

PROTECTING AMERICA'S LAND LEGACY

STEWARDSHIP POLICIES, TOOLS, AND INCENTIVES TO PROTECT AND RESTORE AMERICA'S LAND LEGACY

Environmental Financial Advisory Board (EFAB)

February 2003

Preface

The Environmental Financial Advisory Board (EFAB), through its Strategic Action Agenda, previously has prepared a variety of reports suggesting innovative ways to finance EPA's watershed protection programs. This work has resulted in the following publications:

- *Recommendations and Final Report on Opportunities for Financing the Clean Water Action Plan* (July 1999)
- *Environmental State Revolving Fund: Developing a Model to Expand the Scope of the SRF* (June 2001)
- *Guidebook of Financial Tools* (<http://www.epa.gov/efinpage/guidbkpdf.htm>)

The central premise of EPA's watershed work is that the integrity of the land determines the integrity of our nation's waters. This paper focuses on the concept of stewardship as an important means to protect and restore America's land legacy in furtherance of EPA's watershed approach.

The management and use of our public lands is dictated by a long history of laws and regulations. The management and use of the private lands largely is legislated by local police powers and land use authorities (zoning, conditional use permitting) although federal and state laws (i.e., the Clean Water Act and the Endangered Species Act) sometimes control uses of private land, as well. Moreover, the use of private land is driven by economic conditions and market

prices: specifically, the availability of capital and interest rates.

These laws and economic forces will continue to be primary motivators concerning the use of real property in America; however, they can be, and should be, supplemented by the long-standing American value of conservation of our lands. The concept of stewardship—as an **ethic** and as a **practice**—can give strength and cohesion to the conservation movement, and can serve as an essential supplement to our system of legal authorities and economic systems.

But what is stewardship and how can it be applied in service of conserving our land legacy and protecting our watersheds?

In **Chapter 1**, we set forth the essence of stewardship, the principles to guide stewardship, and a framework for planning a nationwide approach to stewardship.

In **Chapter 2**, we explore an open-ended compilation of policies and tools that support stewardship as an **ethic** and that stimulate positive social responsibilities.

In **Chapter 3**, we explore an open-ended compilation of policies, tools, and incentives that support stewardship as a **practice** and that enable positive economic and environmental outcomes.

In **Chapter 4**, we explore how the acquisition of various interests in the land may significantly support stewardship efforts and provide substantial leverage to funds available for acquisition investment.

In **Chapter 5**, we offer a set of broad recommendations for consideration by the Administrator of EPA.

TABLE OF CONTENTS

CHAPTER 1—THE ESSENCE OF STEWARDSHIP

- Introduction
- Opportunity and Vision
- The Context of Land
- The Essence of Stewardship
- Principles for Stewardship
- Framework for Planning
- Stewardship as an Economic Enterprise

CHAPTER 2—TOOLS THAT STIMULATE POSITIVE RESPONSIBILITY

- Information
- Education
- Recognition and Rewards
- Partnerships and Cooperative Efforts
- Mediation
- Certification Systems
- Environmental Management Systems

CHAPTER 3—TOOLS THAT PROMOTE POSITIVE ECONOMIC AND ENVIRONMENTAL OUTCOMES

- Cost Sharing Management Agreements
- Tax Incentives
- Federal Programs and Policies
- Assurances
- Loan Programs
- Mitigation Measures

CHAPTER 4—INTERESTS IN LAND AND THE POWER OF LEVERAGE

- Conservation Easements
- Transfer of Development Rights
- Transfer of Water Rights
- Life Estates and Remainder Interests

CHAPTER 5—RECOMMENDATIONS

APPENDIX—EFAB STEWARDSHIP ROUNDTABLE

REFERENCES

CHAPTER 1

THE ESSENCE OF STEWARDSHIP

INTRODUCTION

America is experiencing continuing growth in population and prosperity. The question of where these people will live and work, and how their needs for food, fiber, water, energy, affordable housing, urban infrastructure, transportation, and education will be met, all bring into sharp focus the compelling need to protect and conserve America's land base. At the dawn of the 21st century there is a growing public awareness that our continued prosperity depends on the integrity of our lands and the habitats and ecosystem services they provide. There is an inchoate yearning for community, environmental quality, and "quality of life."

Much of this interest and activism about the environmental integrity of our lands, habitats, ecosystems, ecosystem services, and the sustainability of these resources for present and future generations

has been made manifest by the acquisition of lands for permanent protection and conservation. Local and regional land trusts, conservancies, and open space districts are the primary players, along with national land trusts and state and federal land and resource management agencies. This mosaic of organizations and agencies, often working in concert, has accumulated an impressive portfolio of successes by acquiring, managing, and conserving valuable lands.

But the acquisition of lands cannot, and should not, be the only means to conserve our land legacy. While the acquisition of lands must continue, we also need to establish a framework to create a broader sense of responsibility, public and private, for land stewardship and conservation.

We have an obligation to act now to conserve our land legacy for the benefit of present and future generations. This opportunity is not open-ended. The inexorable trends of continuing population growth, expanding urban and suburban footprints, dispersed development, conversion of agricultural lands, fragmentation of lands, and the loss of habitats and species diversity narrow the window of opportunity every day. This calls for concerted action now, but within the context of a long-term framework.

The purpose of this paper **“Stewardship Policies, Tools, and Incentives to Protect and Restore America’s Land Legacy”** is to set forth principles and a broad policy framework, along with the tools and incentives, to guide the long-term process of conserving our land legacy and restoring the vital functions that the lands may support. It further sets forth the strategic direction to instill the ethic and practice of stewardship on our public and private lands.

OPPORTUNITY AND VISION

We have now a compelling opportunity to create and instill a land ethic - a stewardship ethic - to guide the protection and use of our lands. A stewardship ethic is applicable to the 70% of America that is held in private ownership, as well as the holdings of public lands. The private holdings in our urban, or urbanizing, areas create essential economic product and sustain a vital array of social values. These lands can be developed and used pursuant to a stewardship ethic with responsible land use policies and practices. The private holdings in rural areas can be characterized as “working landscapes”-- farms and croplands, ranches and pastures, timber operations and forests, watersheds and fisheries-- that comprise the mosaic of our landscape, culture, and economy. These lands also generate economic product. Moreover, they include viable habitats, biodiversity, functioning ecosystems, and they provide ecosystem services. They provide open space and scenic vistas. These private lands are an essential part of America, and properly managed by their owners with a stewardship ethic can produce lasting and sustainable value for all.

The focus on the integrity of the land inherently incorporates the integrity of our nation’s waters, air, and climate—matters of direct and compelling interest to the Environmental Protection Agency and the state environmental programs. By embracing a stewardship ethic and working to develop and implement stewardship practices, EPA may significantly enhance its mandated mission in support of growing public values. It can enhance its regulatory and enforcement agenda by supporting voluntary stewardship practices, economic incentives, and other highly leveraged tools. Stewardship practices can be the core means to implement the watershed strategies of the Clean Water Action Plan and to develop sustainable financing systems to meet future needs for clean drinking water and wastewater treatment.

The opportunity to protect and conserve our “working landscapes” must build upon the long-standing and

wide-ranging portfolio of conservation programs administered by the US Department of Agriculture. These programs were first given specific direction and significant funding in the Food Security Act of 1985. Congress has recently passed a new farm bill to reauthorize the Food Security Act and to strengthen agricultural lands conservation programs. These programs are especially noteworthy and compelling in that they declare land conservation and stewardship practices to be national policy.

THE CONTEXT OF LAND

The concept of land simply as real property needs to be broadened considerably to encompass the view of land as a natural resource, with its capacity to sustain viable habitats, biodiversity, functioning ecosystems, and ecosystem services. Our vision of land should include land as “watersheds” incorporating the fundamental interdependence of land and water resources and the expectation that land can provide open space, scenic vistas, recreational opportunities, and support spiritual values. Not all of these attributes of land currently are incorporated in our national economic analysis of the value of land, yet these attributes are immensely valuable.

In advancing a framework for land stewardship, one must necessarily use the established language of real property ownership: land-as-property, public ownership, private ownership. But our interest is not focused on real property per se or even specific ownership patterns; rather, our interest resides in the ecological values of the land, the integrity of watersheds, and the need to conserve our land legacy. We need to expand our current truncated view of land-as-property to a new view that all lands, public and private, have inherent value as natural resources, as natural capital, and as signature elements of the landscape.

THE ESSENCE OF STEWARDSHIP

Continued prosperity depends on our ability to protect the resources of our natural heritage and to learn to live in ways that do not unduly diminish the land; indeed, we can develop and use our land in ways that nurture, enhance, and sustain it. Stewardship is at the core of this obligation. Stewardship calls upon everyone in society to assume responsibility for protecting the integrity of natural resources and ecosystems and, in so doing, to safeguard the interests of future generations. Without personal and collective commitment, without an ethic based on acceptance of personal responsibility, efforts to sustain natural resources protection and environmental quality cannot be fully successful.

