

VERMONT FISH & WILDLIFE DEPARTMENT

CONSERVATION *2001*

Acting on a Vision for Fish and Wildlife Conservation

A COMPREHENSIVE WILDLIFE CONSERVATION AND RESTORATION PLAN



September 12, 2001

Approved by: _____

Ronald J. Regan, Commissioner

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1. INTRODUCTION

1.1 CONSERVATION2001

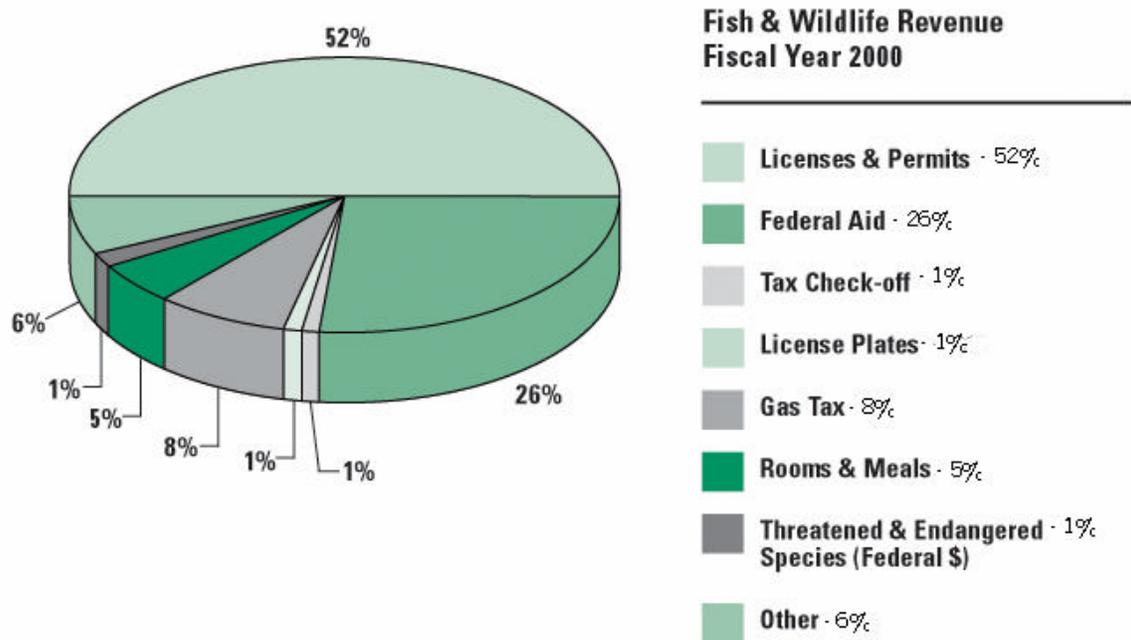
Conservation2001 is an operational plan designed to broaden and enhance the programs of the Vermont Fish and Wildlife Department. The goal is to achieve comprehensive, long-term fish and wildlife conservation in Vermont. We have created Conservation2001 as a new initiative to combine two originally distinct needs into a single coordinated plan:

- The department's current strategic plan, which calls for broadening and strengthening department programs.
- Recent proposed federal legislation known as the Conservation and Reinvestment Act (CARA). In its current state, CARA provides new, one-time federal funds for state fish and wildlife agencies nationwide.

Conservation2001 includes planning for programs that could also be funded by enhanced long-term CARA legislation or other new funding sources.

1.2 A BRIEF FUNDING HISTORY

The Vermont Fish and Wildlife Department is primarily funded through state hunting and fishing license sales and federal aid from the excise tax on hunting and fishing equipment. Department programs in game species management, land acquisition and management, law enforcement, habitat conservation, and conservation education are primarily funded through sportsperson dollars. There are, however, real and appropriate limitations to what sportspersons' monies can accomplish in the realm of broader fish and wildlife conservation. Funding for nongame species is derived from strictly voluntary sources such as state income tax donations and purchase of conservation license plates, neither of which generate enough revenue to support the conservation needs of these species. The current breakdown of funding of the Vermont Fish and Wildlife Department is shown below.



Over the past decade, there has been expanding interest and need for comprehensive fish and wildlife conservation at the state level. During this time, wildlife-associated activities such as bird watching, wildlife viewing, wildlife photography, and other outdoor activities have grown in popularity. This increasing interest provides new opportunities and demands for programs that provide wildlife-associated activities for Vermonters. At the same time, Vermont’s increasing human population and the consequent impacts on Vermont’s fish and wildlife resources demand new approaches to conservation. Conservation2001 outlines the programs and strategies that will best conserve Vermont’s fish and wildlife heritage for generations to come.

1.3 CARA: THE CONSERVATION AND REINVESTMENT ACT

The purpose of CARA, the Conservation and Reinvestment Act, is to provide sufficient long-term funding to state fish and wildlife agencies for three specific areas:

- Fish and wildlife conservation
- Conservation education
- Wildlife-associated recreation

CARA funds must be directed at species and programs with greatest conservation need for which there currently is inadequate funding. In 2000, CARA was partially funded through a one-year appropriation via Title IX of the Commerce, Justice, and States Appropriation Act. In 2001, the Vermont Fish and Wildlife Department will receive approximately \$484,000 to implement its CARA programs.

CARA funding has several statutory requirements.

- A comprehensive fish and wildlife conservation and restoration plan must address three required elements (conservation, conservation education, and wildlife-associated recreation). The recreation component is limited to 10% of the total funding.
- A planning process must include opportunity for public review and input.
- A wildlife conservation strategy must be developed within five years that evaluates and identifies those fish and wildlife species of greatest conservation need.
- No funds may be used for education programs that promote opposition to the regulated taking of wildlife.
- All expenditures of federal dollars require a 25% state match that demonstrates each state's commitment to these programs.

