watershed Enhancement Initiative - Dorsey Run	Fish passage/stream work due to railroad	\$650,000	\$650,000	\$1,300,000
x	2004	NV	Columbia Pass Desert Bighorn Sheep Bridge		\$475,000	\$25,000	\$500,000
x	2005	AL	Construction Of Osprey Nesting Platforms		\$16,000	\$4,000	\$20,000
x	2005	AZ	Pronghorn Antelope Study Statewide (Per TERC)	review of existing scientific literature regarding interactions between Pronghorn and roadways statewide	\$37,720	\$2,280	\$40,000



		YEAR	ST	PROJECTName	Description	FEDERAL	MATCH	TOTAL
	x	2005	MD	Stony Run Fish Passage and Stream Enhancement	Restoration of fish passages at two locations along Stony Run, channel realignment, stream bank stabilization, streambank grading, establishment of riparian conditions to approximately 1,700 linear feet of stream channel.	\$710,851	\$710,851	\$1,421,702