



Conservation Incentive Programs: Improving Effectiveness for Habitat and for Landowners



Summary and Recommendations from
Habitat Conservation Incentives Workshop • June, 2004

Hosted by DEFENDERS OF WILDLIFE • Washington D.C.



Author

Cheryl Hummon, Defenders of Wildlife

Report Editor

Elizabeth Grossman, Writer & Editor

Workshop Facilitators

Cheryl Hummon, Defenders of Wildlife

Jim Witham, Consultant

Editing & Production

Katie Frerker, Defenders of Wildlife

Kassandra Kelly, Defenders of Wildlife

Sara Vickerman, Defenders of Wildlife

Acknowledgments

Meyer Memorial Trust

Thank you!

Defenders of Wildlife

Northwest Office

1880 Willamette Falls Drive

Suite 200

West Linn, Oregon 97068

503.697.3222

<http://www.biodiversitypartners.org>

National Headquarters

1130 17th Street NW

Washington D.C. 20036

202.682.9400

<http://www.defenders.org>

Additional copies of this report may be ordered from

the Biodiversity Partnership website at

<http://www.biodiversitypartners.org>

© 2005

Defenders of Wildlife, West Linn, Oregon

All rights reserved. Abstracting is permitted with credit to the source.

Conservation Incentives Programs:

Improving Effectiveness for Habitat and for Landowners

•

Summary and Recommendations from
the Habitat Conservation Incentives Workshop

June, 2004

Defenders of Wildlife
Washington D.C. • West Linn, Oregon

TABLE OF CONTENTS

INTRODUCTION	1
Background	1
Private Land, Habitat, and Conservation Incentive Programs	1
Barriers to Effectiveness of Conservation Incentive Programs	2
Recommendations	2
CONSERVATION INCENTIVE TOPICS: FOUR MAJOR ISSUES	4
1. Farm Bill	4
2. Landowner Issues	7
3. State Programs	11
4. Habitat Mitigation for Transportation and Other Development Impacts	13
SUMMARY: MAJOR THEMES AND RECOMMENDATIONS	15
1. Link Conservation Priorities to State Wildlife Strategies	15
2. Coordinate with Other Agencies and Plans for Effective Incentive Programs	15
3. Strategic and Opportunistic Approaches	16
4. Landowner Access to Programs and Landowner Collaboration	16
5. Education, Technical Assistance, and Training	17
6. Evaluate Effectiveness of Conservation Programs	17
CONCLUSION	18
APPENDIX: WORKSHOP PARTICIPANTS AND AUTHORS	22

INTRODUCTION

BACKGROUND

In November 2003, a group of experts in natural resource law, biology, conservation, policy, management, and economics convened to assess The Endangered Species Act at Thirty: Lessons and Prospects, in Santa Barbara, California. Follow-up workshops were held subsequently to examine specific topics from the original conference in greater depth.

The Habitat Conservation Incentives Workshop was sponsored by Defenders of Wildlife and held in June, 2004, in Washington D.C., to discuss the significant role private lands and landowners play in conserving habitat, at-risk species, and biodiversity. To evaluate existing incentive programs for habitat conservation, the workshop convened over twenty experts representing state and federal agencies, agriculture, forestry, development, conservation, and landowners.

Many private landowners undertake conservation efforts voluntarily, and workshop participants agreed that many more might do so with assistance from incentive programs. However, if existing state and federal incentive programs are to work effectively for landowners and to achieve desired conservation goals, these programs need significant changes.

The workshop addressed four issues about conservation incentives: the Farm Bill, landowner issues,

state programs, and habitat mitigation for transportation and other development impacts. Participants discussed obstacles and opportunities, and developed recommendations for improving incentive programs' effectiveness for landowners and for achieving conservation goals. These topics, discussions, and recommendations are summarized in this white paper.

PRIVATE LAND, HABITAT, AND CONSERVATION INCENTIVE PROGRAMS

Much of the habitat needed to conserve biodiversity in the United States is on private land¹. About 70 percent of the nation's threatened and endangered species are found on private land, and 10 percent are completely dependent on private land. Recent assessments suggest that to preserve functioning ecosystems, native flora, and native fauna, 20 to 30 percent of the land in a state or ecoregion must be managed for conservation². Much of this land is privately owned.

It is not practical or desirable for all private lands valuable for biodiversity or habitat conservation to

¹ Groves, C.R., L.S. Kutner, D.M. Stoms, M.P. Murray, J.M. Scott, M. Schafale, A.S. Weakley, and R.L. Pressey. Owing up to our Responsibilities: Who Owns Lands Important for Biodiversity. p. 275-300 in Stein, B.A., L.S. Kutner, and J. S. Adams (eds.) 2000. Precious Heritage: The Status of Biodiversity in the United States. Oxford University Press. New York.

² Shaffer, M.L., J.M. Scott, and F. Casey. 2002. Noah's Options: Initial Cost Estimates of a National System of Habitat Conservation Areas in the United States. *BioScience*: 52 (No. 5) p. 439-443. American Institute of Biological Sciences.

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

be acquired by public agencies. Yet many landowners are interested in protecting fish, wildlife, and habitat on their property.

Conservation incentives provide a mechanism to invest public funds on private lands, to meet public goals related to conserving fish, wildlife, and habitat. With appropriate encouragement and assistance from incentive programs, the number of landowners undertaking habitat and species conservation measures would likely increase.

Traditional government soil and water conservation incentive programs have been available to landowners for years, but programs specialized for habitat conservation are relatively recent and more effective at meeting specific habitat and species conservation goals and priorities. Habitat conservation incentive programs are offered by various federal and state agencies. These programs allow landowners to protect and restore habitat and species proactively through voluntary action. Some habitat incentive programs address species already listed as threatened or endangered under the Endangered Species Act, while others may help avoid additional species listings.

The following issues, discussions, and recommendations are aimed at building on current interest in incentive programs. Improved habitat incentive programs will increase the effectiveness of biodiversity conservation on privately-owned lands across the United States.

BARRIERS TO EFFECTIVENESS OF CONSERVATION INCENTIVE PROGRAMS

The Habitat Conservation Incentives Workshop was convened to identify barriers to the effective implementation of habitat conservation incentives programs and to make recommendations for improvement. These are some of the common concerns cited by workshop participants:

- Most conservation incentive funds are not directed at areas identified as high priorities by a strategic conservation planning process;

- In large stretches of the country, the technical service infrastructure available to deliver state-of-the-art and science-based advice to private landowners is fragmentary or absent regarding species or habitat conservation and recovery;
- Conservation incentive programs are numerous (and may be redundant or contradictory), complex, and difficult to understand because each has different application, eligibility, and technical requirements, resulting in barriers to participation for landowners;
- Achieving desired conservation goals and ensuring that incentive programs are cost-effective and technically sound requires measuring biological outcomes;
- The lack of concrete conservation goals for incentive programs also contributes to difficulty in evaluating and monitoring their performance;
- The fragmented nature of agricultural and forestry land tenure is a barrier to conservation efforts on these lands;
- Commodity support programs designed to maximize production of row crops can work at cross purposes to biodiversity conservation programs.

RECOMMENDATIONS

The policy recommendations developed by workshop participants involve improvements in the scope, structure, and administration of habitat conservation incentive programs. Within these areas, recommendations include:

- Create an effective way to identify essential habitats which would be targeted for protection and restoration efforts that coordinate federal and state programs;

- Develop ways to link incentive programs to state habitat conservation planning efforts and priorities;
- Design habitat conservation programs that can be adapted to suit local environmental and economic conditions, to account for different species, habitats, and activities in different parts of the country, and to be flexible enough to suit different landowner needs;
- Increase financial support for research, development, and technical assistance to facilitate habitat conservation and management;
- Provide more programs and funding for forest landowners who do not have an agricultural operation;
- Develop an effective method to measure and evaluate the progress and results of habitat conservation programs that would assess both the success of individual projects and their contribution within the larger context of national biodiversity conservation programs;
- Streamline the program application process to a single form that would be used for several programs being implemented for a particular habitat conservation effort, thus creating "one-stop shopping" for all assistance related to these programs.