2. CONSERVATION2001 PLAN OVERVIEW

Conservation2001 is the product of a planning process involving all Fish and Wildlife Department staff, an external Public Stakeholders Group, and broader public review. Details of the planning process appear on page 23.

Conservation2001 is organized according to the three primary CARA *elements*: conservation, conservation education, and wildlife-associated recreation. For each of these elements we have identified goals, outcomes, programs, and specific examples of projects to address these programs. The *goals* primarily stem from our current strategic plan. Conservation2001 focuses attention on specific *outcomes* to best achieve the stated goals for each of the three elements. We identify *programs* needed to accomplish these outcomes. While many of these programs are already part of our work, Conservation2001 identifies enhancements and new strategies to these programs. Lastly, *projects and strategies* within each program are identified as short-term or long-term to better identify those which can be implemented in a one-time funding appropriation, as we have in 2001, and those which will require longer-term funding.

The underlying theme of Conservation2001 is that the most effective long-term conservation program will be one that fosters the expertise, energy, and existing structure of Vermont's citizen-based conservation interests. While we currently foster numerous partnerships with other conservation and education organizations, Conservation2001 promises to direct more funds at furthering and enhancing the conservation programs of organizations, communities, and Vermonters that meet the goals outlined in this plan. As a result, the small grants and community involvement programs will play significant roles in achieving the conservation, education, and recreation goals.

Other key strategies of this plan focus on engaging Vermonters in conservation by providing the information and tools needed for individuals and organizations to actively conserve fish and wildlife resources, or by exposing Vermonters to educational and recreational experiences that foster the knowledge and interest in conserving such natural resources.

This section summarizes the goals, outcomes, and programs for each of the three elements of Conservation2001.

2.1 FISH AND WILDLIFE CONSERVATION

We must conserve the diversity and vitality of Vermont's natural systems for all species of fish, wildlife, plants, and their habitats. Land use activities often replace critical natural vegetation of Vermont's landscape, causing permanent loss of significant fish and wildlife habitat for species such as white-tailed deer, salamanders, black bear, osprey, and common loon. Conserving these land and water resources requires attention at the species, natural community, and landscape levels.

Goals

- Maintain and enhance healthy and sustainable native populations and natural communities.
- Protect, enhance, and restore critical habitats and ecological processes.

- Halt or reverse declines of rare and at-risk native species, including threatened and endangered species.
- Stem the introduction and spread of exotic/invasive species and pathogens.
- Mediate human-wildlife/plant interactions to protect their health and safety.

Outcomes

We must engage all Vermonters to fully conserve our fish, wildlife, plant, and natural communities. The Fish and Wildlife Department, state, regional, and local planners, and the general public all require a solid information base on Vermont's landscape and species if we are to plan and implement conservation efforts. In addition, government bodies, from federal to state to local, and the landowners that influence land use and management decisions require tools to assist in implementing conservation measures.

The Conservation element of Conservation2001 focuses on three primary outcomes designed to achieve the conservation goals:

- **Species and Natural Community Conservation.** Develop and support conservation programs that restore species and natural communities of conservation need. We will also identify and promote the conservation of high priority lands that provide critical habitat for these species and natural communities. Long-term methods shall include purchase, conservation easements, management agreements, regulatory permit review, and other strategies.
- **Assistance and Outreach to Town, State, and Federal Government and Conservation Organizations.** We will provide technical information, tools, and funding to town, state, and federal government and conservation organizations. These strategies will enable these organizations to consider, plan, and implement natural resource conservation efforts for rare species, significant natural communities, critical habitats, and landscape features.
- **Lands Stewardship.** We will promote and foster stewardship of Vermont's fish and wildlife habitats and natural communities by providing technical assistance and incentive programs to private landowners and conservation organizations, and by undertaking proper stewardship of state lands.

In order to successfully achieve the outcomes, we must enhance or establish programs that provide the necessary information base, the means to disseminate the information, and ways to implement it at the ground level. These programs range from small grants to animal inventory to law enforcement. They are described in detail starting on page 10.

2.2 CONSERVATION EDUCATION

The conservation of Vermont's fish and wildlife resources and natural communities is essential for Vermont's citizens and their quality of life. A program that follows a sound educational model will help foster healthy public behavior and attitudes toward land conservation. Furthermore, strong educational programs that expand Vermonters' ecological literacy will enhance the credibility and effectiveness of conservation efforts. Fostering and enhancing educational partnerships will be an essential component in achieving the goals outlined below.

Goals

- Achieve a basic level of competency for all Vermont school children in fish and wildlife conservation, including an understanding of natural systems, wildlife species, and how humans interact with the land.
- Increase the support of key publics such as families, youth, town officials, legislators, businesses, and landowners for wildlife conservation by engaging them with learning experiences that build relationships with Vermont's land and wild species.
- Enhance the public's understanding and support of the role, functions, programs, and activities of the department that strengthen wildlife conservation.

Outcomes

The Conservation Education programs focus primarily, but not solely, on Vermont's youth through expanded involvement with teachers and students. Partnerships will create the networks throughout Vermont that we need to leverage our educational efforts. Vehicles will primarily include grants and contracts.

- **Teacher Training.** We shall equip Vermont teachers, environmental educators, youth group leaders, and volunteers with the knowledge, skills, and tools to effectively teach wildlife conservation to Vermont's young people.
- **Curriculum Development and Implementation.** We shall engage Vermont residents in fostering a land ethic that recognizes the value of all plant, fish, and wildlife species and which promotes our relationship with the land.
- **Communications/Outreach.** Vermont residents shall gain a knowledge base and appreciation for the value of fish and wildlife resources to Vermont's quality of life.

