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Massachusetts

Division of Fisheries and Wildlife:

Historical and Current Perspectives

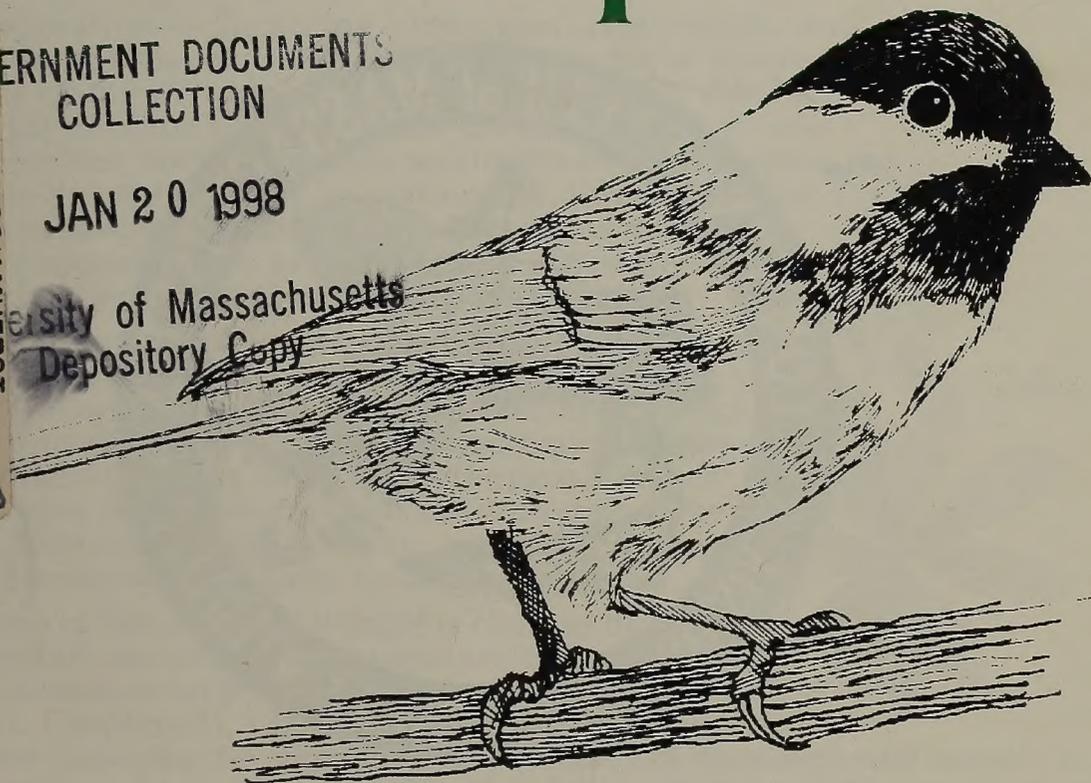
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Massachusetts