CONSERVATION INCENTIVE TOPICS: Four Major Issues

Workshop participants took part in extended, facilitated discussions of four issues related to habitat conservation incentive programs: the Farm Bill, landowner issues, state programs, and habitat mitigation for transportation and other development impacts. Participants discussed obstacles and opportunities of each issue and developed recommendations for how to improve conservation incentive programs.

1. FARM BILL

Current Farm Bill conservation programs target about 75 percent of the rural landscape, thus encompassing a wide variety of ecosystem types. While most of these programs are designed to improve water quality and to reduce soil erosion in agricultural landscapes, they may also have indirect beneficial impacts for fish and wildlife habitat.

The 2002 Farm Bill authorized over \$5 billion a year for resource conservation, a portion of which is dedicated to wildlife habitat or species restoration and conservation. Farm Bill incentive programs that focus primarily on habitat conservation include the Conservation Reserve Enhancement Program, the Wetlands Reserve Program, and the Wildlife Habitat Incentives Program. Other programs designed for working landscapes such as the Conservation Security Program and the Environmental Quality Incentives Program have indirect effects on

species and habitat conservation. These programs can be applied to all ecosystem types where farming, ranching, and forestry are occurring, although most programs are focused on agricultural lands. Farm Bill incentive programs are voluntary, and thereby have the potential to supplement conservation measures undertaken through regulation.

Farm Bill conservation programs have the potential to restore and conserve wildlife habitat and species proactively, for species already listed as threatened or endangered under the Endangered Species Act, and more importantly, to avoid the need for future listings. Some states have given priority to conservation assistance that targets listed species and their habitats, including Arizona, Colorado, Kentucky, Maine, Maryland, Montana, New Jersey, Nevada, and New Mexico³.

The Farm Bill is the largest federal funding source for resource conservation. However, a recent report by the Wildlife Habitat Management Institute⁴ found little direct evidence thus far of Farm Bill programs' impact on wildlife habitat or species recovery, with the possible exception of

³ Burke, V. Assessing the Establishment and Early Impacts of the Wildlife Habitat Incentives Program. University of Missouri. Columbia, Missouri. 1999.

⁴ Natural Resources Conservation Service / Wildlife Habitat Management Institute. A Comprehensive Review of Farm Bill Contributions to Wildlife Conservation: 1985-2000. Washington, D.C. 2000.

the Conservation Reserve Program. The primary problem in determining the impacts of Farm Bill conservation programs is the lack of effective monitoring and evaluation.

Landowners and workshop participants discussed their experience with Farm Bill programs and identified four major areas in which to make recommendations for improvement. These are:

- Develop a vision and priorities for habitat conservation;
- Achieve a more rational allocation of conservation funding;
- Improve the balance between production agriculture and habitat conservation;
- Increase outreach efforts to agricultural producers habitat conservation.

DEVELOP A VISION AND PRIORITIES FOR HABITAT CONSERVATION

Participants identified the need for a vision and priorities for habitat conservation programs at the national level. Farm Bill programs should incorporate landscape scale conservation and long term planning and also local input for on-the-ground knowledge of specific habitats.

National level visions and goals: Currently, Farm Bill conservation programs lack any specific national environmental goals. These programs also need to provide longer term benefits. A broadly defined vision for the entire Farm Bill would include ecologically and economically sustainable agriculture that would meet long-term food supply needs, public health and nutrition goals, as well as species and habitat conservation with a focus on biological diversity. Programs should be designed to assist rural community development and small family farmers, to facilitate consumer education, and to enhance consumers' relationship with agricultural producers.

Local level visions and goals: At the local level, Farm Bill incentive programs should be organized around a resource important to landowners and to the community. Local organizations, both public and private, should incorporate Farm Bill programs into ongoing conservation efforts as part of their strategy to achieve local ecological and biodiversity conservation goals. A cooperative model should be developed that would encourage local participation in wildlife conservation, and that would integrate Farm Bill and state wildlife conservation plans.

ACHIEVE A MORE RATIONAL ALLOCATION OF CONSERVATION FUNDING

Workshop participants outlined the following suggestions for improving the investment of conservation funds to make programs more effective for landowners and for conservation goals:

- Distribution of funds should be made at two levels: one to implement national and local programs to achieve conservation priorities and another for innovative special projects;
- A portion of Farm Bill conservation funding should be allocated for implementing state and/or local conservation plans and projects, including funding for local community groups that restore or conserve habitats identified in state plans;
- Incentives should be increased for landowners who implement projects that meet national or local goals or conserve multiple species;
- Market-driven pilot projects (certification, eco-tourism, niche-marketing, etc.) should be funded to encourage landowner conservation;
- Funding for technical assistance should be increased and a portion of cost-share funding should be used for landowner training and education in biodiversity and habitat conservation;

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

- Increased funding should be made available for training and education of U.S. Department of Agriculture and Natural Resources Conservation Service personnel in biodiversity and habitat conservation.

IMPROVE THE BALANCE BETWEEN PRODUCTION AGRICULTURE AND HABITAT CONSERVATION

There is inherent conflict within current Farm Bill policy regarding commodity production and environmental management, including wildlife habitat conservation. The eight commodity crops the Farm Bill subsidizes are extremely resource intensive, and increased production of these crops leads to a direct loss of biodiversity. A balance needs to be reached so that policies encouraging landowners to stay in agricultural production do not result in habitat degradation. Workshop participants' recommendations for achieving such a balance include:

- Make all titles in the Farm Bill - including the commodity title, research title, marketing title, and rural development title - consistent with habitat conservation goals, and convert commodity payments to "green payments" that reward conservation;
- Ensure that funds from the Environmental Quality Incentives Program are not used to expand livestock waste facilities for large confined animal feeding operations;
- Address the issue of scale by giving additional incentives to groups of adjacent landowners who agree to provide habitat conservation over a contiguous area;
- Increase monitoring and enforcement of commodity programs to prevent abuse of such programs;

- Improve communication between federal agencies that advise on farming practices and species conservation to make these two activities more compatible.

INCREASE OUTREACH EFFORTS TO AGRICULTURAL PRODUCERS ABOUT HABITAT CONSERVATION

Workshop participants prioritized outreach efforts that support local efforts and that provide training and information to facilitate landowner participation through "one-stop shopping".

Training: Holistic land management training is absolutely essential and should be offered for landowners and agency staff. For example, programs offered by Montana State University and the Land Stewardship Project could be promoted. More opportunities should be provided for landowners and program providers to share ideas and experiences through site visits. There should be more recruitment and training of agency staff in species and habitat conservation.

Communication: Interaction between extension and other public agency staff and researchers should be improved, regarding habitat conservation. Participating public agencies' role in bridging the gap and building relationships between landowners and government agencies should be expanded and improved. Agency and extension staff should also communicate more effectively to the academic community about some landowners' reluctance to participate in Farm Bill conservation programs.

Working at the local level: After high priority habitats are identified, public agencies should support new or existing local conservation groups. Public agencies should also support organizational development, increase membership, and offer habitat conservation field days.

2. LANDOWNER ISSUES

Workshop participants included landowners representing a variety of scales and type of agricultural and forestry production. Here, perspectives are summarized from large-scale ranching, small-scale farming, industrial forestry, and family forestry. Participants shared their experience with conservation incentive programs and made recommendations for changes to improve the programs' effectiveness and efficiency for landowners.