“A conservation ethic is that which aims to pass on to future generations the best part of the non-human world. To know this world is to gain a proprietary attachment to it. To know it well is to love and take responsibility for it.”

Edward O. Wilson
The Future of Life

In its traditional usage, stewardship referred to administering land on behalf of others. In our more current usage, stewardship is about caring for and conserving land on behalf of current and future generations. Stewardship is defined as an **ethic** of respect for the inherent values of healthy natural systems and as a **practice** that sustains those benefits for current and future generations.

Stewardship is therefore embodied as both an **ethic** (a set of beliefs) and as a **practice** (a set of behaviors). The ethical and practical aspects of stewardship operate to reinforce each other; the ethic informs the practice; the practice enriches the ethic.

1. Stewardship as an Ethic

The stewardship ethic seeks to conserve land and sustain and enhance natural systems for the benefit of succeeding generations. Stewardship is a set of beliefs or values shaped by information from a multiplicity of cultures, disciplines, and other sources. A stewardship ethic can be embraced by various entities: an individual, an enterprise, a community, or a governmental agency.

2. Stewardship as a Practice

The practice of stewardship is a voluntary endeavor on the part of the landowner. It is shaped by many factors: prevailing laws, regulations, and codes; economic policies and market forces; and societal values. Stewardship practices may also be “best management practices.” Stewardship practices are encouraged and supported by information, education and applied knowledge, recognition and rewards, technical assistance and peer review, financial incentives, tax policies, public investment policies, and governmental assurances.

PRINCIPLES FOR STEWARDSHIP

A framework for stewardship should be guided by a set of higher order principles that promote the common good and that all of society can support. These principles should guide the planning and decision-making process for land use and conservation, and should contribute to a sense of fairness, equity, and common purpose.

PRINCIPLES:

Respect property rights

The use and enjoyment of private property, private resources, and private rights should be respected. In

the United States, private property is both protected and regulated to achieve objectives of the larger public interest. This balance of protection and regulation is essential to the legal integrity of land conservation efforts.

Use best available science

Planning and decision-making regarding land conservation and stewardship should be informed by, and reflect, best available science.

Respect the rule of law

Laws and regulations affecting the use of lands and their resources should be respected and equitably enforced. However, we should work with governments to identify and change laws and regulations that discourage stewardship.

Avoid conflicts

Planning and land regulation should seek to avoid or prevent conflicts between human habitation patterns and natural processes and functions such as seasonal flooding and regenerative fire.

Employ economic efficiency tools and market approaches

Efficient economic utilization of lands, within the established footprints of urban/suburban extent, should be the foundation of public land use policy in support of stewardship.

Positive incentives (financial as well as non-financial such as regulatory and permitting reforms) should be created, pursued, and aligned in support of stewardship practices, with comparable attention given to the removal of disincentives and barriers.

A “willing seller” should always be preferred in a public acquisition; with land valuation based on considerations of fair market value and comparable land values that prevail in the local market at a given time.

Apply the power of partnerships

Partnering efforts among public lands managers at the federal, state, and local levels, private owners and operators, private land trusts, land conservancies, and philanthropic organizations should be fully engaged to gain leverage and to lend collective power to conservation efforts. Peer review techniques, sharing of knowledge and best practices should be widely encouraged.

Create multiple benefits

Multiple benefits in the land should be sought wherever possible; including habitat protection, ecological services, agricultural productivity, source water protection, public safety, flood control, historical and archeological protection, recreational opportunities, and open space and aesthetic values.

The integrity of the land itself (soil mantle, soil tilth, fertility, and vegetative cover) should receive priority consideration for protection and conservation.

The integrity of watershed lands should be protected and maintained, and where necessary restored, to ensure the quantity and quality of surface waters and groundwater to provide essential present and future water supplies. Watershed-based source protection should be a priority to enable America to minimize the costs of downstream drinking water treatment.

Watercourses, riparian zones and wetlands should receive special protection due to their value for water quality enhancement, fishery production, habitat,

aquatic and terrestrial diversity, runoff water conveyance, and flood water detention.

Lands protected and conserved in public ownership, wherever appropriate and feasible, should provide access for public use and enjoyment. Public lands should be used appropriately for the education of school children and the general public. Certain lands, such as wildlife refuges, may warrant use limitations to protect resources. Conservation easements held in public ownership may have public access restricted to respect adjacent private interests.

Seek and utilize local advice and experience

Whenever possible, the active support, knowledge, experience, and cooperation of people who live in and around important natural areas should be secured to improve the chances of successful land conservation efforts.

Enabling people to “stay on the land” as stewards and responsible owners and operators of working landscapes should be encouraged and supported wherever appropriate.

Consider an ecological scale

Adjacent lands, both public and private, should be aligned and “linked” wherever feasible to create protected wildlife corridors and seasonal habitat.

Adjacent lands, both public and private, should be managed and protected wherever possible within an appropriate landscape scale to enable ecological processes to operate and where natural dynamics can help assure the maintenance of long-term ecological health.

Apply a sense of heritage

The practice of stewardship to conserve our public and private lands should be consciously applied for the benefit of future Americans – their heritage is the land legacy we bequeath to them.

Assertive action today to conserve America's finite lands should preserve options and opportunities for tomorrow.

FRAMEWORK FOR PLANNING

A long-term planning framework, incorporating the principles above, should be developed within the context of the host of policies and considerations that shape America's landscape. A national stewardship policy could be framed within existing consideration of:

- Regulation of the use of private lands
- Stewardship of private lands
- Stewardship of public lands
- Acquisition of private lands and easements

1. Regulation of the Use of Private Lands

Public regulation of private lands is an important policy tool to promote the ethic and practice of stewardship. A planning framework for land conservation should align with, and build upon, the existing system of public regulation of the use of private lands.

The use of private lands is governed by a panoply of laws and regulations: local authorities (zoning, use permits, codes); state land use and planning codes (Subdivision Map Act); federal and state environmental rules (wetlands protection, storm water runoff); and federal laws (Endangered Species Act). The regulatory system can encourage land conservation and the management of natural resources while creating economic benefits. The regulatory system can also discourage or even prohibit the loss of important and valuable habitats such as the regulation

that prohibits the filling of wetlands. It is essential that regulations be coordinated across adjacent jurisdictions to reinforce a regional planning template. It is also important to seek the appropriate balance between regulatory oversight and the ability of landowners to utilize their land for their purposes.

Regulation of land use through zoning (often complemented by a program of civic action and local expenditures) can effectively create open space and enhance habitat values; witness the greenways, urban creeks, riparian zones, wetlands, buffer zones, and parks that enhance the urban environment and create habitat opportunities. The combination of regulation and local public investment has considerable power and potential.

The regulatory system, with its complex statutory requirements and often duplicative and conflicting rules, is in need of modernization and reform to more effectively promote the ethic and practice of stewardship. Regulatory action by each of many regulators can present a formidable barrier to those landowners seeking to implement stewardship practices. Streamlined regulatory reviews, while honoring the statutory intent, can greatly assist landowners willing to exercise conservation and stewardship on their lands. Coordinated regulatory reviews for restoration and environmental enhancement projects should become common practice.

2. Stewardship of Private Lands

Roughly 70% of the land base in America is held in **private** ownership. We need to acknowledge the many private landowners and families across the country that have practiced good stewardship of their lands. Stewardship has been accomplished despite formidable economic barriers. Still, there is considerable untapped potential to engage the private sector in the long-term enterprise of conserving our

land legacy. A means to this end is to instill within all landowners the ethic and practice of stewardship of private lands.

In the regulatory and enforcement culture of America, stewardship has been largely discounted as a land conservation policy. However, there is power in the passion of individuals and communities for conserving lands. In order to mobilize this passion to conserve lands, private landowners must be treated fairly. We should not expect current landowners alone to redress the mistakes of the past, nor should they be expected to carry the full burden of providing for future generations. We must not expect landowners to absorb the full costs of measures that create public benefits (e.g. managing their land to sustain robust habitats, dedicating their land to wildlife corridors and vital habitat linkages, or foregoing development to sustain open space and scenic vistas.)

Private stewardship of private lands should be supported by an array of tools, incentives, and methods. Specifically, the full set of positive financial incentives and tax policies should be utilized. Just as important, barriers and disincentives to stewardship of private land should be removed. A just and reliable measure of economic and regulatory certainty should be assured to landowners acting as good stewards.

Ultimately, the ethic and practice of stewardship of private lands is a joint public-private enterprise. Private landowners, as stewards, manage and care for their lands to create long-term public benefits. Public resources are deployed in support of, and in partial compensation for, private stewardship practices. Working together, America's land legacy may be effectively conserved.