The Conservation Education techniques that work toward such outcomes include student/teacher training and curriculum development, land stewardship education, small grants, law enforcement, and research as described starting on page 10.

2.3 WILDLIFE-ASSOCIATED RECREATION

The recreation component of wildlife conservation aims to offer new ways of viewing wildlife recreation. We need to find new ways to address outdoor recreation for wildlife conservation that will complement our vital traditional wildlife-associated activities, such as hunting and fishing, that are the roots of the conservation movement. By providing the means for more people to connect with wildlife, we will spark a growing interest in people to learn more about natural resources and to support fish and wildlife conservation.

Goals

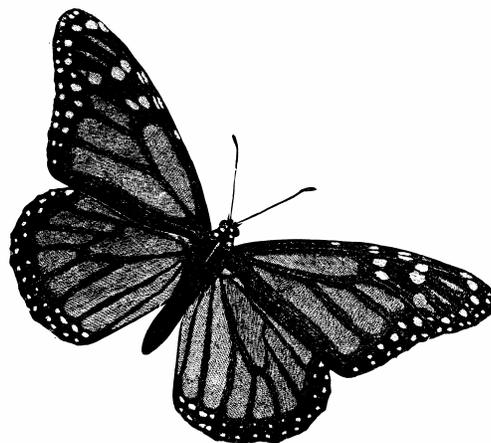
- People shall spend leisure time outdoors in a capacity that fosters a sense of stewardship and responsibility, ultimately prompting them to give back to the environment.
- We shall help people build a stronger relationship to Vermont's natural world.

Outcomes

Our goal is to create a recreational ethic based on the concept of giving *back* to the natural world. Program emphasis will be on both long-term and short-term strategies that allow people to learn about wildlife, natural communities, and conservation, and which enable them to contribute towards wildlife conservation. Recreation programs shall include an educational component that encourages people to make the connection between their actions and implications for fish and wildlife populations.

- **Stewardship Through Recreation.** Vermont residents shall become knowledgeable about and appreciate wildlife, natural communities, and conservation in ways that foster citizen interest in contributing to conservation.

Programs such as community involvement, interpretive outreach, recreational facilities, small grants, research, and law enforcement shall support this outcome. They are described starting on page 10.



3. PRIORITY PROJECTS FOR ONE-TIME FUNDING

This is a brief list of the projects we have identified as potential priorities for use of the CARA one-time funds. We have selected these specific projects from the numerous programs that follow in Section 4 based on several criteria, including public input, how effective they were at achieving the goals, whether they could be completed without additional staffing, or if they were high profile projects demonstrating the need and benefits of long-term funding. This list is a *menu* of potential high-priority projects from which we can choose. *Not all* of these projects can be completed with the one-year funding. Detailed budget projections will enable us to determine how many projects we can reasonably hope to complete with the first year funding. A complete detailed list of potential programs from which these projects were selected follows this table.

Project	Program(s)	Element(s)
Develop recovery plans for threatened and endangered wildlife <ul style="list-style-type: none"> • Life histories of species of concern • Lake sturgeon survey 	Endangered Species	Conservation
Develop publications and host workshops on town planning for planners, conservation commissions	Outreach & Assistance to Govt. & Conservation Organizations	Conservation, Education
Complete and distribute wildlife curriculum for schools/teachers	Student/Teacher Training & Curricula Development	Education
Develop and present fish and wildlife workshops for teachers	Student/Teacher Training & Curricula Development	Education
Fund animal inventory projects that involve citizens (e.g., vernal pool habitats, bird atlases)	Community Involvement; Small Grants; Animal Inventory, Monitoring, & Management	Conservation, Education, Recreation
Reinvent the Working for Wildlife program to increase participation	Community Involvement; Private Lands Stewardship	Conservation, Recreation
Fund the Vermont Biodiversity Project to identify priority conservation areas	Land Conservation and Habitat Protection; Small Grants	Conservation
Publish a <i>Fishes of Vermont</i> book	Animal Inventory, Monitoring, & Management; Interpretive Outreach	Conservation, Education, Recreation
Explore the feasibility of developing year-round educational/interpretive center facilities	Student/Teacher Training & Curricula Development	Education, Recreation

Implement combined physical education/ conservation curriculum in Vermont schools	Interpretive Outreach; Small Grants	Recreation
Set aside funds for high priority research needs	Research; Small Grants	Conservation, Education, Recreation
Enhance the wildlife/human conflict management program	Wildlife/Human Conflict Management	Conservation, Education
Inventory upland natural communities: <ul style="list-style-type: none"> • Limestone bluff cedar-pine • Upland sandpiper/grass sparrow • Natural community maps of state lands 	Natural Community/Plant Inventory, Monitoring, & Management	Conservation
Undertake river bank lands inventories and streambank restoration, and provide technical assistance <ul style="list-style-type: none"> • River bank orthophoto assessment 	Streamside and Lakeshore Buffer Zone Management; Small Grants; Community Involvement	Conservation, Education, Recreation
Develop and administer a small grants program based on a statewide assessment of existing programs directed at Conservation2001 goals	Small Grants; Community Involvement	Conservation, Education, Recreation

4. PROGRAM DESCRIPTIONS

INTRODUCTION

This section describes the proposed Conservation2001 programs in detail. These represent the programs necessary to achieve the conservation, education, and recreation goals and outcomes described in this plan. Many of the programs are currently administered by the department and, consequently, the proposed projects and strategies represent enhancements or new directions for each of the programs. Each program includes a general description of the types of projects and strategies that could be considered for implementation, *based on their ability to achieve the plan goals and outcomes*. Unless otherwise identified, projects are short-term and, if selected, will be implemented using the 2001 one-time appropriation. Projects and strategies identified as long-term will require permanent, if not more significant, funding from future CARA-type legislation or some other funding source. Note that the projects listed under each program are a menu from which to choose. We can hope to accomplish only a subset, as identified in Section 3, with the one-time CARA funding.