LARGE-SCALE RANCHING

Ranching brings both opportunities and challenges for wildlife conservation and management. Ranching generally involves large land holdings, allowing conservation programs to be implemented over large areas with less administrative effort because there are fewer landowners involved. Ranch operations often include leased public lands, which can be an opportunity to coordinate management practices on adjacent lands, or it can be problematic due to differing management goals. In addition, ranching practices in some parts of the country leave native habitats relatively intact, compared to other more intensive agricultural practices. Ranch lands can be well suited to a multi-species conservation effort over a large land area.

It would be rare to find a farmer or rancher who does not enjoy the fish and wildlife on their land. However, private landowners who manage large properties face issues that may cause them to view fish or wildlife unfavorably.

These include:

- Pressure to allow unlimited hunting or fishing in return for receiving public funds;
- Problems from trespassers;
- Wildlife depredation of crops or livestock;

- Hunting seasons that conflict with farm or ranch operations;
- Restrictions on private lands and federal grazing permits associated with listed species;
- Restrictions from third-party or government agency action on listed or sensitive species;
- Issues related to Clean Water Act regulations;
- Land use restrictions to protect fish and wildlife.

There are many programs available to help farmers and ranchers conserve or manage fish and wildlife or improve habitat on their lands. Many are public programs, available at little or no cost to the landowner. Programs that may interest some landowners also include noxious weed control, Habitat Conservation Plans and Safe Harbor Agreements for listed species, Candidate Conservation Agreements for candidate species, and water quality programs that address requirements of the federal Clean Water Act.

While these programs are many and varied, no single agency or other organization that landowners frequently encounter is likely to be conversant in all these programs. Responsibility for conservation programs often involves more than one agency, raising the issue of effective coordination, communication, and education about the programs. In addition, most of the existing outreach and education materials are not tailored to fit a landowner's specific situation.

Some of the current shortcomings in delivering fish and wildlife conservation services to landowners might be addressed by the following suggestions, which are based on an on-the-ground assessment of an individual landowner's situation:

- Create a "visiting team" from various relevant agencies to offer advice and gain local knowledge

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

with individual landowners or groups of landowners within a focused geographic area who share similar situations and goals;

- Have a single meeting with the landowner (or group of landowners) to assess the situation and make recommendations for programs and assistance;
- Supply landowner(s) with a list of contacts of those who can provide assistance and/or refer these contacts to the landowner(s);
- To clarify responsibilities, use professional, third-party program management, including communications and coordination;
- Encourage early adopters to work with other landowners with similar lands.

SMALL-SCALE AGRICULTURE

Six landowners from the Willamette Valley, Oregon were interviewed to understand the constraints and opportunities for conservation encountered by smaller-scale agriculture. Each of the landowners' properties support at least one at-risk habitat type and are located in areas identified as conservation priorities. The landowners have a range of backgrounds and perspectives representative of those who seek assistance for natural resource management and conservation through state and federal programs.

Some small-scale farmland owners acquired and manage their properties with the primary goal of conservation. Others are using conservation programs to ensure the long-term viability of both their farm operations and native species and habitat. Still others participate in conservation programs as a means to implement other land management goals for their property.

The landowners acknowledged that they could not undertake conservation on a meaningful scale

without incentive programs, as these programs provide the necessary financial and technical resources. Making large-scale and permanent conservation improvements allows the landowners to use incentive programs to manage their properties' resources, and allows them to work toward leaving a natural legacy for future generations.

These landowners felt that conservation programs need to be more accessible, and that the programs' application and implementation processes need to be less complex. They also cited the need for improved communication about programs, communication that should be tailored for specific landowner groups and their particular needs and interests. Private property rights are a major concern for some of these landowners, and communication about government and private conservation programs needs to alleviate concerns that participation could lead to forfeiture of property rights.

These landowners felt program delivery needs to be streamlined and simplified to improve accessibility and participation. Some expressed the need for potential landowner participants to be screened to ensure the validity of their stated conservation goals, while others emphasized the need for flexibility to meet different landowners' needs. They also suggested the need for increased accountability and strategic planning on the part of agencies involved in administering conservation programs. To ensure the effectiveness of conservation programs, agencies need to work with landowners to identify and prioritize conservation opportunities.

To solve these organizational and strategic problems, landowners suggest two main changes to incentive programs: one-stop shopping for program access and a strategic approach for agencies to identify and pursue conservation opportunities.

INDUSTRIAL FORESTRY

Large industrial forest owners face global and local pressures, including economic factors, regulatory pressures, and the potential for

litigation. These pressures are causing the sale, development, and fragmentation of forested landscapes. Large industrial forest owners make rational economic decisions. If a tract of land is not yielding capital, then it will be sold or converted to another use. Most large landowners have a good sense of the net present value of their lands, based on projected costs, interest rates, and cash flows from harvest operations or other uses. If the cost of conservation projects cannot be made up in some other economic values, they will not be undertaken or sustained over time.

If long-term habitat conservation is to be achieved, these issues that can force large industrial forests into alternate uses must be addressed. Representatives from industrial forestry suggest the following recommendations to conservation programs:

- Use adaptive management to ensure that conservation efforts are effective;
- Collaborate more and litigate less;
- Leverage public and private conservation funds for property acquisition and easements;
- Work with all levels of government as well as land trusts, foundations, and water districts to fund the acquisition of high priority conservation lands;
- Provide industrial forest owners ways to gain economic benefits from the lands' conservation values.

Habitat Conservation Plans are complex legal agreements often used by industrial forest operations to address their liability for harming species listed under the Federal Endangered Species Act. Suggestions for improving Habitat Conservation Plans include:

- Make Habitat Conservation Plans more efficient, easier, and cheaper to implement and amend or adapt over time;
- To keep Habitat Conservation Plans effective and efficient, define desired long-term conservation goals and identify what is needed beyond regulatory compliance;
- Reduce the cost of Habitat Conservation Plans and other Endangered Species Act programs by coordinating and streamlining implementation and compliance with other federal conservation and land use laws;
- Use Habitat Conservation Plans as the basis to coordinate with other conservation tools, such as land exchanges, conservation easements, land sales, and research.

FAMILY FORESTRY

There are a number of challenges for habitat conservation on family-owned forestland. Among the challenges facing family forest owners is the fact that their median age is now over 60, and the percent of older owners is increasing⁵. An additional challenge to land management and a risk to watershed health and wildlife habitat is posed by the increasing and dramatic fragmentation in the size of family forestland properties that occurred over the last few decades and continues today. Most family forest owners with properties over ten acres own less than 100 acres. Few owners have properties over 500 acres. This domination of small parcels complicates the already difficult issues inherent in landscape-level resource conservation planning.

Conversion of family forests to other uses is another challenge, especially with conversion

⁵ National Woodland Owners Survey. U.S. Forest Service. 2000. www.fs.fed.us/woodlandowners/index.htm.

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

increasing over time⁶. The nation spends billions of dollars annually to prevent and suppress forest fires, which burn about 4 million acres per year. However, in the same average year, the nation loses over 1 million acres of forestland to development. New forests grow after fires, but after development, forests are gone forever.

Unfortunately, federal and state funds available to sustain family forests are underfunded or non-existent, and appear to be shrinking. Of the conservation funding authorized by the 2002 Farm Bill, 99.4 percent was devoted primarily to farmers, with only 0.6 percent primarily to family forest owners. This disparity occurred despite the fact that family forest owners control about the same amount of rural land as farmers. The only remaining family forest cost-share program in the Farm Bill, the Forest Land Enhancement Program, was eliminated by the Bush Administration. Now for the first time in 50 years, there is no federal cost-share program primarily for family forest owners.