3. Stewardship of Public Lands

Roughly 30% of the land base in America is held in **public** ownership. This fraction will incrementally increase as a result of continuing active land

acquisition programs. These public lands largely consist of federal holdings such as national forests (in the mountain regions) and public domain (in the deserts), along with national parks, state parks, local parks, and open space holdings.

Lands currently held in public ownership and managed in the public interest should receive quality care, infused with the best practices of stewardship and informed by the best available science. Substantial deferred maintenance and unmet needs are now evident on our public lands. Restoration of diminished, damaged, or lost natural resources should become an investment priority sustained over the long term to heal the damage and restore the functions and values of these lands and their habitats.

In planning new land acquisitions, a reasonable provision for any necessary restoration and long term care and stewardship should be included in the investment decision.

4. Acquisition of Private Lands and Easements

Acquisition may be the most familiar tactic to conserve lands, although it is not the only one or sometimes the best one. However, it is a very powerful and critical instrument in the overall strategy for land conservation.

Acquisition in fee simple absolute secures full title of real property, usually in public ownership as a unit of a park, reserve, open space, forest, etc. This can assure permanent protection and public access. However, it often comes with an imbedded economic obligation for maintenance and restoration. Due to the extraordinary initial cost, usually only top priority lands, critical habitats, and/or "once in a lifetime opportunity" properties can be protected by acquisition.

Acquisition in fee simple increasingly is giving way to purchase a partial interest in a property, such as a

conservation easement, development right, water right, or greenway easement. Less-than-full-fee acquisition can be very cost-effective. It can eliminate the development potential (and development value) from the land leaving the underlying land in private ownership and care, but furthering the opportunity to develop and sustain working landscapes. Also, and very importantly, the income from the sale of the easement can help landowners pay debts, modernize for efficiency, and improve their land for the next generation.

Lands initially acquired are often re-sold to a party who will practice stewardship while maintaining economic production as a working landscape. The resale agreement often includes a management obligation, imbedded in the deed, for the continuing stewardship of the land. And, of course, the resale proceeds replenish capital that can be used for other acquisition investments.

There is a strong tradition of private giving through philanthropy where private wealth is transferred or bequeathed to a public entity or to a non-governmental organization (NGO) for stewardship purposes. The gift is often land. Sometimes liquid assets are transferred; these funds can be used to acquire new lands. These transactions are often motivated in part by tax considerations. A strategy for land conservation should incorporate this tradition, and enhance it with specific changes to the tax code. Facilitating the transfer of lands (or liquid assets for land) for the protection of land conservation is in the public interest and is, therefore, an appropriate subject of tax policy.

STEWARDSHIP AS AN ECONOMIC ENTERPRISE

There is a growing appreciation that the practice of stewardship yields considerable economic value. This

economic value is often indirectly manifested as “costs avoided”, but the value may also be accounted for directly. Where there is economic value, there are opportunities to enhance, finance, and leverage such values for even greater economic and social good. Environmental financing techniques are being explored in association with the compendium of tools and incentives examined in Chapter 3 of this report.

Of primary interest to EPA, the practice of stewardship yields an impressive ledger of “costs avoided” in the watershed-based water quality protection programs. The integrity of the watershed lands determines the integrity of the waters. The application of good stewardship practices to the land should result in the prevention of soil erosion and the reduction of runoff of nutrients and pesticides from cultivated lands or rangelands. Reduction or prevention of the pollution loadings to streams and rivers directly reduces or avoids the costs of needed treatment for after-the-fact cleanup. These costs of cleanup—regulatory and compliance costs, capital investments, operations expenditures, and restoration costs—are significant. To the extent they can be avoided or minimized, society will benefit.

In like manner, the practice of stewardship can protect the ability of ecosystems to perform their vital functions and to preserve and protect the economic values presented by these “ecosystem services.” Ecosystems provide a range of “services” that are just beginning to be understood: climate regulation, production of clean source waters for drinking, storm water retention and water quality enhancement (through wetlands and marshes), the production of food, fodder and fiber, the production of pharmaceutical chemicals, biodiversity, etc. These “ecosystem services” are provided by nature essentially for free. For mankind to replicate such services would entail untold costs (if it were even possible). The practice of stewardship of our lands and waters is an important feature of protecting

ecosystem services, and therefore presents immense value to society. Research is underway to more thoroughly document the value of ecosystem services and to develop financial instruments and incentives to insure their protection.

The practice of stewardship can directly create significant value in economic and environmental benefits, as well as cultural and spiritual rewards. The practice of stewardship can result in:

- Enhanced property values
- Increased productivity of the land or natural resource asset
- Improved bottom-line performance
- Improved financial ratings and shareholder satisfaction
- Enhanced value in watershed integrity, water availability, water purity
- Enhanced value in habitats and biodiversity
- Enhanced value in functioning robust ecosystems
- Increased numbers of “best practices” that are friendlier to our lands
- Enhanced quality of farmlands to be passed to future generations
- Enhanced quality of life through spiritual connectedness to the land.

In summary, the practice of stewardship yields economic value in “costs avoided”, and produces direct values and benefits to both the public and private sectors. The growing portfolio of tools and incentives to promote the ethic and practice of stewardship, along with the dedication of substantial public and private funding, will certainly attract financing mechanisms to enhance and leverage these investments for greater social good. The traditional expenditures of one-time appropriations to support these incentives will give way to new concepts of sustainable investment and environmental finance.

CHAPTER 2

TOOLS THAT STIMULATE POSITIVE RESPONSIBILITY

This chapter is intended to be an open-ended compilation of possible tools, methods, and incentives that can be useful to help implement stewardship practices. Most of these tools currently exist and are utilized across the country. New tools are being developed and tested continually by innovative stewards; therefore, the tools presented here likely will change over time.

INFORMATION

The ethic and practice of stewardship requires an information-rich environment. Effective communication of information can impact perspectives, behavior, practices, and decision-making. To enable private landowners to manage their land as stewards, information should be available to:

- Inform owners about natural resources and valuable ecological sites and habitats on their property, including the presence of endangered species;
- Inform owners about methods available to protect, enhance, manage, and/or conserve such resources and enhance ecological values on the property;
- Enable owners to find competent advice and technical assistance;
- Enable owners to locate available financial assistance, including cost-sharing programs, low interest loans, grants, etc.;
- Inform owners how to form partnerships with governmental agencies and NGOs;
- Inform owners about how private property can be held, conserved, and transferred to heirs in a stewardship-friendly manner.

Stewardship information must be carefully and purposefully assembled, packaged, targeted, and presented. The delivery mechanism of the information must be considered as carefully as the message itself. The messenger is often just as important as the message itself. The usual practice of “getting the word out” needs to be supplemented by “getting the word in”. Locally based peer groups and open engagement of neighbors can often be more effective than outside experts.

Thoughtful communication will build trust among stewards and their communities, rally people around a common cause and encourage local ownership of stewardship projects. The tenor of discussions about stewardship must move from blame to responsibility.

EDUCATION

Of all the resources available to sustain the future of humankind, information is the only one that systematically *increases* over time. The profusion of information about stewardship should be synthesized and delivered as an educational program to instill an ethic of stewardship.

The objectives of such an education program are:

- To increase basic literacy about stewardship;
- To instill in all our citizens an appreciation of the history, culture, tradition of our lands;
- To develop individual awareness of - and responsibility for - the integrity of natural resources and ecological processes;
- To strengthen and enrich the scientific underpinnings of our understanding of ecological systems.

Education about stewardship of our lands must begin early in our nation’s schools. While it is important to educate current landowners, including public, private, individual and business owners, about stewardship of

the lands they own, the landowners and business executives of tomorrow are in classrooms today – not only in our elementary and high school classrooms but in our college and graduate programs as well. Many schools include stewardship in their curriculum. All schools should be encouraged to teach stewardship at every level.

Such environmental literacy programs will produce enormous benefits over time. In the course of a generation, we can instill the ethic and practice of stewardship as a normative standard for individual and enterprise behavior.

RECOGNITION AND REWARDS

The ethic and practice of stewardship can be advanced by the use of recognition and rewards. Any individual or enterprise that implements stewardship practices ought to enjoy the recognition and support of their peers and community. Certain rewards are financial and manifest at the bottom-line; but peer recognition of individual responsibility is a most powerful incentive that reinforces the prevailing social value and ethic of stewardship, as well. A proliferation of recognition and rewards currently exist. They simply need to be employed to specifically recognize exemplary stewardship practices.

PARTNERSHIPS AND COOPERATIVE EFFORTS

Individual efforts to practice stewardship can be significantly enhanced by cooperation and collaboration with others in a joint endeavor. These alliances should be encouraged and supported to create viable partnerships working toward stewardship goals. Partnerships also can further the goal to educate about stewardship and create a “ripple effect” of individuals or entities that then may be willing to partner with others who might be reluctant to undertake a project alone.