Under each program category we first provide a statement of need. Then we list specific projects and strategies that will address the needs. For example, the Endangered Species program identifies the need to collect and process the information on threatened and endangered species. Short-term projects include preparing endangered species recovery plans and making them available to the public. In the long-term we want to focus on restoring the habitat necessary to fully recover these species.

4.1 COMMUNITY INVOLVEMENT

Need

The success of a statewide conservation program depends on a sense of stewardship and responsibility by the public. We can facilitate this responsibility by offering people new ways to spend leisure time that encourage them to give back to and care for the environment. We intend to develop projects that enable people to learn about wildlife, natural communities and conservation, while encouraging them to contribute to the conservation of these valuable resources. Community involvement programs center on developing and maintaining volunteer, community-based approaches. This includes enhancing existing department programs such as stream bank restoration and Working For Wildlife, as well as developing new initiatives.

Projects and Strategies

- Revise and expand the existing Working for Wildlife program by widening the scope of activities incorporated to include stream bank stabilization, river bank buffer plantings, and similar activities.
- Develop and coordinate public participation and collaboration in wildlife-oriented projects that provide a positive and rewarding contribution to participants. Examples are wildlife atlases, bird counts, vernal pool mapping, and endangered species site monitoring.



4.2 SMALL GRANTS

Need

Each element of the CARA plan (conservation, conservation education, and wildlife-associated recreation) will greatly benefit by strengthening partnerships with conservation, education, and recreation interests at the state and local level. Funds are needed to leverage the many existing and potential programs across the state that work toward Conservation2001 goals. While we currently provide grants for several Department programs, an expanded small grants program offers greater opportunities for other organizations and citizens to participate in achieving these goals. While Small Grants is provided here as a separate program, in reality, grants will serve as a vital strategy for implementing many of the Conservation2001 programs.

Projects and Strategies

- Develop and implement a small grants program for the conservation, conservation education, and wildlife-associated recreation elements of the CARA program.
- Develop granting criteria and procedures, and implement, leverage, and track awarded grants.
- Evaluate existing conservation, education, and recreation programs throughout the state that contribute to the goals outlined in Conservation2001.

4.3 LAW ENFORCEMENT

Need

Law enforcement is an essential element in our conservation, conservation education, and recreation goals. State game wardens prevent the illegal taking, trade, sale and collection of fish and wildlife species of concern, including the unlawful destruction of critical habitat, trespass, and disturbance of refuge areas and sensitive breeding grounds. Although such enforcement activities are not eligible for CARA funding, law enforcement personnel also respond to the public on such issues as wildlife damage (e.g., livestock depredation) and health and human safety issues (e.g., rabies). Wardens are also an integral part of the department's outreach and educational programs at schools, civic organizations, and conservation camps. These latter responsibilities are eligible for CARA dollars and can fund expanded efforts in these arenas.

Projects and Strategies

- Encourage law enforcement participation in Conservation2001 programs, ranging from state lands stewardship to land stewardship education.
- Enhance law enforcement activities to address wildlife-human conflicts.

4.4 RESEARCH

Need

Research is critical in monitoring fish and wildlife populations, identifying effective conservation and education strategies, and identifying public needs and interests. The conservation, conservation education, and wildlife-associated recreation elements of the CARA program each contain specific research needs that are instrumental in achieving Conservation2001 goals. We currently initiate research contracts with the various educational institutions within the state, but funds are limited. Expanded funds are essential to pay for the quality research needed to develop a science-based approach to conservation.

Projects and Strategies

- Enhance funding for research and training opportunities to address key research questions and issues.
- Develop in-house expertise for conservation, conservation education, and wildlife-associated recreation programs (long-term).
- Identify research and training priorities and establish dedicated funds to conduct the priority research and training. Examples include genetics, habitat conservation and protection, population monitoring, human dimensions, and land management.

4.5 ENDANGERED SPECIES

Need

The Vermont Endangered Species Law identifies, protects, and works toward the recovery of Vermont's threatened and endangered plant, fish, and wildlife. There are 187 species of plants and animals on the state threatened and endangered species list. Their protection depends upon the voluntary services of many citizens that staff the Endangered Species Committee and Species Advisory Groups. These groups evaluate the status of species and determine if a recommendation to be listed is warranted. Currently there are no staff and funds committed to implementation of the Endangered Species Law. An effective endangered species program requires additional administrative support and funding.

Projects and Strategies

- Develop and implement species conservation and recovery plans for threatened and endangered species of fish and wildlife to secure these wildlife populations and reduce the number of species listed with threatened and endangered status.
- Research the potential need and effectiveness of reintroduction.
- Identify and map priority habitat.
- Conduct status surveys and monitor recovery progress.
- Actively restore habitat and develop conservation agreements with landowners (long-term).
- Priority species may include lake sturgeon, freshwater mussels, and spruce grouse.

4.6 LAND CONSERVATION AND HABITAT PROTECTION

Need

Conserving fish and wildlife species requires us to conserve important habitats, populations, and natural communities through long-term land conservation efforts. We currently conserve habitat through land acquisition, conservation easements, management agreements, and habitat protection through state regulatory processes such as Act 250. A more effective land and habitat conservation program requires comprehensive planning to identify priority conservation areas. These efforts should also coordinate with state, federal, non-profit, and local organizations.