Many family forest owners value their land for more than just the income it provides. They often choose not to sell their land for development. As land values and taxes increase, along with the cost of complying with both regulations and private certification standards, that choice becomes harder to make.

Measures that would encourage family forest owners to retain their land include:

- Provide economic value for the conservation value of family forests;
- Develop public and private markets for the environmental services family forests provide;

- Modify the tax system so it works for, not against, multi-generational stewardship of family-owned forests;
- Use regulation as a last resort because carrots are more effective than sticks;
- Update outreach and education methods and materials about managing family forests to resonate with younger landowners.

COMMON THEMES FOR DIVERSE LANDOWNERS

Several common themes emerged from the discussion of landowner issues, across the broad diversity of landowners and lands that might participate in conservation incentive programs.

Recommendations for improving incentive programs for landowners include:

- Make incentive programs more strategic, direct funds to areas or habitats identified in state or regional conservation strategies, and target specific landowners in these areas;
- Simplify access to incentive programs with one-stop-shopping for applications and technical assistance for many programs, or by consolidating programs into one broad conservation incentive program;
- Ensure that incentive programs are flexible to allow diverse landowners to participate in ways that are effective for their economic and ecological circumstances;
- Use local and landowner input in revising existing programs or developing new ones;
- Improve coordination of incentive programs by identifying common goals, reducing redundancy, and addressing situations where programs work at cross purposes;

⁶ National Resource Inventory. Natural Resources Conservation Service. USDA.

- Provide opportunities for landowners to learn from each other;
- Work at larger scales by coordinating regional or watershed programs to work with multiple landowners in one area;
- Evaluate incentive programs for inputs, outcomes, and landowner satisfaction.

3. STATE PROGRAMS

There are a number of reasons why states should have an interest in the development and implementation of habitat incentive programs for private landowners. First, states have the primary authority over most fish and wildlife, and legal responsibility for preventing depletion of native species. Second, states' needs vary, and federal incentive programs may not address the full range of needs, or distribute incentive benefits equitably. Third, states have a growing interest in exerting more control over the management and recovery of federally listed species or species that may become listed. Finally, Congress has directed states that wish to continue receiving funding under the State Wildlife Grant Program to develop comprehensive wildlife conservation strategies by October 2005. Since so much important wildlife habitat is found only on private lands, incentives will be a key element in implementing many state strategies.

EXAMPLES OF STATE PROGRAMS

All states have some form of landowner incentive programs. These programs have been researched and summarized by Defenders of Wildlife⁷ and Environmental Defense⁸. They include a variety of cost share, property tax break, income tax credit, special recognition, regulatory relief, educational,

and technical assistance programs that operate across the spectrum of small and large land ownerships, agricultural, forest, and urban lands. They are administered by many different agencies and have diverse goals, including improving water quality and land management techniques, restoring riparian and wetland habitats, increasing game animal production, and recovering endangered species. The programs listed below provide examples.

Texas Agriculture Property Tax Conversion for Wildlife Management: Land used for wildlife management that otherwise meets agricultural land use requirements can be appraised as agricultural land. The land must be used to generate a sustaining, breeding, migrating, or wintering population of native wildlife. Available since 1997, the program provides habitat guidelines specific to each ecoregion of Texas, and is administered through counties. Landowners implement a management plan for wildlife and habitats of their choosing that meets flexible guidelines. Participating landowners are very satisfied with the program.

California Natural Heritage Preservation Tax Credit Act of 2000: This program encourages donations of land, conservation easements, and/or water rights to a government agency or non-profit. The program's goal is to foster public/private partnerships that will resolve land and water use disputes, to reward and assist habitat stewardship, and demonstrate the state's commitment to landowners who perceive habitat conservation as an asset rather than a liability. Landowners receive an income tax credit for 55 percent of the donation, which must meet at least one of these criteria: (1) fulfills a conservation plan's goals; (2) protects species or habitat; (3) conserves threatened farmland; (4) is a water right that helps protect species or habitat; or (5) increases public access to parks or open space. California budgeted \$100 million for the program for fiscal years 2001-2005. The program was very popular and

⁷ www.biodiversitypartners.org/pubs/CinARreport/Intro.shtml

⁸ www.environmentaldefense.org/article.cfm?ContentID=2342

successful, but due to the state's fiscal crisis it was temporarily suspended after about a third of the money was spent in 2001-2002.

Missouri Conservation Assistance Guide: The Missouri Extension Service has developed an interactive website that allows Missouri landowners to identify federal and state assistance programs available for different types of conservation projects⁹. Landowners can learn what programs are available by entering simple information about what they want to conserve, specific conservation practices, or type of assistance.

Oregon's Flexible Incentives Account: In 2001, the Oregon Legislature created the Flexible Incentives Account to be administered by the Oregon Watershed Enhancement Board. The purpose of the account is to "assist landowners in the implementation of strategies intended to protect and restore native species of fish, wildlife, and plants and to maintain long-term ecological health, diversity, and productivity in a manner consistent with statewide, regional, or local conservation plans." The account is designed to fund strategies that produce the greatest public benefit at the lowest cost by helping landowners to meet established conservation goals with a minimum of requirements about eligibility and specific practices. The concept remains untested because the legislature declined to fund it. Since 2001, the Oregon Watershed Enhancement Board has become more strategic in its funding decisions, but there is still a need to have highly targeted and flexible funds available for high priority conservation goals.

BARRIERS TO EFFECTIVENESS OF STATE PROGRAMS

Barriers to implementation of state habitat incentive programs are similar to those hampering other programs. Few states have articulated a clear vision of how public funds should be directed toward conserving habitats and species in greatest

need. If such a vision or plan included private lands, discrepancies would likely exist between the state's interests and those of thousands of private landowners. States face unprecedented financial difficulties, so habitat incentive programs must compete for funding with education, health care, and other pressing social needs. Few programs have enough trained personnel to work with landowners, and many landowners remain unaware of such programs. Many programs are outdated or structured to satisfy a narrow constituency, or they protect open space or working landscapes without regard for habitat values. Some programs' incentives are too small to interest landowners. Where state incentive programs address the needs of endangered species, they focus on a limited number of species, and are not easily applied to broader ecological purposes consistent with avoiding additional listings. Most programs also lack adequate monitoring and evaluation for ecological effectiveness.

RECOMMENDATIONS

Effective landowner incentive programs share several elements, including coordination with a broader conservation plan, adequate and stable funding, good technical assistance, and flexible options for landowners. The following recommendations would increase participation in and success of such programs at the state level:

- States should use their comprehensive wildlife strategies to clarify goals and identify priority habitats for the recovery of listed species and to avoid additional listings;
- State and federal programs need to be coordinated as closely as possible. States with approved conservation strategies that provide adequate technical and administrative support for landowners, should have preferential access to federal funds, and should have the option to receive these funds in a lump sum to administer without the

⁹ <http://outreach.missouri.edu/mowin/conseguide2/guide.htm>

bureaucratic constraints that exist under federal program administration;

- The Landowner Incentive Program (a U.S. Fish and Wildlife Service program that is delivered and administered at the state level) could be improved by expanding its funding, streamlining the permit and compliance process, and requiring states to use funds to implement their comprehensive wildlife conservation strategies, which could expand the program beyond its current focus on at-risk species;
- Habitat incentive programs for landowners - both state and federal - could be used to address the needs of multiple species, including those not listed. This would shift the emphasis of the conservation from a single listed species to habitats and associated communities of species.

4. HABITAT MITIGATION FOR TRANSPORTATION AND OTHER DEVELOPMENT IMPACTS

A variety of laws require federally funded transportation to compensate for their adverse environmental impacts. This process, known as mitigation, can also be applied to compensate for impacts caused by other kinds of development. Unfortunately, mitigation is usually implemented on a project-by-project basis, with areas chosen ad-hoc, rather than as part of a large-scale conservation planning effort with strategic goals.