1. Cooperatives

Increasingly landowners, farmers, ranchers, and others are organizing themselves into cooperative groups in an alliance with regulatory authorities, NGO's, and academics in order to promote land management and stewardship practices. The advantages of these associations are that participants receive technical assistance, information, peer support, and a network of people to work with as they change from traditional practices to new stewardship practices.

A prime example of this trend is the shift to increased use of biologically based farming techniques and the integration of these practices with natural resources management and wildlife conservation efforts. Specific organizations have emerged: California Certified Organic Farmers (CCOF); Community Alliance of Family Farmers (CAFF); Biologically Integrated Orchard Systems (BIOS); Biologically Integrated Farming Systems (BIFS). These types of cooperatives/associations can create some comprehensive alignment-of-interests to systematically support a stewardship ethic.

The Western Governors Association (WGA), through its ongoing activities in support of management of western lands, has formed many noteworthy partnerships and cooperative ventures. The States, the USDA Natural Resources Conservation Service (NRCS), Local Resource Conservation Districts (RCD), and various partners-in-conservation are actively working to promote the implementation of new approaches to private land conservation in the west.

2. Natural Community Conservation Planning (NCCP)

NCCP organizations promote a new cooperative approach to stewardship and ecosystem management

(especially for endangered species) that brings together developers, NGO's, and various levels of governmental regulatory authorities in a problem solving collaborative.

An NCCP focuses on whole natural communities, rather than reacting to conservation problems on a project-by-project or species-by-species basis. This approach encourages the protection of hundreds of species by thousands of landowners at a time. In San Diego County, for example, the NCCP will serve as a blueprint that will ultimately result in the protection and restoration of some 172,000 acres of native habitats that are home to more than 85 rare and endangered species. The preserve system will be assembled from existing public land, properties set aside as part of the land development process, and the acquisition of private lands by local, state, and federal groups and agencies. This San Diego NCCP is of true historic proportions because it marks the first time that stewardship and conservation values, instead of development desires, have driven a local land-use plan of such size and scope.

3. Watershed Councils

Watershed councils in various forms and with various purposes have emerged as mechanism to facilitate locally place-based ecosystem conservation. These may be private nonprofit organizations, but they usually take the form of multi-stakeholder organizations with diverse governing boards that can involve environmentalists, ranchers, farmers, business interests, and representatives from local, state, and federal resource agencies. While the success of watershed councils often depends on funding and some dedicated staffing, they have great potential to promote the ethic and practice of stewardship within their watersheds.

MEDIATION

Difficult environmental disputes created by development proposals and the needs of endangered species, or those involving substantial tradeoffs in environmental values and economic costs, increasingly are being resolved by means of mediation by neutral third parties. Mediation can encourage the parties to commit to protect resources; negotiate land exchanges and easements; modify rules; and educate other landowners in the merits of stewardship practices. The agreements are often voluntary, but can also be structured as binding. The most notable example of this approach is the historic New York City watershed agreement: the City agreed to manage the public and private lands in the watershed of the City's reservoirs to protect the quality of the source waters; the Environmental Protection Agency agreed to suspend the requirements for expensive filtration treatment of the City's water supply. Water quality is assured, substantial costs are avoided, and the watershed will be managed for long-term stewardship.

CERTIFICATION SYSTEMS

The ethic and practice of stewardship can be supported substantially by a new evolving system of certifications. The certification is a "warranty" to consumers that a product, and/or the manner in which a product is produced, honors established criteria reflecting good stewardship practices. Certifications are often subject to third party audits and /or oversight of a certification council such as the Forest Stewardship Council, Organic Foods Council, Marine Stewardship Council. Certification affords an economic and market advantage to those practicing stewardship in that it directly shapes consumer-buying patterns.

ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS)

Enterprises that engage in a comprehensive internal audit and assessment of their production processes

(i.e., an Environmental Management System modeled on ISO 14000 series or other suitable template) may be able to determine appropriate practices of stewardship for each step of their operations. Seemingly minor improvements can accumulate over time and make a substantial contribution to an overall practice of stewardship, as well as support the concept that stewardship makes "good business sense." The power of an EMS is enhanced by the use of third party auditors and formal certification, and full transparency to enable accountability and trust.

CHAPTER 3 **TOOLS THAT PROMOTE POSITIVE ECONOMIC AND ENVIRONMENTAL OUTCOMES**

This chapter is intended to be an open-ended compilation of tools, methods, and incentives that can be useful to help implement stewardship practices. Most of these tools currently exist and are utilized across the country. New tools are being developed and tested continually by innovative stewards; therefore, the tools presented here likely will change over time.

COST-SHARING MANAGEMENT AGREEMENTS

Private landowners who wish to conserve their land and apply stewardship practices may voluntarily enter into a cost-sharing management agreement with a government resource agency. Management agreements contain structured economic incentives to support and reward the landowner's stewardship practices.

Many of these economic incentives are derived from agricultural policy set forth in a series of progressive federal legislative measures (characterized here as "Farm Bills"). The Farm Bills contain the essence of stewardship: they ensure the long term environmental

health and productivity of the land; keep farmers, ranchers, and foresters on the land; and provide financial assistance to private land owners as they work to create public benefits.

The accumulated experience over the last 15 years in implementing the Farm Bills reveals an extraordinary (and often unrecognized) success story for conservation and stewardship. The Nation has benefitted by decreased soil erosion, protected and restored wetlands, wildlife habitats, improved water quality, and absorption of excess carbon from the air, all while sustaining working landscapes and maintaining viable livelihoods.

Management agreements are based on models of cost sharing. Public funds are proffered in response to private matching or cost-sharing formulas; private land thereby is used to create public benefit. As such, cost-sharing mechanisms convey a sense of public-private shared responsibility and mutual benefit. Moreover, the cost sharing and matching provisions enable substantial leverage to be obtained from the public investment.

Various programs exist, as authorized by the Farm Bills, and some are described generally below.

1. Conservation Reserve Program (CRP)

The Conservation Reserve Program, enacted in the 1985 Farm Bill, provides annual rental payments to farmers who voluntarily remove cropland from production on highly erodible or otherwise environmental sensitive terrain and plant a cover crop of grasses or trees for a minimum period of 10 years. In addition, the farmer must complete, with a 50% cost-share, certain conservation measures over the life of the contract. The annual rental payments are based on a bidding process to determine the payment for taking land out of production; the maximum rental payment is \$50,000 per person, per year. Rental

payments are not counted against payment limitations applicable to commodity price support and production adjustment programs. Once enrolled, the land cannot be farmed for the duration of the contract (usually 10 years).

Amendments to the 1990 Farm Bill added a new program designed to improve water quality by encouraging landowners to establish buffers on croplands to reduce the nutrients and chemicals that flow from the farms into water courses. Farmers who create such buffers may receive 50% cost share as well as annual rental payments.

In addition to the economic incentives discussed above, the 1985 Farm Bill also introduced new provisions for Highly Erodible Lands (HEL). The Conservation Compliance and “Sodbuster” programs establish a *disincentive* for producers to cultivate land that is classified as highly erodible. The producer must develop and fully implement a soil conservation plan or suffer the loss of eligibility for farm support payments.

2. Conservation Reserve Enhanced Program (CREP)

Under the 1996 Farm bill, the Federal Conservation Reserve Enhanced Program can be combined with an approved state program. The federal program described above is augmented by state matching funds (usually 20%) to create permanent easements and to help pay for planning and natural resources restoration costs. The primary purpose of the enhanced program is to help landowners create riparian buffers of trees and grasses along watercourses to provide habitats and to filter pollutants to improve water quality. The total amount of funds available varies by state, but these funds provide a compelling incentive for stewardship.

3. Wetlands Reserve Program (WRP)

The WRP, enacted in the 1990 Farm Bill, is a voluntary incentive-based program offering landowners the opportunity to protect, enhance, and restore wetlands on their property. The focus is on restoration of farmed/prior-converted wetlands, and protection of the functions and values of wetlands to improve water quality, floodwater retention, groundwater recharge, and wildlife habitat. Landowners can select from three enrollment options: permanent easements where landowners can receive up to full agricultural value of the land and the entire cost of restoration; 30 year easements with payments of 75% of value and 75% of restoration costs; or 10 year agreements with 75% of restoration costs. Beyond these payments, landowners can often supplement their income by leasing the restored wetlands for hunting, fishing, and other appropriate recreational uses.

In addition to the above incentives, the 1985 Farm Bill introduced the “Swampbuster” program that is a *disincentive* to draining wetlands for agricultural production. Landowners who receive farm subsidies, loans, or benefits must refrain from drainage of wetlands or risk losing their program funds and benefits.

4. Environmental Quality Incentives Program (EQIP)

EQIP, enacted in the 1996 Farm Bill, offers financial, educational, and technical assistance to landowners to implement livestock-related conservation practices, on-farm conservation measures to reduce soil loss, and control of non-point sources of water pollution. This program advances the concepts of private stewardship of the land for livestock operations, and includes grazing land management, nutrient management, and manure management from confined animal feeding operations. The landowner pays the initial cost of establishing approved conservation

practices and is reimbursed for 50-70% of those costs.