Projects and Strategies

- Identify and conserve high priority sites and habitats for species of greatest conservation concern. Targets include rare species, natural communities, biodiversity, wildlife corridors, vital habitat for vulnerable or declining populations, and unfragmented landscapes.
- Develop conservation guidelines to protect critical habitat for vulnerable and at-risk species based on species life history information. These guidelines will become a tool for land use planning by educating land use permit applicants about potential habitat issues *before* the application and review processes (long-term).

4.7 OUTREACH AND ASSISTANCE TO GOVERNMENT AND CONSERVATION ORGANIZATIONS

Need

Government and conservation organization planners require information on critical wildlife habitat, rare species, significant natural communities and other important landscape features, such as wetlands, travel corridors and river bank areas. We currently inventory and map most of such habitats. Planners at all levels—state, federal, and local government, non-profit, and conservation organizations—consistently ask for this technical information on natural resources in helping make decisions, as well as tools to incorporate the information into their conservation initiatives. Additional efforts are needed to disseminate the information to planners as well as to develop and provide the tools to implement conservation planning.

Projects and Strategies

- Enhance efforts to provide government, conservation planners, and municipalities with timely information on sites that contain critical wildlife habitat, rare species, significant natural communities, biodiversity, and other important landscape features, as well as the mechanisms to strengthen their conservation (long-term).
- Educate town planners, land trusts, and other decision makers to help them develop and conserve fish and wildlife habitat. Strategies will include publications and workshops on town planning for fish and wildlife.

4.8 PRIVATE LANDS STEWARDSHIP

Need

Private lands are critical in supporting fish and wildlife habitat in Vermont. Private landowners need technical assistance and incentive programs to promote and encourage stewardship of private lands as critical fish and wildlife resources. By providing an enhanced effort in outreach and education, we hope to foster a land ethic for private landowners. Promoting volunteer partnerships and associations between landowners will help achieve broad management goals on larger, jointly owned acreages. Additional funds will aid in developing and/or sponsoring the outreach and education materials and avenues by which the information will be disseminated.

Projects and Strategies

- Expand the “Working For Wildlife” program volunteer efforts to include multi-resource projects and multiple target groups (e.g., sportsmen, Audubon, trail organizations).
- Assist neighborhood wildlife cooperatives and woodland owner associations (e.g., Vermont Coverts, Wildlife Habitat Improvement Programs [“WHIP”], Keeping Track).
- Provide information and assistance directly to landowners and land managers. One-time funding can provide additional compensation for existing programs, although any extensive landowner tax relief/incentive program would require long-term funding.

4.9 STATE LANDS STEWARDSHIP

Need

State-owned lands should serve as a stewardship model for conserving Vermont’s natural resources, while providing fish and wildlife-associated activities for Vermonters. The State of Vermont has greatly expanded its land ownership during the past decade without enhancing management funds or staff. Faithful state lands stewardship requires everything from maintenance activities (e.g., signage, maps, identified boundaries, resolved trespass issues) to natural community-based ecosystem management, to development of long-range management plans. Stewardship of these lands requires the funds and staff to manage these lands. To ensure protection of habitat and ecological values, rules, regulations, and policies governing public activities on state lands need to be advertised and enforced as well.

Projects and Strategies

- Perform comprehensive ecological assessments on all state-owned lands to identify the natural resource values on each parcel .
- Inventory the natural communities and important fish and wildlife habitats of state lands, and develop long-range management plans.
- Identify all wildlife management areas with appropriate signage, provide current maps, perform boundary line surveys and maintenance, resolve trespass issues, administer leases, and enforce regulations for appropriate lands (long-term).

- Use state lands to provide demonstration sites for ecosystem management techniques and actions in river bank and upland habitats (long-term).

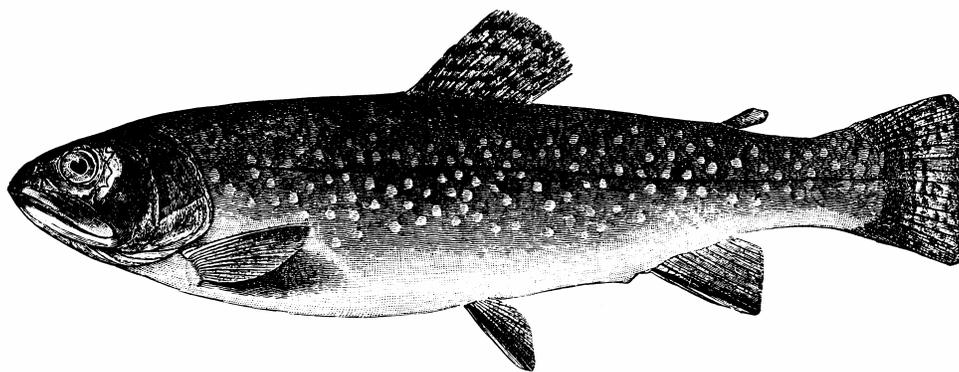
4.10 STREAMSIDE AND LAKESHORE BUFFER ZONE MANAGEMENT

Need

Protecting and restoring the land alongside rivers and lakes is vital in conserving Vermont's fish and wildlife resources. Riverbank and lakeshore areas with natural vegetation provide many benefits, including improving water quality for humans and aquatic species, preventing stream bank and shoreline erosion, and providing travel corridors for wildlife. Both the Fish and Wildlife Department and the Department of Environmental Conservation currently protect stream bank and shoreline habitat through river bank habitat outreach, state lands management, outreach assistance for town and watershed conservation planning, and regulatory review of Act 250 and other permits. Enhanced efforts are needed to promote these efforts at the regional and local level. We need to coordinate with the Department of Environmental Conservation so that we most effectively enhance and augment these efforts.