Large mitigation projects are often broken down into many smaller projects. While this may make sense from an administration perspective, it often increases the overall cost of mitigation as it can cause economies of scale to be lost. In addition to being expensive, small-scale mitigation is rarely ecologically sound.

The shortcomings of traditional on-site mitigation have led to the concept of mitigation banking and

conservation banking, first for wetlands and now for other habitats. Conservation banking is the practice of proactively preserving and enhancing large, contiguous, and viable tracts of habitat to offset the adverse impacts of future development projects.

Owners of conservation banks earn credits from regulatory agencies, based on acreage and function of wetlands (or other specified habitats) established and restored on their property. These credits can be sold at market rates to public or private developers facing mitigation requirements. Buying the credits relieves the developer of the need to conduct mitigation efforts as a direct part of their project. Banks can be established by private investors, public agencies or non-profits. Mitigation banking places a monetary value on conservation lands, thus bringing a market approach to conservation, and reversing the phenomenon of property losing its value once designated as conservation land.

If current trends in land conversion continue, conflicts between development and wildlife will continue to increase. The need to mitigate the impacts of development will increase exponentially as suitable habitat is further fragmented and degraded. Conservation banking can be used in conjunction with conventional mitigation, making it more cost effective by reducing expenses and increasing ecological effectiveness.

However, effective implementation of such programs can be hampered by resource and development professionals' lack of knowledge of conservation banking. Other challenges are the lack of start-up funding and shortage of properties available appropriate for mitigation. There is the additional problem of a lack of trust in the banking concept among conservation professionals due to the poor track record of wetland mitigation banking. Two examples demonstrate the use of conservation banking to mitigate the impacts of transportation projects:

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

Colorado Shortgrass Prairie Initiative: Grasslands and shrublands stretch from Florida to Alaska. With a total of almost 700 million acres, grass- and shrublands are the United States' largest ecosystem. At least one-third of these lands have been converted to urban or agricultural uses since European settlement, with 11 million acres between 1982 and 1997 alone. This habitat loss has led to a decline of many species, including grassland birds, prairie dog, burrowing owl, swift fox, and ferruginous hawk. To preserve large tracts of prairie, the Colorado Department of Transportation, the Federal Highway Administration, the U.S. Fish and Wildlife Service, the Colorado Division of Wildlife, and the Nature Conservancy of Colorado developed the Shortgrass Prairie Initiative. The initiative mitigates in advance for expected impacts caused by the 20-year state transportation plan, by taking a large-scale and more ecologically strategic approach. The plan is designed to meet mitigation requirements and to incorporate the support and concerns of private landowners integral to the effort's success. To receive the mitigation credits, project partners must develop management plans that will benefit targeted species.

North Carolina's Red-Cockaded Woodpecker Habitat Bank: The southeastern United States' old-growth pine forests are home to hundreds of species specialized to this unique ecosystem, including the red-cockaded woodpecker. Their nests are also used by many other wildlife species. The woodpecker, however, has had to compete for these century-old trees with the timber and paper-pulp industries, whose past clearcutting practices decimated the species, resulting in its listing under the endangered species list in 1970. To protect the woodpecker, the Palmetto Pear Tree Preserve was established in a partnership between the North Carolina Department of Transportation, the U.S. Fish and Wildlife Service, and the Conservation Fund. The North Carolina Department of Transportation purchased this property from a timber company that intended to log the land,

which would have jeopardized the woodpeckers. The Conservation Fund will manage the site as a conservation bank dedicated to red-cockaded woodpecker habitat. Credits may be used when a state highway project has an unavoidable impact on the woodpecker, and there are no alternatives for avoiding or minimizing that impact. The agreement does not exclude the sale of credits to third parties, but all or most will be used by the North Carolina Department of Transportation.

RECOMMENDATIONS

To enhance the effectiveness of habitat mitigation efforts, particularly conservation banking, workshop participants made the following suggestions:

- Use conservation banking when it is impossible to avoid and minimize impacts, and when consolidating mitigation projects is biologically preferable to on-site mitigation;
- Use existing conservation plans - including statewide and regional conservation plans, endangered species recovery plans, and critical habitat designations - to determine the lands most valuable for banking;
- Choose conservation banks strategically to achieve specific conservation goals;
- Create a revolving fund from which state transportation or development officials can make interest-free withdrawals to acquire land for mitigation banking;
- Obtain a statewide memorandum of agreement between all parties involved in a conservation banking project.

SUMMARY: Major Themes and Recommendations

A significant portion of the habitat needed to conserve biodiversity in the United States is located on private land. To achieve desired conservation goals many private landowners need technical, financial, or other assistance. Workshop participants agreed that effective habitat conservation incentive programs are critical to improving conservation efforts on private lands. To improve incentive programs, the group outlined six major areas in which changes could be made.

1. LINK CONSERVATION PRIORITIES TO STATE COMPREHENSIVE WILDLIFE CONSERVATION STRATEGIES

To continue receiving federal wildlife grants to states, all states must complete comprehensive wildlife conservation strategies by October 2005. These state strategies provide an invaluable opportunity to define wildlife conservation priorities, and to act proactively to protect imperiled species. The state strategies must address specific requirements. While these components focus on species, states are required to determine which habitats are at risk. Some additional encouragement may be needed to ensure that the strategies clearly address habitat needs.

Defenders of Wildlife and several other conservation organizations have been working at the national level to provide guidance to states on their wildlife strategies. These organizations (including The Nature Conservancy and NatureServe) are also working closely with some

individual states. The involvement of partners at the state level may assist states in developing habitat-based, multi-species approaches that address both at-risk and non-listed species. Successful strategies will be coordinated carefully with the activities of other agencies (state, federal, tribal, local, and private).

Once completed, strong state comprehensive wildlife conservation strategies can be used to define conservation priorities, including habitats, locations, and approaches. This prioritization is needed to determine the distribution of funding for private landowner incentives and other conservation efforts. For example, the state strategies can provide guidance for implementing Farm Bill and other conservation programs. States with the strongest wildlife strategies could be given additional federal funding to implement their plans. This may help serve as an incentive for states to use the strategies to guide investment of state wildlife grant funds and other funds.

2. COORDINATE WITH OTHER AGENCIES AND PLANS FOR EFFECTIVE INCENTIVE PROGRAMS

The world of conservation incentives contains a confusing variety of agencies, programs, and conservation goals. Improved coordination would help all parties work together to address high priority issues. This coordination should include federal, state, tribal, and local agencies and their plans and programs. Integrated conservation plans

and programs would allow agencies to address multiple conservation goals issues simultaneously.

For example, coordinating water quality and other Clean Water Act goals with biodiversity, listed species, and habitat goals would allow significant funding earmarked for the former to be used to conserve aquatic habitat and biodiversity. Clear biodiversity and habitat conservation goals need to be integrated into Farm Bill conservation program goals and priorities. In addition, the internal conflicts and contradictions between commodity and conservation programs in the Farm Bill need to be resolved. Similarly, state and local agencies should draw from state wildlife strategies to integrate biodiversity and habitat priorities into land use and transportation infrastructure planning.

Interagency coordination also needs to address regional issues. For some species and habitats, multi-state coordination is critical to developing effective conservation programs. In some states, regional approaches can help address conservation needs.

It is also important to increase coordination with the private sector. Market-driven or community efforts (such as certification programs, niche marketing, eco-labeling, eco-tourism, and recognition programs) can provide creative methods for meeting landowners' economic objectives while achieving conservation and community objectives. Additional funding for such programs, as well as local landowner groups and other conservation groups, is important for encouraging innovation and collaboration.