Division of Fisheries & Wildlife



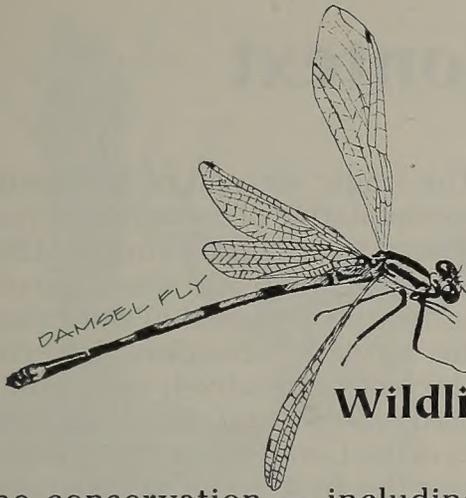
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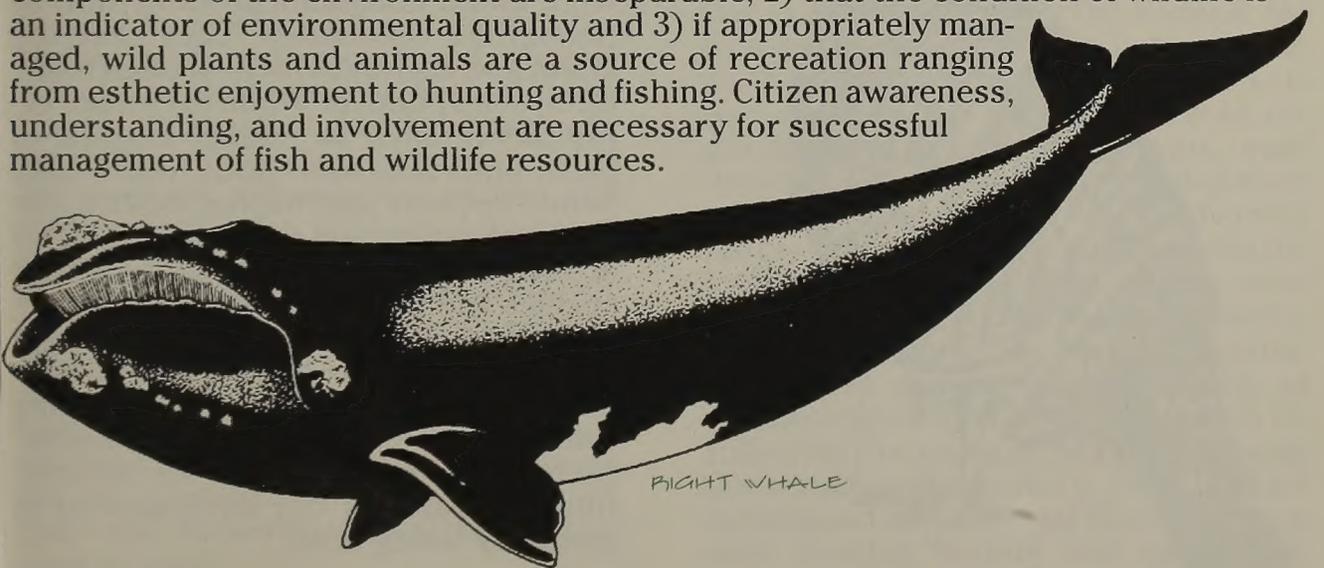
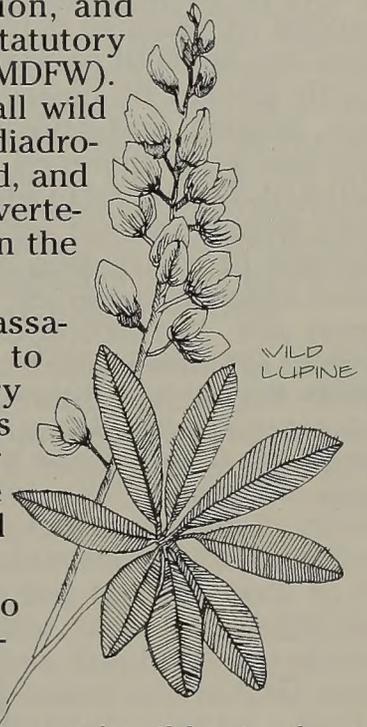
Introduction

Wildlife from Plants to Whales

The conservation — including protection, restoration, and management — of Massachusetts' fauna and flora is the statutory responsibility of the Division of Fisheries and Wildlife (MDFW). Specifically, the Division's charge is the stewardship of all wild amphibians, reptiles, birds, mammals, and freshwater and diadromous fishes in the state, as well as endangered, threatened, and special concern species, including native wild plants and invertebrates. This responsibility is established and articulated in the Constitution and General Laws of Massachusetts.

Article 97 of the Amendments to the Constitution of Massachusetts proclaims that: "The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air, and other natural resources is hereby declared to be a public purpose."

The Division of Fisheries and Wildlife is charged by law to conserve, maintain, and protect the natural and esthetic qualities of the environment for the benefit and enjoyment of the people (M.G.L. Chapters 21, 131, and 131A). The Division is responsible for managing the abundance and diversity of the state's wild animals and plants, and habitats. Its philosophy is based in 1) the understanding that the health and welfare of all living things, including humans, and the condition of all non-living components of the environment are inseparable, 2) that the condition of wildlife is an indicator of environmental quality and 3) if appropriately managed, wild plants and animals are a source of recreation ranging from esthetic enjoyment to hunting and fishing. Citizen awareness, understanding, and involvement are necessary for successful management of fish and wildlife resources.