5. Wildlife Habitat Incentives Program (WHIP)

The WHIP, enacted in the 1996 Farm Bill, is a voluntary program for private landowners who want to establish and improve fish and wildlife habitat on their lands. Participants agree to implement a wildlife habitat conservation plan in return for financial and technical assistance. Although federal cost-share payments are limited to \$10,000 per contract, these dollars have been leveraged many times over with contributions from state wildlife agencies, local conservancies, and private funds.

6. Forest Stewardship Program (FSP)

The FSP, enacted in the 1990 Farm Bill, enables landowners to receive up to 75% of the costs of preparing and implementing a Forest Stewardship Plan to protect and enhance their forested land and associated watersheds. The plans are intended to promote stewardship of the forest cover, as well as fish and wildlife habitat, water quality, and recreational and aesthetic values of the land.

TAX INCENTIVES

The tax code provides a variety of benefits and incentives to those who wish to pursue stewardship practices. Tax codes and tax policy can be an efficient means to change behavior, create incentives or disincentives for stewardship, and to alter patterns of natural resources utilization. The following examples provide a few illustrations.

1. Ad Valorem Taxation

Lands appraised for property taxes at the “highest and best use” can impose upward pressure on land values

and therefore increase the incentive to convert open space land (or working landscapes) to development uses. To offset this problem, property tax stabilization or “current use” programs have been enacted in several states to provide an economic incentive to maintain farms, ranches, forest and open space. Based on criteria (usually including some measure of ecological value), property tax burdens are lowered in return for commitments by the owner for stewardship and maintenance of the integrity of the land. Management agreements (see above) may be used to ensure the property serves its intended purpose.

In California, the Williamson Act (California Land Conservation Act of 1965) is an example of this type of property tax stabilization program for farmland. Landowners enroll their property with the county for a minimum of 10 years (which is automatically extended in one-year increments). In exchange, the land continues to be assessed for agricultural production resulting in substantial tax savings. If land is withdrawn prematurely from the Williamson Act, significant tax penalties may accrue. An estimated 16 million acres are currently enrolled under Williamson Act provisions.

2. Estate Taxation

Properties that have high market values but low-income production may cause heirs to face formidable estate tax consequences upon the death of the landowner. Current tax law can create a situation where these properties (often with high habitat/open space value) must be sold or subdivided to pay the estate taxes due. The Economic Growth and Tax Relief Reconciliation Act of 2001 may substantially reduce the likelihood that estate taxes will cause the sale or subdivision of properties. The new law raises the amounts that can be exempted from taxation (\$675,000 in 2001; \$1.0 million in 2002; \$1.5 million in 2004; \$2.0 million in 2006; \$3.5 million in 2009). Moreover, the top estate tax rate, now set at 55%,

will drop to 50% in 2002 and decrease 1% per year to 45% in 2007. These changes, in combination with other estate planning provisions, now will be a powerful incentive to retain the integrity of larger tracts of land and facilitate the continued stewardship of such lands.

3. Charitable Donations of Lands - Tax Deduction

Existing state and federal tax codes allow tax deductions for charitable donations of land; individuals generally can deduct up to 30 percent of their adjusted gross income and corporations can deduct up to 10 percent of taxable income. Deductions are based on fair market value of the property, including certain appreciated values. These tax deductions can serve as a powerful incentive for land stewards to donate private property for charitable/conservation purposes.

4. Donations of Lands - Tax Credit

In California, The Natural Heritage Preservation Tax Credit Act of 2000 (SB 1647) provides that lands with specified natural resource upon them may be donated to the State of California, any local government, or a designated nonprofit organization. The donation provides for the protection of wildlife habitat, open space and parklands, and agricultural lands. The Act allows a 55% tax credit against income and/or corporation taxes for the donation of such properties. This tax credit can reduce regular taxes below the threshold for alternative minimum tax calculation. Excess credits can be carried forward for seven years. The tax credit is in lieu of any other tax deductions (see above) that may be available for the donation. The Act sets a limit that no more than \$100 million be expended for tax credits over the next 5 years. This tax credit will be a powerful incentive for land stewards to donate their property for conservation purposes.

5. Taxable Capital Gains

Landowners who sell their land (or a qualified easement) for conservation purposes could have their taxable capital gain on the sale reduced. Such a reduction of taxable capital gain would increase the likelihood that such lands would be sold for conservation rather than for development. The reduced capital gain from the conservation sale would enable the seller to benefit from larger net proceeds after taxes.

6. Real Estate Transfer Taxes

Based on local housing market conditions and the general appreciation of real estate value, the market prices of urban land and dwellings, and the market prices of undeveloped urban-edge lands, can increase substantially over time. The State of Maryland, through its Smart Growth Program, is seeking to capture the increased value of urban lands and to transfer some of that increment of value to the preservation of rural lands. A real estate transfer tax is assessed (.05% of transaction value) on the sale of urban property. Revenues are then applied to: 1) directly purchase rural/open lands in fee simple; 2) directly purchase development rights or conservation easements; and, 3) to leverage a new issuance of state general obligation bonds to acquire open lands for land preservation and conservation management.

7. Charitable Remainder Unitrust

The tax code contains provisions that enable an individual or a couple to indirectly promote lands conservation and stewardship through an instrument known as a Charitable Remainder Unitrust (CRUT). Individuals or couples (the "Trustors") can establish a CRUT and then transfer liquid assets (usually stock with substantial appreciated value) to the CRUT. The CRUT remains in effect for the lifetime of the Trustors or the survivor of them, at which time its accumulated

asset value is transferred to a designated non-profit land trust conservancy to be reinvested or used to purchase lands and/or easements for conservation purposes.

The tax advantages are compelling and benefit both the Trustors and their estates, and, importantly, benefit the public interest in lands' conservation.

1. The Trustors receive a specified level (x% of current asset value) of income from the CRUT each year for their lifetime. The income is largely derived from capital appreciation in the CRUT, and so is treated by the Trustors as capital gain at lower tax rates than the rates on their earned income.
2. The Trustors may claim a current income tax deduction for the proper % of value that is donated to the charitable trust (the CRUT). This deduction, of course, can be applied against their other current income to reduce the tax burden.
3. The Trustor's residual estate does not contain any of the assets donated to the CRUT; and so estate taxation is reduced accordingly.
4. The Trustors ultimately pay no capital gain on the appreciated stock that they originally put into the CRUT.
5. The CRUT itself is tax-exempt, and so the accumulating/appreciating assets in the CRUT incur no capital gain tax at all. The Trustors in effect have transferred substantially appreciated value, and further accumulated value in the CRUT, to the benefit of land conservation without incurring capital gains.
6. The land conservancy, which receives the full tax-free value of the CRUT at the time of the Trustor's death, gains a substantial asset, which

can then be invested in lands conservation and stewardship programs.

FEDERAL PROGRAMS AND POLICIES

Federal policies governing the use of public lands and resources, federal fees, and federal funding for infrastructures could be used to support a variety of stewardship practices.

1. Federal Water for Habitat

Federal water (i.e., water resources developed under a federal water project) has traditionally been allocated free-of-charge to benefit the aquatic habitat values of federally designated refuges. Even though such water is often surplus and is applied in the off-season (when irrigation water is not otherwise needed), it provides essential habitats for migrating waterfowl.

Under an experiment in the Central Valley of California, federal water is provided free-of-charge to flood privately owned rice paddies in the off-season after the rice harvest. The flooded rice paddies, with their abundant stubble and residual feed, provide an extraordinary feeding and resting stop for waterfowl on the Pacific Flyway. Federal water applied for free thus creates extraordinary habitat value and effectively extends the acreage of the limited federal refuges. These habitat benefits would be costly to create by direct federal funding mechanisms. In addition, the flooded paddies do not need to be burned to remove the stubble, thus eliminating a substantial cause of the smoke that hangs in the winter inversions of the Valley.

2. Federal Flood Management

Federal funds appropriated for structural flood control works (dams, levees, channels) can be redirected to fund non-structural flood control measures if the flood

control benefits of the non-structural flood control measures created exceed the benefits provided by structural works. The non-structural measures could include direct purchase of lands in the flood plain; relocation of urban settlements to higher ground; purchase of flood easements or right-of-way; levee set-backs; re-creation of riparian/wetlands habitats to provide flood water detention and absorption.

Moreover, federal funds allocated by the Federal Emergency Management Agency (FEMA) for flood disaster relief and recovery can be used to fund nonstructural alternatives, as discussed above, to avoid recurrences of the flood patterns. Such measures taken for flood control purposes can enable the creation of permanent riparian and/or wetland habitats that would otherwise be lost to levees, dikes, and concrete channels.