Projects and Strategies

- Perform a statewide assessment of river bank conditions.
- Produce guidelines for river bank management.
- Undertake the inventory, management, and restoration of state-owned stream banks and shorelines (long-term).
- Form new partnerships with community/watershed-based organizations.
- Undertake new outreach initiatives directed at river bank resources.
- Develop a watershed assessment manual for watershed conservation stakeholder groups (long-term).



4.11 INSTREAM HABITAT MANAGEMENT

Need

Vermont's rivers and streams have been changed over the years by dam building, water withdrawals, channel modifications, road and bridge construction, land use changes and pollution. Managing new changes and reducing existing impacts will require active involvement in permitting processes, and involving the public through cooperative projects.

Projects and Strategies

- Remain involved in the relicensing of federally regulated hydro-electric dams.
- Seek opportunities to remove existing dams that have a negative impact on the aquatic environment.
- Participate in the review and permitting of stream alteration activities including bridges, culverts, channel stabilization and river restoration work.
- Develop methods to monitor conditions and increase knowledge about instream habitat and water quality issues, including temperature and flow (long-term).
- Develop outreach and education directed at river corridors and instream habitat.

4.12 NATURAL COMMUNITY/PLANT INVENTORY, MONITORING AND MANAGEMENT

Need

A comprehensive conservation program must identify and conserve high quality examples of all types of natural communities (e.g., cedar swamps, rich northern hardwood forests). Natural communities serve as the foundations of habitat for most plant and wildlife species, and conserving natural communities is an effective means of conserving a broad array of species. Careful, thorough inventory and monitoring of natural communities is a critical first step in conserving them. This information is also essential to completing ecosystem-based management of state-owned lands. Staffing and funding greatly limit our ability to inventory natural communities at a rate necessary for statewide conservation planning. The inventory of rare plants is included within this program, although it is not eligible for CARA funding.

Projects and Strategies

- Conduct statewide inventories of select upland natural community types.
- Conduct inventories to verify the occurrences of rare, threatened, and endangered plants.
- Make natural community information available for conservation, management, restoration, and stewardship assistance to landowners, conservation organizations, and government agencies (long-term).

4.13 ANIMAL INVENTORY, MONITORING, AND MANAGEMENT

Need

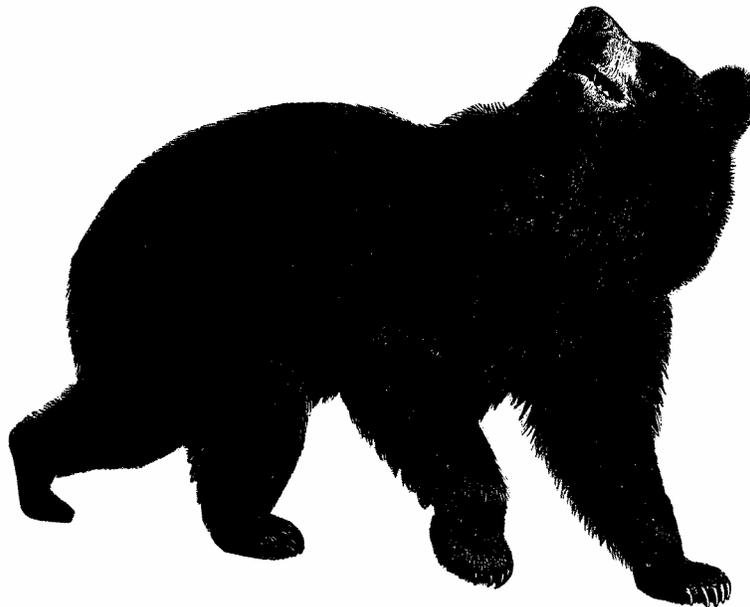
Conservation of declining, rare, and other wildlife species of concern requires extensive and up-to-date information for effective decision making and successful management actions. The department currently inventories and monitors numerous animal species for its management activities, with focus on two specific needs:

- Inventory, monitor, and track rare and other vulnerable species to provide current, comprehensive information to the public and for planning activities.
- Inventory and study species groups.

We need to expand these efforts to address other species (e.g., endangered species, invertebrates) for which distribution and abundance data is inadequate to determine status, develop management plans, and implement conservation strategies.

Projects and Strategies

- Develop and promote successful models to assist towns and organizations in inventorying specific habitats (e.g., vernal pools) within their borders.
- Partner with conservation organizations in monitoring species of conservation concern.
- Publish a book on *Fishes of Vermont*.
- Complete immediate inventory needs of rare, threatened, and endangered species.



4.14 INFORMATION MANAGEMENT/GIS

Need

To successfully inventory, manage, and conserve animals, plants, and natural communities, we need efficient, well organized processing, storage, and retrieval of information. Enhancing natural community, plant, and animal inventory programs will require additional efforts to document results into usable, retrievable datasets. Towns, landowners, state land managers, and conservation organizations need this information to make informed planning decisions.

Projects and Strategies

- Add the GIS software and infrastructure needed to manage information and distribute it for conservation efforts by state, regional, and local, planning and conservation organizations (long-term).