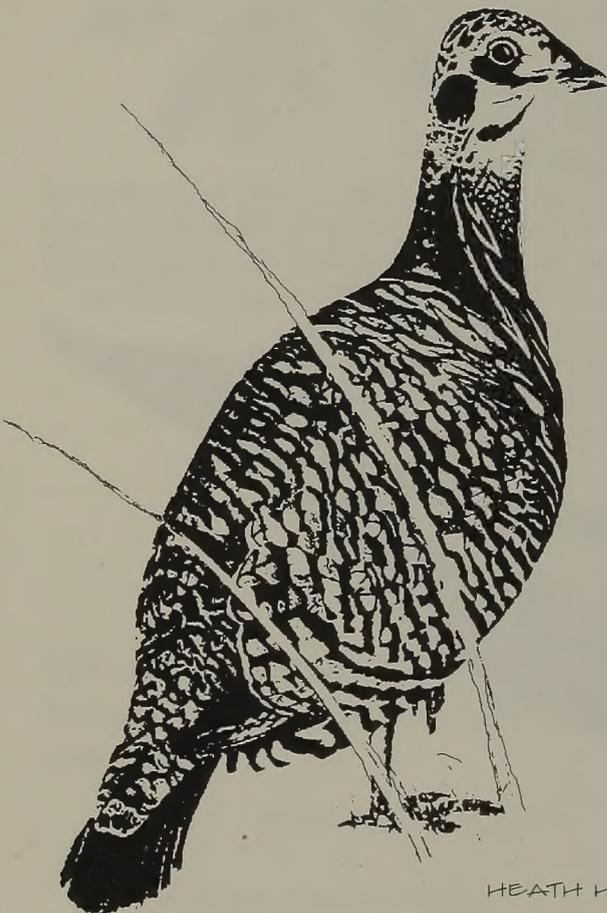


Historical Context

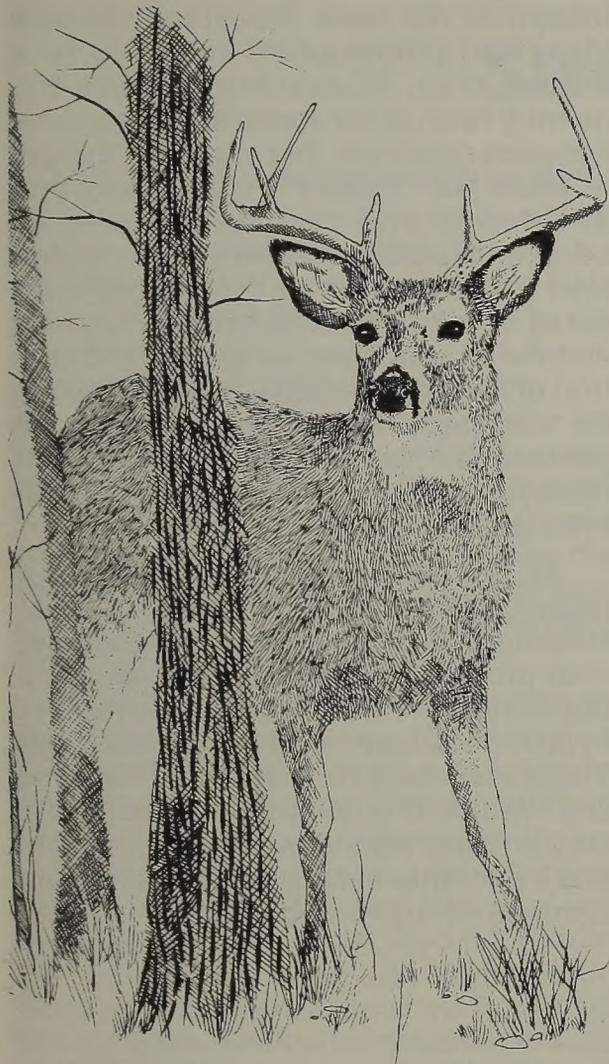
In response to accumulated knowledge, our relationship with our environment has undergone a profound and progressive change within the past century. The early settlers of Massachusetts and their descendants generally did not have a concept of finite resources. As they wanted and needed, they made use of what seemed unending abundance and diversity. As colonial settlement expanded, virtually all of the forest, grassland and wetland habitats were significantly altered by clearcutting, cultivation, grazing, and draining. Rivers and streams were diverted, dammed and polluted. The extent to which these practices were employed resulted in the extinction or extirpation of many native plant and animal species. The heath hen, great auk, and Labrador duck are examples of animals which became extinct, while the beaver, turkey, and Atlantic salmon are representative of species which were extirpated from Massachusetts.