3. Restoration Funds

The Central Valley Project Improvement Act (CVPIA) (PL 102-575, Title 34) created a special fund based on a complex set of water rates and surcharges, to pay for various ecological enhancement and restoration projects in the Central Valley of California. The long-standing and continuing losses of habitat and fish and wildlife resources as a result of the Federal Central Valley Project water diversions are to be addressed by this special Restoration Fund.

Revenue flows into the fund from contract renewal charges, water transfer charges, tiered water prices, various surcharges, and additional mitigation payments. These total revenues are then appropriated by Congress to finance various habitat restoration projects and other fish and wildlife enhancements. The annual revenues thus created equal about \$30 million per year (adjusted for 10 year rolling averages). The U.S. Bureau of Reclamation has set up a Restoration Fund Roundtable comprised of all stakeholders to provide advice on how to prioritize the

Fund resources among the various projects for ecological restoration in the Central Valley.

ASSURANCES

1. Endangered Species Assurances

The U.S. Fish and Wildlife Services (FWS) and the National Marine Fisheries Service (NMFS) have developed several strategies to create partnerships between the public and private sectors to help protect the interests of endangered and threatened species on private land. Most of these strategies focus on increased flexibility in the implementation of Section 9 of the Endangered Species Act (ESA), which prohibits activities that could cause indirect harm, such as significant habitat modification. In general, these tools permit actions that would otherwise be deemed illegal under Section 9 in exchange for stewardship commitments to manage private lands for species benefit or to mitigate for actions that harm listed species.

2. Habitat Conservation Plans and No Surprises

In 1982, the Endangered Species Act was amended to allow for the creation of Habitat Conservation Plans (HCP) as a means of allowing development of private lands while protecting species. An HCP allows the FWS or the NMFS to permit the incidental “taking” of listed species when the taking is mitigated by conservation measures. In practice, the HCP allows some individuals of a species to be taken under an incidental take permit (ITP) if the incidental take occurs during the course of otherwise lawful activities and provided that the HCP demonstrates that the activity will not jeopardize the continued existence of the species.

Beginning in 1992, the FWS and the NMFS also began to streamline and modify the HCP process with

a “No Surprises” policy to provide regulatory certainty to landowners participating in a HCP. The “No Surprises” policy assures landowners that no additional land use restrictions or financial compensation will be required for species covered by the HCP, even if unforeseen circumstances arise after the permit is issued. The intent of the policy is to afford sufficient incentives for the private sector to participate in the development of long term HCPs by providing adequate financial and regulatory certainties regarding the overall cost of species mitigation.

3. Safe Harbor Agreement

The Safe Harbor concept is intended to provide incentives for property owners to voluntarily take stewardship actions that result in net conservation benefits for endangered and threatened species. Safe Harbor agreements are unlike HCP in that: 1) they must result in a net conservation benefit for listed species (i.e., they must provide pro active management actions above and beyond what is required by ESA, as opposed to mitigating for adverse actions under HCP); and 2) they offer short and midterm conservation benefits (as opposed to the longer term scope of most HCP). The agreements are intended to alleviate landowner fears that successfully maintained or enhanced habitats for listed species could prompt further land use restrictions if such actions encourage the colonization or increase the number of listed species on their property.

Under a Safe Harbor Agreement, landowners can commit to manage their lands in a manner that will benefit listed species in exchange for assurances that future activities will not be subject to ESA restrictions above those applicable to the property at the time of enrollment. The agreement spells out the baseline condition of species as well as the conservation activities that the landowner agrees to perform. Once the agreements are executed, an enhancement of survival permits is issued that authorizes “take” above

the baseline limit. This permit, in effect, allows landowners to return their property to its original baseline condition at the end of the safe harbor agreement.

4. Candidate Conservation Agreements

Before a species has been listed as officially threatened or endangered it receives no protection under the ESA, even if it is declining and is in an imperiled state. Landowners, therefore, are under no legal obligation to refrain from destroying the habitat of unlisted species. Moreover, landowners have little incentive to improve or restore habitats for unlisted species on their property because, if the species is ultimately listed, their land will be subject to increased restrictions under Section 9 of the ESA. Similar to Safe Harbor Agreements, Candidate Conservation Agreements (CCA) has been developed to reverse such disincentives that deter private landowners from voluntarily managing their lands to benefit species. Instead of listed species, however, CCA and associated regulatory assurances target actions that benefit species that are proposed as candidate species for listing.

Under a CCA, property owners identify conservation actions that they are willing to undertake to benefit candidate species. In return, the landowner can receive regulatory assurance that, in the event the species is listed, no actions above and beyond those agreed to in the CCA would be required. The assurance takes the form of an enhanced survival permit, which authorizes the incidental-take of the species (should it become listed), provided that the terms and conditions of the CCA are met.

5. Liability Assurances

The federal government can provide various assurances to private parties (developers, capital providers, prospective buyers) to reduce the financial

liabilities that encumber properties contaminated with hazardous substances. Such assurances can take various forms: comfort letters, covenants not to sue, hold-harmless agreements, and prospective purchaser agreements are a few. Such assurances can help in the redevelopment of industrial lands (called brownfields) and therefore avoid development of open space or undeveloped lands (known as greenfields).

LOAN PROGRAMS

1. Clean Water State Revolving Fund

In 1987, Congress created the Clean Water State Revolving Fund (CW-SRF) to finance water quality improvement projects. The SRF provides loans, rather than the long-standing practice of federal grant assistance. Individual state revolving funds are capitalized by annual “capitalization” grants from EPA. The CW-SRF now holds in excess of \$40 billion in assets and has issued \$35 billion in loans. Each year the SRF fund about \$3 billion worth of loans for water quality projects.

The individual State Revolving Funds (there are now SRF programs in each state) work like banks. Federal and state contributions are used to capitalize or create the banks; these funds are then used to make low-interest loans for water quality projects. States may choose to leverage their capitalization grants by issuing bonds with the “cap-grants” as collateral. Loan recipients repay their loans over the 20-year term of the loan. Repaid funds are used to finance new loans – thus the revolving aspect of the funds.

The SRFs traditionally have allocated their loan portfolio to municipal wastewater treatment systems. Increasingly, the SRFs are funding other water quality improvement projects, such as land acquisition, non-point source controls, wetlands and estuary protection, and other types of watershed projects. Thus, the SRFs have become an important source of

funding for stewardship practices and natural resource management activities.

While finding a source of repayment for the loan to acquire lands may prove challenging, many users of the CW-SRF have demonstrated a high level of creativity in developing sources of repayments. The source of repayment need not come from the project itself. Some possibilities include:

- Fees paid by developers on other lands
- Recreational fees (fishing license or park entrance)
- Dedicated portion of local, county, or state taxes or fees
- Donations or membership dues

Often, properties initially acquired with a loan are sold to an entity for long-term management with the sales proceeds used to retire the initial loan.

2. Drinking Water State Revolving Fund

In 1996, Congress created the Drinking Water State Revolving Fund (DW-SRF) as a measure to finance drinking water protection and treatment projects. It works in much the same manner as the CW-SRF described above.

The significant feature of the DW-SRF is that it may lend funds to acquire critical watershed lands in order to protect the integrity of present and future water supplies. It may also be used to fund source-water protection programs and stewardship practices on the watershed lands in order to minimize or avoid increased water treatment costs downstream at the drinking water treatment facility.

MITIGATION MEASURES

As a result of regulations created under Section 404 of the Clean Water Act, permits for discharge of fill in wetlands can only be authorized if mitigation “sequencing” requirements are met: first avoiding

impacts, then minimizing impacts, and finally compensating for any unavoidable impacts. Compensation has usually been undertaken by replacement of “in-kind” wetlands (i.e., of same function and value as those filled) at a location “on-site.” The pervasive difficulty of implementing such “in-kind”/“on-site” mitigation has led to the development of banks.

1. Mitigation Banks

Mitigation banking is the creation, at an offsite location, of a “bank” of wetlands that can be drawn-on to provide compensatory mitigation in advance of project impacts. The “bank” of wetlands is intended to be “in-kind” (or as close as science can provide). Such banks enable the consolidation of several small mitigation projects into a single large tract, and can bring together greater levels of scientific expertise and financial resources. Moreover, banks offer the opportunity to maintain biodiversity and ecosystem function in a planned way, while providing market-based opportunities for investors.

2. Conservation Banks

Conservation banks derive their origins from mitigation banks, but are broader in scope and enhance market-based opportunities. They provide for “offsite” mitigation and “out-of-kind” mitigation.

Land is acquired or dedicated “up-front” to create a conservation bank. The lands are assembled in a regional preserve system, and the conservation bank is required to provide for management of the property in perpetuity. Conservation banks are pre-approved by state and federal regulatory and wildlife agencies.