4.15 WILDLIFE/HUMAN CONFLICT MANAGEMENT

Need

Human and wildlife conflicts can affect the management and conservation of all species. Both game wardens and wildlife biologists are sought to address livestock depredation, property damage, crop damage, and threats to human health and safety such as diseases carried by wildlife. The department needs to provide more information, education, and technical assistance about these subjects to citizens, landowners, and municipalities. A major need is technical advice provided to address the damage or conflict.

Projects and Strategies

- Provide expanded education, information materials, technical assistance, and equipment to address wildlife damage issues.
- Seek expertise or partnerships where necessary to develop informational tools and provide technical assistance on wildlife damage issues.

4.16 PERMIT MANAGEMENT

Need

We currently administer numerous permits required by state statute or regulation to protect our fish and wildlife resources from impacts from exotic species, diseases, and overharvesting. Examples include importation, breeders/propagation, scientific collection, falconry, wildlife rehabilitation, refuge access, and minnow permits. Our customers increasingly demand effective, efficient, timely permit administration – a challenge without a single position dedicated to this responsibility. Furthermore, our oversight mission requires us to monitor and track permitted activities to ensure compliance with the restrictions and requirements of these permits.

Projects and Strategies

- Fund eligible permitting activities with the goal of creating more effective, efficient systems approaches that enable us to protect the resources according to our statutory mandate (long-term).

4.17 STUDENT/TEACHER TRAINING AND CURRICULUM DEVELOPMENT

Need

The education of young Vermonters is critical to the long-term conservation of Vermont's fish and wildlife resources. Wildlife-based education helps foster behaviors and attitudes that encourage conservation, promote a land ethic, and build public support. Our innovative leadership in conservation education through Green Mountain Conservation Camps, Project Wild, and our staff commitment to outreach, results in increased demand for educational services. We currently have one Department position dedicated to education. A comprehensive education program will need to consider additional staffing and expanding collaborative efforts with existing educational programs, facilities, and organizations.

Projects and Strategies

- Complete a wildlife curriculum and supporting materials such as kits on endangered species, deer and turkey fact sheets, and electronic media and distribute to Vermont teachers.
- Evaluate distance learning opportunities for providing wildlife-related education to Vermont schools.
- Undertake training and curriculum development for department staff who perform education and outreach functions.
- Assess the feasibility of a year-round educational/interpretive facility.
- Assess expanding our teachers workshops to fill increased demand.

4.18 LAND STEWARDSHIP EDUCATION

Need

One key step towards healthy, sustainable populations of wildlife and their critical natural communities is an educated citizenry, especially individuals and institutions who impact land in Vermont. By engaging different publics, such as town officials, legislators, landowners, loggers, and business leaders in an educational process that fosters a connection to the land, we can increase their understanding and support of conservation and land stewardship issues. While we have promoted a land stewardship ethic through many of our programs, taking a leadership position will require enhancing these existing efforts.

Projects and Strategies

- Develop a common language and curriculum to teach others about wildlife conservation and a land ethic.
- Expand outreach and education efforts to new groups, and to develop and maintain effective educational partnerships with other organizations (long-term).
- Train and give tools to staff to help them achieve our educational goals (long-term).
- Assess current and new educational facilities that will enable implementation of educational programs.

4.19 INTERPRETIVE OUTREACH

Need

Increasing urbanization and suburbanization diminish opportunities and skills for Vermonters to spend time learning about and experiencing our fish and wildlife resources. Only by providing people with the information for them to see and learn about Vermont's plants, animals and natural communities can we expect them to participate in such activities. We can best promote an awareness and passion for fish and wildlife resources in Vermont through outreach activities that inform people where and how to experience Vermont's fish and wildlife resources. An enhanced outreach program will take further advantage of existing department facilities, such as camps, hatcheries, and access areas, as well as enhanced community partnerships that offer us ways to educate, inform, and connect Vermonters with our wildlife.

Projects and Strategies

- Create wildlife viewing information such as watchable wildlife guides, kiosks, fact sheets for natural community types, and educational materials for state lands.
- Create educational and wildlife displays on the grounds of existing department facilities such as hatcheries, camps, and offices.
- Assist community organizations or municipalities in locating and developing community-based interpretive outreach venues such as backyard wildlife display gardens.

- Assist schools in integrating wildlife-related activities into physical education curricula.
- Partner with Vermont educational organizations to provide workshops and classes (e.g., birding, wildlife photography) to provide citizens with the skills and knowledge to experience fish and wildlife.
- Develop new and enhance existing skill development programs (e.g., hunter education) to include use, management, and landowner ethics.

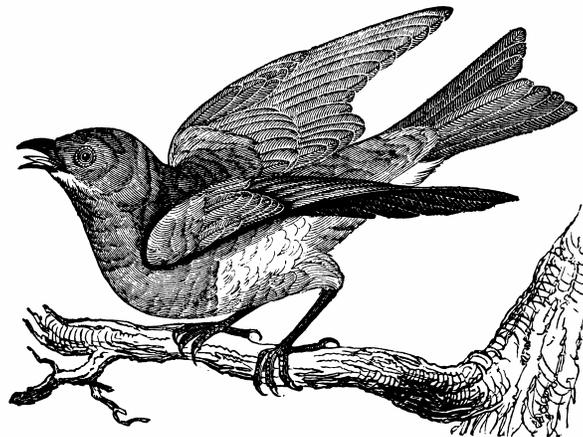
4.20 RECREATIONAL FACILITIES

Need

Facilities are needed to provide easily accessible and managed recreational activities associated with fish and wildlife resources. Our efforts have primarily focused on outreach materials, but facility development, where appropriate, will enable citizens to actively enjoy recreations such as nature hikes, bird watching, wildlife photography, and wildlife viewing. Our wildlife management areas and hatcheries are potential sites for the development of nature trails, wildlife viewing platforms and boardwalks, and guided interpretive walks. Facilities should be developed in a manner that also provides educational opportunities for users.