The tragic account of the heath hen is representative of the various crises experienced by wildlife during the 18th and 19th centuries. Radical alteration of habitat ultimately resulted in the extinction of this formerly abundant eastern prairie chicken. It's relatively restricted habitat along the coastal plains, islands, and parts of the Connecticut River Valley was among the first areas settled, and the species began a rapid decline. Exotic diseases contracted from imported domestic fowl further decimated the population. In the end, the last of the heath hens survived on Martha's Vineyard, where a refuge was established. After drastic fluctuations due to fires in the refuge, plus predation on eggs and young by rats (another exotic species), heath hen numbers dropped to a level from which the species could not recover, and the bird became extinct. Habitat loss, conflict with exotic species, and finally the concentration of all remaining individuals in one location, caused this extinction.

Not until there was drastic degradation of ecosystems, with the resultant loss of wildlife, was enough concern generated to stimulate the beginning of a change in society's perception of its environment. This would not have occurred if it were not for charismatic leaders such as Theodore Roosevelt, Gifford Pinchot, Aldo Leopold and others who were gifted communicators as well as perceptive visionaries. They rang the alarm and society slowly—if often reluctantly—responded. While excessive exploitation, such as market hunting of game birds and shorebirds, was legally halted decades ago, habitat destruction by development and pollution continues at a dizzying pace, threatening numerous species and thus the integrity of our environment. Ever so slowly, the concept of stewardship has developed and continues to evolve, and the understanding that “we the people” are responsible, each and every one of us, for the continuing health of our environment is gradually taking hold.



HEATH HEN



WHITE-TAILED DEER

Historically, fish and wildlife management focused almost exclusively on meeting the needs of fishermen, hunters and trappers. This focus grew from three basic factors which were the foundation of scientific fish and wildlife management. First, sportsmen and sportswomen have always been among the leaders in efforts to restore and properly manage natural resources. Second, those same hunters and anglers have been willing to financially support their belief in the need for management of fish and wildlife. To this day, the financial support base of the Massachusetts Division of Fisheries and Wildlife is the sporting constituency. Third, when understanding of ecological principles was in its infancy, sportsmen provided vigorous commitment and financial support for necessary research (i.e. studies). Since their interest lay primarily with game species, those species were naturally the first that were studied.

Examples of the nation's growing understanding of the need for environmental management include 1) the establishment of the nation's first National Park, Yellowstone, in 1865, which was established to permanently protect that unique natural area, 2) the creation, in 1871, of a 12,000 acre game animal reservation by the Blooming Grove Park Association, Pike County, Pennsylvania, 3) in 1903, the creation of the first National Wildlife Refuge, Pelican Island (Florida) by President Theodore Roosevelt responding to the encouragement of both sportsmen and non-sportsmen and 4) the establishment of National Forests during that same period. While those important and dramatic events were being orchestrated, with the encouragement of sportsmen, the state fish and wildlife agencies were establishing hunting and fishing seasons, and the sportsmen were independently making efforts to conserve and manage wildlife.

During the 1930s, organized sportsmen, the firearms and ammunition industries, and state wildlife agencies responded to the wildlife crisis by developing an ingenious, long-range plan. Congress put their plan into action by establishing a 10% tax on ammunition and firearms and directing the proceeds to be distributed to the states for wildlife restoration programs. Emphasis was placed on scientific research and habitat management to establish healthy populations; stocking was not emphasized because it had met with little success. The landmark funding legislation, signed into law in 1937, was called the Federal Aid in Wildlife Restoration Act, better known as the Pittman-Robertson Act. As a direct result of the efforts generated under this far-sighted act, numerous, once-decimated species have expanded their populations and reoccupied former ranges far beyond what they were in the 1930's. Wood duck, turkey, beaver, otter and deer are examples of these species. The commitment of Massachusetts' sportsmen and women continues, as demonstrated by their efforts which resulted in the passage of the Wildlands Conservation Stamp Act in 1990. That act established an additional \$5.00 charge on each hunting, fishing, and sporting license. The resulting funds are dedicated