In exchange for dedicating lands to regional preserves, marketable credits are issued that may then be sold to parties requiring mitigation. A person requiring compensatory mitigation can simply buy a credit for

each unit of compensatory mitigation needed. Compliance with compensatory mitigation requirements through a conservation bank is easier than trying to locate a willing seller of land that has the correct type of mitigation habitat, in the correct location, at a reasonable price. Conservation banks offer the dual advantages of building regional preserves while enabling certain development projects to proceed with suitable mitigation.

CHAPTER 4

INTERESTS IN LAND AND THE POWER OF LEVERAGE

Stewardship is so integrally connected with land that to think of stewardship is to think of preserving parcels of land, in whole or in part. There are several stewardship programs across the country that successfully are preserving land and creating open space in the landscape by acquiring the land in fee simple absolute – where the land and all its attributes are purchased from another owner. The fee simple estate in land represents all the interests in the land, every present interest and every future interest. However, it is possible to effectively dedicate land to stewardship purposes without purchasing the entire fee simple interest to the real property.

The law of real property has common elements throughout the fifty states. The law of each state is different and generally governs title transfer considerations. A general discussion follows of various interests in land and the advantages of acquisition of less than the entire fee simple absolute title for purposes of stewardship of the land.

Title to land most commonly is held in fee simple absolute (or fee simple) so that all of the interests of the land accrue to the owner. The owner owns every aspect of the land, including the right to use the property and its natural resources to the exclusion of

everyone else as well as the right to transfer the property without the consent of anyone else. If property is viewed as a bundle of sticks with each stick representing a different interest in the property the fee simple absolute is the entire bundle of sticks.

The fee simple absolute can be divided in many ways to create lesser interests in land. In other words, each stick in the bundle can be separated from the others. For example, one can own only:

- A right to use all or a part of the land (as with an easement),
- An exclusive or nonexclusive right to occupy all or a part of the land for a stated period of time (as with a lease),
- A right to develop the land (as with a development right),
- The right to use or harvest a particular natural resource on the land (as with a water right),
- A right to occupy the land for the rest of one's life or the lifetime of another (as with a life estate),
- A right to own a future interest in land (as with a remainder interest).

These types of lesser interests in land, or lesser estates, and their associated lesser economic valuations, can yield a set of incentives that significantly support and enhance stewardship practices. This balance of this chapter will examine a set of tools based on these lesser interest estates in land.

CONSERVATION EASEMENTS

When a landowner grants a conservation easement to another entity, the landowner permanently limits uses of the land in order to protect its conservation values, but retains the ownership, use and ability to sell the land. Conservation easements ordinarily will run with the land, that is, future owners also are bound by the terms of the easement. Conservation easements can be drafted to encumber only part of a parcel of land.

Moreover, not every conservation easement allows the public access to the property encumbered by the easement.

Conservation easements may be used for a variety of purposes, for instance to:

- Protect habitat, wetlands, river corridors, riparian areas, forests, and other natural resource areas for their environmental or ecological values,
- Protect “working landscapes” and enable the land to continue to be used as a commercial or family enterprise,
- Create a barrier in the path of urbanization,
- All of the above.

The landowner may sell the easement or donate the easement (which yield different benefits explained below). The entity that receives the easement is usually a government agency, a private land trust, or a conservation-oriented organization. The land subject to the easement is managed and cared for pursuant to a management agreement that specifies stewardship practices. Annual monitoring and inspection of the land to ensure compliance with the terms of the easement is ordinarily required under the terms of the easement.

Conservation easements yield an impressive array of financial and non-financial benefits to the public and to the landowner. All of these benefits support and enhance the ethic and practice of stewardship.

1. Benefits to the Public

- Land is conserved and ecological values protected at a cost significantly lower than full acquisition in fee simple.
- Limited capital for conservation can be leveraged, thus greatly extending conservation opportunities.

- Landowners, by dedicating their lands, become directly engaged in the conservation enterprise, and provide leadership and set an example for stewardship.
- Land encumbered by easements may facilitate the assembly of protected lands through contiguous blocks of parcels at an ecosystem or landscape scale. Conversely, easements may prevent the fragmentation of habitats and the disruption of migratory corridors.
- Conservation easements may prevent the unplanned and random conversion of lands to more intensive uses.
- Purchase of conservation easements can serve as a regulatory mitigation for a development that is approved for another location.

2. Benefits to a Landowner

- If the property easement is donated, significant tax benefits may accrue to the landowner.
- If the property easement is sold, the landowner receives a lump sum payment or a stream of payments over time.
- The payments can be used to reduce debts and modernize operations; and enable the owner to sustain a viable enterprise.
- The payments may be used for retirement purposes.
- The payments may be dedicated to estate settlement.
- The payments may be reinvested in the restoration of the land by direct capital expenditures for improvements, or for financing capital improvements over time, and/or by serving as a match for governmental programs for restoration.
- The presence of a conservation easement reduces assessed value of the property and thereby reduces property tax assessments.
- The presence of a conservation easement on land, by reducing the property tax assessment, reduces

the ultimate value of the estate of the landowner and lessens the tax burden on the estate and heirs.

Beyond these financial benefits to the landowner, there is another set of benefits that support the ethic of stewardship. Landowners' motivations are complex and deeply rooted in personal beliefs about land preservation and stewardship. Some of the motivations to sell or donate a conservation easement are:

- With the development potential of the property eliminated or reduced, the land has a lesser valuation and lesser tax burden, allowing many families to retain the property in family ownership for succeeding generations, especially for home sites for their children.
- The property holds deep personal attachment, reflecting years of hard work, and a history of sustained family ownership and care for the land. A conservation easement can ensure that the land is preserved to reflect the family's values.
- The property can contribute to a viable local or regional agricultural community, and can help retain the agricultural character of the region.

TRANSFER OF DEVELOPMENT RIGHTS

Another lesser interest in land that can be transferred independently of the fee interest to support stewardship in a community is the right to develop the land in accordance with local regulatory authorities such as zoning and conditional use permits. There are a variety of relatively new tools that may be employed to remove or transfer the right to develop from one parcel to another. These techniques are known as "compensatory regulations." They hold the promise of providing regulatory relief for landowners, compensating affected landowners, augmenting public

land acquisition programs, and establishing a permanent conservation –oriented land use policy.

1. Transferable Development Credits (by negotiation)

In a Transferable Development Credits ("TDC") program, individual landowners can voluntarily enter into negotiations whereby the owner (sender) of open space, agricultural, or habitat land sells or transfers "development credits" to a developer (receiver) wishing to increase the density of a developable parcel. Local governments can encourage such transfers by acting as facilitator and by allowing an increase in density over the base zoning on the receiver's parcel in return for a dedication of a perpetual easement on the sender's parcel. This type of program is voluntary and requires developers to identify and negotiate with willing sellers of TDCs on a case-by-case basis.

2. Transferable Development Credits (by ordinance)

Instead of having landowners negotiate TDC deals on a project-by-project basis, local governments can adopt a TDC ordinance to encourage protection of open space, agricultural land, and habitat lands, while guiding future development into areas most capable of supporting increased density. A TDC ordinance designates by zoning "sender areas" where development is restricted and "receiver areas" where density may be increased. Landowners wishing to develop above the base zoning in designated receiver areas must acquire TDCs from landowners in the sender areas. When TDCs are sold, the sending parcel must dedicate a perpetual conservation easement to encumber the land that prohibits future subdivision or changes in use. In some circumstances, TDCs may be severed from the land and traded on the open market. In addition, severable TDCs may be

mortgaged and leveraged to acquire large tracts of land in sender areas.

3. Tradable Conservation Credits

Landowners who voluntarily preserve their lands (for instance, through conservation easements) may be entitled to earn “conservation credits.” Such credits may be freely tradable at market prices to allow landowners who need credits for regulatory mitigation to purchase them from landowners who have exercised stewardship to preserve their lands. Credits could also be earned for actions to restore and/or enhance habitats.

4. Purchase of Development Rights

Development rights may be purchased on the open market by private land trusts or conservation-oriented organizations and then simply held in perpetuity to prevent future development or subdivision. The public benefits by the purchase in that the land is protected in perpetuity; and the landowner benefits by the financial reward for his stewardship practices.

TRANSFER OF WATER RIGHTS

In order to facilitate the practice of stewardship, especially for the benefit of aquatic habitats and riparian corridors, certain water rights may be transferred, assigned, donated, or sold.

The transfer of a water right from an on-land application (such as irrigation) to sustain in-stream flows for enhancement of a fishery, protection of aquatic habitats, and/or protection of a riparian stream zone are a new and growing practice. Sometimes the right is permanently transferred through a market transaction; or the right can be temporarily leased for a limited period to correspond to a critical seasonal flow need. These seasonal in-stream flow dedications can produce considerable benefit to habitat without

the need for lengthy and expensive water right proceedings or adjudicatory hearings.