Projects and Strategies

- Develop wildlife viewing platforms, trails, and boardwalks at selected wildlife management areas and other public lands.
- Seek partnerships with organizations and communities that administer existing facilities throughout the state.
- Assist towns with grants and planning assistance for recreational access for wildlife-dependent activities on conservation lands.



5. THE PROCESS

5.1 WHY A FORMAL PLANNING PROCESS?

A formal planning process to develop a CARA plan is important for three reasons.

1. We have a statutory and ethical responsibility always to use funds as efficiently and effectively as possible. As any government agency, we must keep faith with our public underwriters.
2. CARA legislation requires state fish and wildlife agencies to develop a comprehensive plan for conservation, conservation education, and wildlife-associated recreation programs. CARA requires that the plan and its programs provide the opportunity for public involvement. The law specifically requires “provisions to ensure public participation in the development, revision, and implementation of projects and programs.”
3. Experiences in Vermont and other states indicate that a participatory planning process is essential for any organization engaged in developing new funding mechanisms. Potential changes in programs and staffing require that department employees play an active, direct role in the development of the plan.

5.2 THE PLANNING PROCESS

The Vermont Fish and Wildlife Department developed a planning process that emphasizes employee participation and provides ample opportunity for broad public review.

The Research

We began the planning process by gathering data about Vermonters’ attitudes towards alternative funding mechanisms and awareness of our programs. We contracted with a nationally recognized expert in wildlife research, Responsive Management, Inc., to conduct a public telephone survey of 1,000 Vermont residents on these subjects. The survey led to the following conclusions.

- **97% of Vermont residents** stated that protecting fish and wildlife resources and availability of wildlife-related recreation are important to them.
- **60% of Vermonters** felt the department should spend more on managing and protecting endangered species.
- **57%** felt we should spend more to educate and inform Vermonters about fish and wildlife.
- **54%** felt we should spend more money enforcing fish and wildlife laws.
- **51%** felt we should spend more to acquire and manage state lands.

Armed with data that demonstrated a strong mandate for funding new conservation initiatives, we were ready to design a plan for how to use the new funding.

The Partners

We established a steering committee to oversee the process of planning for wildlife conservation. This team, made up of division directors from the Fish and Wildlife Department, determined early that key elements such as administration, meeting facilitation, and documentation were critical to our success. Because they were also beyond the scope of our internal staff, we sought expert assistance. Through a formal request for proposal process, we contracted with Barry Lawson Associates of Vermont as our project manager for the process.

To engage wider department involvement, we next formed a technical team of representatives of each division in the department. Their charge was to prepare a draft CARA plan. The technical team did this on their own, operating within an area defined by a set of guiding principles drafted by the steering committee, and with the facilitation of the project manager.

Finally, we sought the assistance of a public stakeholder group to provide input and guidance to the technical committee in the planning process. The public stakeholder group includes representatives from a variety of communities, including hunting and fishing, education, research, conservation, and recreation.

The technical team and project manager developed a preliminary plan and sought review from both department staff and the public stakeholder group. After the project manager incorporated revisions, the steering committee reviewed the preliminary document, offered their comments, and produced a draft plan. The draft plan was distributed and made available to department staff, the public stakeholder group, the Agency of Natural Resources, and the public for review and comment. Meetings were held with invited conservation, education, recreation, and sportsperson representatives and organizations. The Steering Committee reviewed all comments, many of which were incorporated into this final plan.

5.3 IMPLEMENTATION AND ADMINISTRATION

Conservation2001 addresses a wide range of needs. We emphasize that all of the goals and outcomes are vital for us to achieve our mission. CARA is currently funded in a scaled-down, one-time version that limits the types and extent of projects we can implement. Accordingly, most of the projects we have identified are short-term projects that could be executed with the 2001 funds. Please note that we have listed many projects, but only a subset will be possible with the one-time funds. The remainder will require secure longer-term funding.

Implementation

We plan to implement the long-term programs when sufficient long-term funding becomes available. Implementing long-term strategies will require a thorough administrative review. Furthermore, increases in staffing and state matching monies to accomplish Conservation2001 will require the full support of the public and the Vermont legislative and executive branches.

Administration

Conservation2001 includes an administrative component that is not required by CARA legislation but which we consider vital to implementing this plan. In the short term, one-time funding limits us to the projects and strategies that can be implemented without any additional staffing. As a result, partnerships and grants that minimize our administrative outlay are key to realizing the best possible leverage for these one-time funds. It is important to note that these still cannot be accomplished without asking more of our existing staff.

We must address such details as staffing, organizational structure, and infrastructure if we are to effectively achieve our outcomes and goals in the long-term. Should full, long-term funding become available, we will need to expand our expertise and staffing to administer a fully realized wildlife conservation and restoration plan. Staffing needs must be considered for the following:

- Small grants administration
- Administering the Endangered Species program
- Land conservation planning and outreach and assistance to government and conservation organizations
- Private lands stewardship outreach and technical assistance
- Scientific expertise (e.g., ornithology, herpetology, invertebrates, botany, ichthyology, mammology, community ecology) to perform statewide inventories of species and natural communities
- Geographic Information Systems (GIS) to manage and disseminate inventory information
- Permit management
- Outreach and education specialists

This plan concentrates on actionable steps rather than administrative detail. Conservation2001 forces us to make some tough decisions. To achieve the goals we propose, we will have to choose between maintaining or enhancing some current programs and launching some of the new programs we envision. As always, our strategic plan will provide the guidance when we have to make these choices.