3. STRATEGIC AND OPPORTUNISTIC APPROACHES

Most incentive programs and other conservation efforts have been opportunistic, allowing anyone interested to participate. To ensure that high priority conservation goals are met, a better balance is needed between strategic and opportunistic approaches. A strategic approach to species and

habitat conservation should use the state comprehensive wildlife conservation strategies to prioritize efforts and funding. State and federal agency staff could recruit landowner participation in high priority areas or habitats. More funding is needed to educate landowners about incentive programs, particularly for strategic approaches. Another strategic way to conserve high priority areas is through transportation and other development mitigation efforts, and funds that establish conservation banks. Incentives should also go to landowners with intact or rare habitats to reward their land's conservation values, rather than to landowners who have heavily impacted their lands. Similarly, programs need to be designed to produce and measure desired conservation outcomes, not to simply follow approved practices and ignore results.

While strategic conservation efforts are important, opportunistic approaches need to continue. Conservation opportunities are constrained by complex political, economic, and social factors. In some cases, these variables determine the allocation of conservation funding. It is also critical to encourage landowners to participate in programs that interest them. This can allow neighbors and friends to learn about programs, or lead a landowner to consider other programs that may have greater conservation benefits.

4. LANDOWNER ACCESS TO PROGRAMS AND LANDOWNER COLLABORATION

The large number and variety of conservation incentive programs creates a significant barrier to landowner participation. Many landowners are unaware of programs, while others lack the time, money, or knowledge to wade through the diverse programs and their complex paperwork. Landowners need improved access to programs. Ideally, each state would offer one-stop shopping for all incentive programs. This could involve redesigning all state and federal programs - a daunting and probably impossible task.

More realistically, funding could be used for agency personnel, extension agents, or consultants to serve as liaisons between programs and landowners, providing technical and administrative assistance as needed. The incentive liaison would use the state comprehensive wildlife conservation strategy to strategically identify high conservation priorities and landowners. The incentive liaison would bundle incentive programs as needed to address landowners' circumstances and needs, and also evaluate opportunistic requests from landowners. There are many ways to design a one-stop shopping system. These should be evaluated in more detail and developed into a legislative concept to test and share with interested states.

One way to ensure that incentive funds meet conservation goals is to reward collaborative efforts that bundle landowners, conservation goals, plans, permits, and/or programs. Such collaborative efforts could be organized by a landowner group, conservation group, or by agency staff, extension agents, or consultants as discussed above. Collaboration for a watershed or regional conservation effort will achieve conservation goals more effectively than a single-landowner or single-issue approach. Funding and assistance for landowner groups would also be a good investment toward increasing the effectiveness of their conservation efforts. In addition to habitat conservation, landowner groups may also be interested in water quality or other outcome-based monitoring, enforcement when requested, education, and technical assistance.

Another key to the success of incentive programs, for landowners and conservation outcomes, is long-term and stable funding. Currently, many programs (or their funding) come and go, leaving landowners confused and frustrated, and leaving habitats and species inadequately protected.

5. EDUCATION, TECHNICAL ASSISTANCE, AND TRAINING

There is an almost universal need for additional funding for technical assistance. Some landowners need technical information or advice, while others need assistance with proposals, plans, permits, or budgets. Some simply need information about which conservation practices to use on their property. An important element of education and technical assistance is the opportunity for landowners to learn from other landowners, via field trips and demonstration projects highlighting key habitats, conservation practices, and lessons learned.

The need for education and technical assistance also applies to agency personnel, for example in forestry, agriculture, extension, and transportation. In some cases, people responsible for incentive programs or landowner outreach lack adequate knowledge of habitat conservation goals or ways to provide useful information to landowners. For the transportation and probably other sectors, an interagency, multi-disciplinary team of experts could be assembled to provide assistance for specific projects or for introductory training in conservation goals and methods.

6. EVALUATE EFFECTIVENESS OF CONSERVATION PROGRAMS

To ensure that conservation programs are effective, it is critical to evaluate their performance, starting with the current range of imperfect programs. Several key areas need evaluation while better conservation programs are developed. Performance evaluation that measures conservation outcomes is critical, rather than simply counting inputs such as landowners, acres, or trees. Landowner perspectives - including interest, knowledge, and motivations - should also be evaluated. The next task is to evaluate and understand the variability in program performance and in landowner perspectives: Why does one program work and another does not? Why does a program

work in one area and not in another? How do landowner perspectives vary, both within and between programs? Unraveling the reasons for variability in programs and in landowners will help address problems with existing programs and design new programs that are more effective for species and habitats and for program participants.

Ultimately, a system is needed that measures the results of all conservation programs on the ground. Measuring the cumulative effects of all land use and conservation practices will allow us to evaluate progress toward broader conservation goals and adjust programs and policies to ensure that conservation efforts are effective in the long run.

CONCLUSION

Interest in incentives for habitat conservation on private land is growing among state agencies and private landowners. These programs are emerging as a major element in biodiversity conservation strategies nationwide, and their importance is likely to grow in the coming years. Increased funding, improved program coordination, technical assistance, and strategic planning are needed to enhance the effectiveness of these programs. Issues of biodiversity conservation are complex, and there is much work to be done to achieve vital conservation goals and to make conservation incentive programs as effective and accessible as possible.

APPENDIX: Workshop Participants and Authors

WORKSHOP PARTICIPANTS

(Contributing Authors Indicated By **)

FRED BANK is an ecologist with the Federal Highway Administration and leads the Water and Ecosystems Team. His focus is on technical and policy issues related to the environment and highway system development. This includes developing polices and managing agency activities and research on wildlife habitat impacts, ecosystems, and conservation initiatives. In 2001, he developed and co-led an international tour to examine European policies and practices to reduce wildlife-related crashes and protect and reconnect fragmented wildlife habitats and ecosystems.

Fred Bank, Water and Ecosystems Team Leader
Federal Highway Administration
400 7th Street, SW
Nassif Building, Room 3240
Washington, D.C. 20590
202-366-5004
fred.bank@fhwa.dot.gov
www.fhwa.dot.gov/environment/index.htm

MICHAEL BEAN has headed the Wildlife Program of Environmental Defense since 1977, and is a co-director of that organization's Center for Conservation Incentives. Much of his work over the past decade has focused on the challenge of conserving endangered species on private lands through the use of incentive-based strategies.

Michael J. Bean, Senior Attorney
Environmental Defense
1875 Connecticut Avenue # 1016
Washington, D.C. 20009
202-387-3500
michael_bean@environmentaldefense.org
www.environmentaldefense.org

PAUL BEDDOE is the Associate Legislative Director with the National Association of Counties. His position involves working with the Public Lands Steering Committee and the Western Interstate Region. Previously he served as a Policy Analyst for the Idaho Association of Counties in Boise. In addition to staffing the Idaho Association's public lands steering committee and its environment, energy, and land-use committee, he also helped to coordinate grass-roots advocacy on a range of county issues before the Idaho legislature and state and federal agencies.

Paul Beddoe, Associate Legislative Director,
West Interstate Region
National Association of Counties
440 1st Street, NW
Washington, D.C. 20001
202-942-4234
pbeddoe@naco.org
www.naco.org

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

STEVE BENDER** is the Wildlife Planner for the Wildlife Division of the Texas Parks and Wildlife Department. He is developing the Texas Comprehensive Wildlife Conservation Strategy. Prior to 2004, Steve was the President and Chief Operating Officer for Plateau Integrated Land and Wildlife Management. Through this private wildlife management firm, located in Dripping Springs, Texas, Steve worked with over 350 private landowners.