State law varies as to the mechanics of water right transfers. Often the state must deem that in-stream flows are a “beneficial use”. Downstream right holders and senior right holders must be protected and/or compensated.

LIFE ESTATES AND REMAINDER INTERESTS

A landowner may wish to enjoy his property during his lifetime but want to dedicate the property to conservation purposes after his death. In such a case, rather than providing for disposition of his land in his will, he may find it to his financial advantage to consider transferring the property during his lifetime, but reserving a life estate to himself. During the term of his life estate, the landowner remains in title to and possession of the land, subject to the remainder interest of the owner of the remainder interest (the “remainderman”). Such an arrangement requires that the owner of the life estate preserve the property during his life estate for the benefit of the remainderman. It also could be drafted to require that the remainderman has an obligation to maintain the property for conservation purposes upon the death of the owner of the life estate. Donation of a remainder interest for conservation purposes may qualify for favorable tax treatment.

CHAPTER 5 RECOMMENDATIONS

This paper has explored the concept of stewardship as an important means to restore and protect America’s land legacy and has set forth the essence of

stewardship, principles for stewardship, and a framework to further instill stewardship in the ethos of the United States. It makes the case that the practice of stewardship can produce substantial economic and environmental value to society. It also presents an open-ended compilation of policies, tools and incentives that will support stewardship as an ethic and implement stewardship as a practice.

Based on this research, EFAB finds:

- The **ethic of stewardship** should be the basis and guiding theme for the conservation of America's land legacy, and should be the foundation for a public and private commitment to ensure the present and future productivity of our lands and watersheds.
- The practice of stewardship should be the preferred management strategy to be applied to America's landscape of public and private lands, and should be supported with a portfolio of tools, policies, financial incentives, information and education.

EFAB strongly believes that stewardship should be a compelling component of America's overall agenda for environmental protection, ecological restoration, and economic vitality. Stewardship builds upon America's fundamental values: individual and civic responsibility, volunteerism, systems of incentives and rewards, and a care for future generations. Stewardship rightfully belongs within the mission of the Environmental Protection Agency; and with EPA's capable leadership can become a critical part of our future environmental plans.

EFAB therefore offers the following recommendations to the Administrator:

- EPA should embrace stewardship as a core value of the Agency, and as a foundation for the Strategic Plan.
- EPA should perform an internal review of its authorities, programs, and initiatives to identify their contributions to individual stewardship, community stewardship, and corporate stewardship. This review would be the basis to advance stewardship as a coherent and central theme of EPA's Strategic Plan and annual budget.
- EPA should realign its grant assistance programs to states and communities to foster and support stewardship practices. For example, funding for watershed councils would directly support on-the-ground stewardship practices that enhance and protect the integrity of the land and water resources.
- EPA should create an internet-based clearinghouse dedicated to stewardship to promote the exchange of ideas, provide benchmarks of successful practices, and inform and educate.
- EPA should work with the Council on Environmental Quality, the Department of Interior, the Department of Education and the Department of Agriculture to organize and convene a national dialogue on stewardship to engage stewards and practitioners in development of a national framework for stewardship.
- EPA should vigorously implement the Clean Water Action Plan (CWAP) as a model for Federal interagency cooperation on watershed management. Through the CWAP, and other interagency committees,

EPA should support implementation of the Farm Bill and its compelling stewardship incentives for farmland conservation, wetlands restoration, and habitat protection.

- EPA should reconsider EFAB's prior recommendation for a new financing vehicle for stewardship in the form of an Environmental State Revolving Fund (ESRF). Building on the exemplary success of the Agency's CWSRF and DWSRF, a new revolving fund can be developed and capitalized for sustainable financing of stewardship practices.

EFAB urges the Administrator to consider these recommendations and take advantage of this opportunity in these pivotal times to more firmly establish the ethic and practice of stewardship within the bedrock of America's values to protect and preserve our lands and watersheds for all generations to come. The Board stands ready to assist the Agency in this important endeavor.

APPENDIX 1

EFAB STEWARDSHIP ROUNDTABLE

San Francisco, CA
August 8, 2001

QUESTIONS FOR THE PANEL

1. The use and disposition of privately held land is determined primarily by market forces and by applicable laws, regulations, and codes. In addition to these driving forces, long-term conservation and stewardship of private lands may need creative tools and incentives to supplement these market and regulatory forces.
 - a. What is the appropriate role of voluntary efforts by private owners in the long-term conservation and stewardship of their lands?
 - b. What is the potential to instill a stewardship ethic and to apply stewardship "best management practices" for the management of private lands?
2. What manner of incentives may be appropriate to encourage and reward stewardship practices? Please comment on the potential utility of:
 - a. information and education
 - b. recognition and rewards
 - c. technical assistance and peer support
 - d. financial assistance
 - e. tax considerations
 - f. commodity prices support programs
 - g. other creative incentive.
3. As a manager of the public lands, as a regulator, and as a provider of financial assistance the federal government plays an important role in promoting the ethic and practice of stewardship. Please comment on how the federal government could improve its performance and make a greater positive impact to promote stewardship. Does the federal government have a role to provide a forum for the various groups interested in stewardship, i.e., states, non-profits, business organizations and faith-based

organizations, to meet and craft a unified approach to a national policy regarding stewardship?

4. Stewardship through land acquisition in fee simple absolute now is being supplemented by creative acquisitions of less-than-fee-simple estates. These lesser estates in land include conservation easements, development rights, water rights and greenway easements, among others.

- a. Please comment on the financial advantages of acquisition of less a than fee simple estate in land for stewardship purposes.
- b. How can the purchase of lesser estates in land, including easements and development rights, promote the ethic and practice of stewardship?
- c. What financial tools or mechanisms might be applied to the purchase of easements and other lesser estates in land in order to optimize the capital investment outlay?

5. What is the potential for using loans rather than grants as the investment vehicle? Should loans be structured to create a revolving or sustaining source of investment capital?

6. What is the potential for creating permanent endowment funds and/or fully capitalized accounts that could be managed to support private stewardship practices or to support care and restoration of lands and habitats? What are the comparative advantages and

disadvantages of the different vehicles that have established permanent endowments for stewardship?

7. In the TMDL program for water quality management in a watershed, responsibility for pollutant reductions is allocated to all discharges.

- a. What is the potential to employ trading regimes to enable cost-effective pollution control investments to be made within watersheds? For example, would a mechanism that allowed trading between point source discharges and non-point discharges promote stewardship?
- b. What is the potential to employ market mechanisms for cost-effective reduction of pollutant discharges to meet TMDL allocations? For example, do you think an open market for the buying and selling of “discharge reduction credits” would be an effective stewardship tool?

REFERENCES

American Farmland Trust, “Saving the Farm: A Handbook for Conserving Agricultural Land”, Washington, DC, 1990.

Aspen Institute, “The Stewardship Path to Sustainable Natural Systems”, 1999.

Bank of America, “Beyond Sprawl: New Patterns of Growth To Fit the New California”, 1995.

California Environmental Dialogue, “Habitat and Prosperity: Protecting California’s Future”, 1998.

California Environmental Dialogue, “Land Conservation in California: Needs for the Next Decade”, 1999.

California Legislative Analyst’s Office, “California’s Land Conservation Efforts: The Role of State Conservancies”, 2001.

California State Coastal Conservancy, “Options for Wetlands Conservation: A Guide for California Landowners”, 1994.

Center for the Continuing Study of the California Economy, “Land Use and the California Economy: Principles for Prosperity and Quality of Life”, 1998.

Colorado Cattleman’s Agricultural Land Trust, “Keeping the Family in the Family Ranch: Private Land Conservation in the West”, 1997.

Defenders of Wildlife, “National Stewardship Initiatives: Conservation Strategies for U.S. Land Owners”, 1998.

Defenders of Wildlife, “Stewardship Incentives: Conservation Strategies for Oregon’s Working Landscapes”, 1998.

Glickfeld, Jacques, Kieser, and Olson, “Ecosystem Management, Implementation Techniques and Strategies for Conservation Plans”, Land Use and Environment Forum, Volume 4, Number 1, 1995.

Interagency Ecosystem Management Task Force, “The Ecosystem Approach: Healthy Ecosystems and Sustainable Economies”, 1995.

National Wildlife Federation, “Working Landscapes: Cultivating Conservation in the 2002 Farm Bill”, 2001.

Resources Agency of California, “Preserving California’s Natural Heritage: A Bioregional Guide to Land and Water Conservation”, 1998.

Rilla and Sokolow, “California Farmers and Conservation Easements: Motivations, Experiences, and Perceptions in Three Counties”, University of California Agricultural Issues Center, 2000.

The Keystone Center, “National Policy Dialogue on Ecosystems Management”, 1996.

The Sonoran Institute, “Preserving Working Ranches in the West”, Tucson, AZ, 1997.

Wilson, Edward O., The Future of Life, Alfred A. Knopf, New York, 2002.