Steven Bender, Wildlife Planner, Wildlife
Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744
512-389-4427
Steven.Bender@tpwd.state.tx.us
www.tpwd.state.tx.us/conserves/private_land

JOHN BERRY is the Executive Director of the National Fish and Wildlife Foundation, a nonprofit organization established by Congress in 1984. The Foundation is dedicated to the conservation of fish, wildlife, plants, and the habitat on which they depend. The Foundation supports public/private partnerships and strategically invests in conservation and sustainable use of natural resources. Formerly, John was the Legislative Director to Representative Steny Hoyer; Assistant Secretary of Policy, Management, and Budget with the Department of Interior; Director of Government Relations for the Smithsonian Institution; and Deputy Assistant Secretary for Enforcement with the Department of Treasury.

John Berry, Executive Director
National Fish and Wildlife Foundation
1120 Connecticut NW, #900
Washington, D.C. 20036
202-857-0166
john.berry@nfwf.org
www.nfwf.org

GEORGE BOODY** is the Executive Director of the Land Stewardship Project, a nonprofit membership organization that works for environmental stewardship, social justice, support for family farmers and healthful food. The Land Stewardship Project has long encouraged prescribed grazing and other approaches to farming that provide wildlife habitat. Boody's work is focused on how farm policy can encourage farmers whose management results in ecological services such as wildlife habitat. He also directs interdisciplinary projects with collaborative teams of researchers, non-profits, and farmers.

George Boody, Executive Director
Land Stewardship Project
2200 4th Street
White Bear Lake, MN 55110
651-653-0618
gboody@landstewardshipproject.org
www.landstewardshipproject.org

FRANK CASEY** is a natural resource economist and serves as Defenders' Director of Conservation Economics. His primary efforts center on analyzing, evaluating, and promoting economic incentive policies for wildlife habitat and biodiversity conservation on private agricultural and forestry lands. Frank has substantial experience with policy formulation and legislation related to federal conservation programs. He has also been instrumental in helping to define performance indicators for wildlife habitat and biodiversity conservation on private agricultural lands.

Frank Casey, Director of Conservation
Economics Program
Defenders of Wildlife
1130 17th Street, NW
Washington, D.C. 20036
202-682-9400
fcasey@defenders.org
www.defenders.org

CRAIG COX** is the executive director of the Soil and Water Conservation Society, a nonprofit organization that supports conservation professionals and science-based conservation practice, programs, and policy. Members come from diverse academic disciplines and public, private, and nonprofit institutions. The Society works to develop, implement, and improve ways to use land that sustain its productive capacity and enhance the environment.

Craig Cox, Executive Director
Soil and Water Conservation Society
945 SW Ankeny Road
Ankeny, IA 50021
515-289-2331 x13
craig.cox@swcs.org
www.swcs.org

FRANK DAVIS is a professor in the Bren School of Environmental Science and Management at the University of California, Santa Barbara, where he teaches and conducts research in landscape ecology and conservation planning. He co-organized the 2003 "Endangered Species Act at 30" conference in Santa Barbara. Davis is a Fellow in the Aldo Leopold Leadership Program and member of the Board of Trustees of The Nature Conservancy of California.

Frank Davis, Professor
Bren School of Environmental Science & Mgt
University of California, Santa Barbara
Santa Barbara, CA 93106
805-893-3438
fd@bren.ucsb.edu
www.biogeog.ucsb.edu

LINDA DYK ranches and farms with her husband, Brian, in southwest Montana. She is on the Madison Valley Ranchlands Group board of directors. The Ranchlands Group is a nonprofit who's mission is to protect open space, wildlife habitat,

and sustainability of family ranching in the Madison Valley. A key strength of the Group is bringing people with diverse views together to share, brainstorm, and implement new ideas. Linda also served on the Madison County Planning Board and the Madison County Farm Service Committee.

Linda Dyk, Rancher, Madison Valley
Ranchlands Group
PO Box 330
Ennis, MT 59729
406-682-3350
dykranch@3rivers.net
www.madisonvalleyranchlands.org

NANCY GREEN is the Chief of the Branch of Candidate Conservation for the U.S. Fish and Wildlife Service. Her position involves working on policies and practices for proactive conservation of species that are candidates for listing under the Endangered Species Act. Nancy is interested in habitat incentives because proactive conservation measures for habitat can contribute to making the listing of a species as threatened or endangered unnecessary.

Nancy Green, Chief, Branch of Candidate
Conservation, Endangered Species Program
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive, Room 420
Arlington, VA 22203
703-358-2151
nancy_green@fws.gov
www.fws.gov/endangered

MARTHA JOSEPH is a biologist with the Natural Resource Conservation Service, which provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment. Martha works in the Easement Programs Division, which administers easement programs including:

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

Emergency Watershed Protection Program, Farm and Ranch Lands Protection Program, Grassland Reserve Program, Healthy Forests Reserve Program, and Wetlands Reserve Program.

Martha Joseph, Biologist, Easement Acquisition Support
Natural Resource Conservation Service
P.O. Box 2890
Washington, D.C. 20013
202-720-7157
martha.joseph@usda.gov
www.nrcs.usda.gov

GREG AND KAYLA KOETHER raise grass-fed, chemical-free beef in northeastern Iowa. In the 1980s, they stopped raising corn because production costs exceeded market prices, and underground limestone caves were a direct conduit for agricultural chemicals to the Mississippi River. The farm now provides multiple values, including trees, wildflowers, wildlife habitat, and clean water. Greg Koether is on the Land Stewardship Project's Federal Farm Policy Committee. Kayla, Greg's teenage daughter, is very interested and knowledgeable about the complex economic, ecological, and social issues surrounding sustainable and conventional farming.

Greg and Kayla Koether, Landowners
K-Ranch
26046 Giard Road
McGregor, IA 52157

DEBORAH MEAD** is the National Habitat Conservation Planning Coordinator for the U.S. Fish and Wildlife Service. She works with regional coordinators to implement the program throughout the United States and its territories. The Service continually strives to improve conservation incentive programs for private landowners to better conserve listed and at-risk species, and values input from diverse perspectives.

Deblyn Mead, Consultation & Habitat Conservation Planning
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive, Rm 420
Arlington, VA 22203
703-358-2106
deborah_mead@fws.gov
endangered.fws.gov/hcp/index.html

SHARON OXLEY is the Executive Director of the National Center for Housing and the Environment. She was an organizer of the "Endangered Species Act at 30" conference and is working with a wide range of stakeholders to improve habitat conservation incentives. The Center strives to bring together regulated interests such as developers and the forest industry with environmental organizations and academics to find common ground and promote meaningful reform of the Endangered Species Act that will result in better species protection.

Sharon Oxley, Executive Director
National Center for Housing & Environment
1156 15th Street NW, Suite 510
Washington D.C. 20005
202-822-4645 x22
soxley@housingandenvironment.org
housingandenvironment.org

DAVE SCOTT** recently moved to Wisconsin to become the Marquette Interchange Project Manager for the Federal Highway Administration. He served as the Vermont Agency of Transportation's Director of Program Development for seven years, ending in 2005. In this position, he oversaw the design, permitting, right of way acquisition, and construction of all capital projects undertaken by the Agency. In 2001 he served as a member of the International Scan Team on Wildlife Crossings. Before being assigned as the Director of Program Development in 1997, he worked in the Agency's Planning Division.

David Scott, P.E., (Former) Director of Program Development
 Vermont Agency of Transportation
 Montpelier, VT 05633
cptscott@adelphia.net

MIKE SCOTT is a Professor in the University of Idaho's Department of Fish and Wildlife Resources, and leader of the Idaho Cooperative Fish and Wildlife Research Unit. His research interests include conservation biology, limiting factors for endangered species, conserving biodiversity on private land, reserve identification, selection, and design, and accuracy and scale issues relating to predicting species occurrences.

J. Michael Scott, Professor
 Department of Fish and Wildlife Resources
 University of Idaho
 Moscow, ID 83843
 208-885-6336
msscott@uidaho.edu

MARK SHAFFER is the Director of the Environment Program at the Doris Duke Charitable Foundation. The mission of the Environment Program is to preserve wildlife (native flora and fauna) in the United States by supporting efforts to complete the nation's conservation system. The Foundation supports the identification and protection of lands critical to conservation, via the states' comprehensive wildlife conservation strategies.

Mark Shaffer, Program Director, Environment
 Doris Duke Charitable Foundation
 650 Fifth Avenue, 19th Floor
 New York, NY 10019
 212-974-7000
mshaffer@ddcf.org
www.ddcf.org

BILL SNAPE was vice president and chief counsel for Defenders of Wildlife at the time of the workshop. He managed all domestic and international legal programs, provided legal counsel on all program policy, and directed the organization's litigation before various courts and tribunals. He is the author of numerous articles on natural resources policy, and edited *Biodiversity and the Law*, published in 1996 by Island Press. He has also taught at several law schools.

William J. Snape, III, (Former) Vice President and Chief Counsel
 Defenders of Wildlife
 Washington, D.C. 20036
 202-682-9400
www.defenders.org

SARA VICKERMAN** is the Senior Director for Biodiversity Partnerships for Defenders of Wildlife, and director of the Northwest office. She initiated and managed the Oregon Biodiversity Project, a statewide assessment and strategy designed to conserve all native habitats and species in functioning ecosystems. Since private lands are critical to the long-term conservation of biodiversity, Sara and her staff focus on understanding and improving incentive programs to make them more strategic and effective, through policy change and partnerships.

Sara Vickerman, Director, Northwest Office
 Defenders of Wildlife
 1880 Willamette Falls Dr., Suite 200
 West Linn, OR 97068
 503-697-3222
svickerman@defenders.org
www.biodiversitypartners.org

TRISHA WHITE** is the Director of Defenders of Wildlife's Habitat & Highways Campaign. This campaign seeks to reduce the impact of surface transportation on wildlife and encourages state

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

and local authorities to incorporate wildlife conservation into transportation and community planning. In partnership with the Surface Transportation Policy Project, Trisha released a report, *Second Nature: Improving Transportation Without Putting Nature Second*, which was awarded the Natural Resources Council of America's 2004 Award of Achievement for best publication.

Trisha White, Director, Habitat & Highways Campaign
Defenders of Wildlife
1130 17th Street, NW
Washington, DC 20036
202-682-9400
twhite@defenders.org
www.defenders.org

LARRY WISEMAN** is the president and chief executive officer of the American Forest Foundation, a nonprofit that operates national and international education and conservation programs. The Foundation's three programs (American Tree Farm System, Forests for Watersheds and Wildlife, and Project Learning Tree) are directed at two groups which share extraordinary influence over the quality of our environment: young people and the more than 9 million family forest owners who manage the majority of our nation's timber-producing forestland.

Larry Wiseman, President
American Forest Foundation
1111 19th Street, Suite 780
Washington, DC 20036
202-463-2462
LWiseman@ForestFoundation.org
www.forestfoundation.org

WORKSHOP FACILITATORS

JIM WITHAM** is a consulting facilitator and mediator based in Troy, Idaho. He formerly worked as a wildlife biologist for the Arizona Game and Fish Department, the Illinois Natural History Survey, and as a private consultant.

Jim Witham, Consultant
1011 Howell Rd.
Troy, ID 83871
208-835-2283
jwitham@turbonet.com

CHERYL HUMMON** is the Senior Conservation Incentives Specialist with Defenders of Wildlife in Oregon. Her focus is improving the ecological effectiveness of incentive programs while addressing landowner needs. Projects include improving state programs, introducing legislation, and developing products about incentive programs. Cheryl is also interested in supporting groups of diverse people to ensure an effective and productive process.

Cheryl Hummon, Senior Conservation Incentives Specialist
Defenders of Wildlife, Northwest Office
1880 Willamette Falls Dr., Suite 200
West Linn, OR 97068
503-697-3222
chummon@defenders.org
www.biodiversitypartners.org

WORKSHOP COORDINATION AND SUPPORT

LISA HUMMON is Coordinator for the Conservation Policy Division at Defenders of Wildlife. She has done extensive research on federal resource conservation incentive programs and has become involved with various aspects of sustainable agriculture and biodiversity conservation in working landscapes.

Lisa Hummon, Conservation Policy
Coordinator
Defenders of Wildlife
1130 17th Street, NW
Washington, D.C. 20036
202-682-9400
lhummon@defenders.org

KELLY MALSCH is the Legal Coordinator for Defenders of Wildlife. As part of Defenders' legal team, she has helped with several cases involving critical habitat and other protections for endangered wildlife under the Endangered Species Act. She is also actively involved in Defenders' efforts to protect marine wildlife in the Pacific Ocean.

Kelly Malsch, Legal Coordinator
Defenders of Wildlife
1130 17th Street, NW
Washington, D.C. 20036
202-682-9400
kmalsch@defenders.org

CLAUDIA KESSEL was an intern with Defenders of Wildlife during the summer of 2004. She worked with Trisha White on federal and state transportation policy.

Claudia Kessel, (Former) Intern
Defenders of Wildlife
1130 17th Street, NW
Washington, D.C. 20036

REPORT EDITOR

LIZZY GROSSMAN is the author of *Watershed: The Undamming of America*, *Adventuring Along the Lewis and Clark Trail*, and co-editor of *Shadow Cat: Encountering the American Mountain Lion*. Her next book, *High Tech Trash*, about the environmental impacts of technology, will be published by Island Press. Her writing about natural resources has appeared in *Orion*, the *Seattle Times*, *Yes! Magazine*, *The Washington Post*, *Grist*, and the *Oregonian*.

Elizabeth Grossman, Writer and Editor
Portland, Oregon
lizzieg@spiritone.com

OTHER CONTRIBUTORS NOT ATTENDING WORKSHOP

PAIGE FISCHER is a doctoral student in the College of Forestry at Oregon State University. Her research aims to understand how policy can build on the knowledge, values, and capacities of landowners to conserve oak woodland and other threatened habitats. Before graduate school, she worked in the field of international forest policy for five years and conducted research on agroforestry as a Fulbright scholar in Sri Lanka for 1.5 years.

Paige Fischer, PhD Candidate
Department of Forest Resources
Oregon State University
Corvallis, OR 97331
apfischer@oregonstate.edu

JOE HINSON is a natural resource consultant and private landowner in western Idaho. His wife is a third generation sheep rancher. Joe is developing creative approaches for landowners to

..... CONSERVATION INCENTIVE PROGRAMS: Improving Effectiveness for Habitat and for Landowners

participate in conservation efforts, including a Candidate Conservation Plan for multiple landowners, a Candidate Conservation Plan for 22 sensitive species on his ranch, and a "visiting team" model for efficient delivery of programs and assistance to landowners.

Joe Hinson, Landowner, Consultant
Northwest Natural Resource Group, LLC
P.O. Box 127
Weiser, ID 83762
joehinson@msn.com

JIM KRAFT is the Senior Vice President, General Counsel and Secretary of Plum Creek Timber Company, Inc., the second largest private timberland owner in the U.S., with 8 million acres in 21 states. Plum Creek provides wood products through sustainable forest management under the Sustainable Forestry Initiative program. Plum Creek works in partnership with state, federal, and private interests to manage wildlife habitat and conserve biodiversity.

James A. Kraft, Senior Vice President, General Counsel and Secretary
Plum Creek Timber Company, Inc.
999 Third Avenue, Suite 4300
Seattle, WA 98104
jkraft@plumcreek.com
www.plumcreek.com/environment