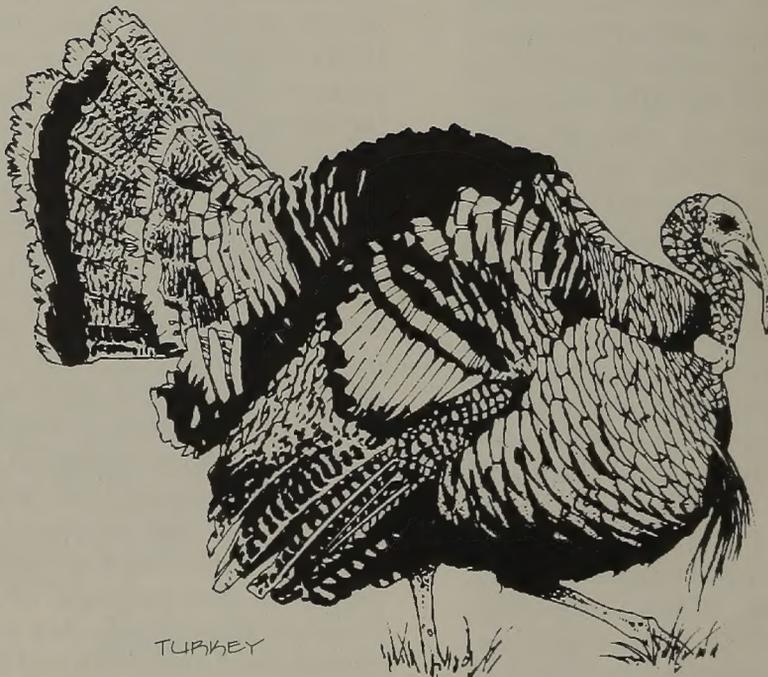
to the purchase of open space to benefit wildlife, land which will always be open to sportsmen's activities.

Modeled after Pittman-Robertson, the Federal Aid in Sport Fish Restoration Act, known as the Dingell-Johnson Act, which taxes fishing gear including rods, lures, and boats, was passed in 1950. This tax provided funds for programs to restore and manage fish populations and aquatic ecosystems. In 1984, this act was amended by the Wallop-Breaux Act. A similar funding program has yet to be established for those animals which are not hunted, fished or trapped, and all the wild plants and invertebrates. These are collectively known as "nongame" wildlife. There is presently an effort to establish a federal "Wildlife Diversity" fund for the restoration and management of some of these species, following the form of Pittman-Robertson and Wallop-Breaux.

The stewardship concept is still evolving. The need for funds to deal with nongame habitat perpetuation and population restoration and management is critical. Antiquated perceptions and phi-

losophies die hard. Resistance to new ideas and philosophies seems to be a human trait. Massachusetts has frequently been at the forefront of new management concepts. For example, the use of blaze (i.e. "hunter") orange was first developed and instituted here; we adopted mandatory steel shot for waterfowl hunting prior to the federal mandated deadline; and the Division has long embraced nongame as an integral portion of its responsibility. In fact, concern for "nongame" in Massachusetts was expressed by the state as early as 1930 (65th Annual Report, Department of Fisheries and Game).

As the base of scientific knowledge regarding the interdependence of all environmental factors has grown, coupled with progressive, pragmatic leadership, the mission of the Division has evolved to include all aspects of the environment. The Massachusetts Division of Fisheries and Wildlife is committed to an evolving stewardship philosophy and to continued leadership in conservation and management of the environment.



Structure

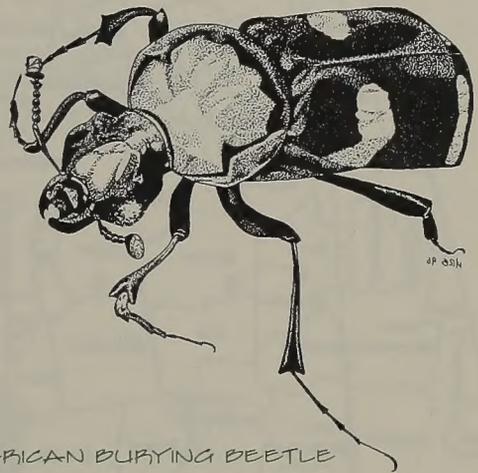
The Division currently employs about 140 personnel and operates on an eleven million dollar annual budget. The agency is overseen by the seven member Fisheries and Wildlife Board appointed by the Governor. Under Chapter 21, the Board supervises and controls the agency, having authority to make regulations, set policy, and oversee personnel appointments. The Nongame Advisory Committee is another seven member citizen body. Its responsibility is to advise the Director on matters dealing with nongame topics. In practice, it also advises the Fisheries and Wildlife Board.

The Director, who reports directly to the Board, supervises the Division through the Deputy Director of Administration and the Deputy Director of Field Operations, who are responsible for supervision and coordination of activities within the Division. The Division has three research sections (Wildlife, Fisheries, Natural Heritage and Endangered Species) and three support sections (Administration, Realty, Information & Education). These are housed at the Boston Headquarters, and Cronin Field Headquarters in Westborough. In addition, there are 13 field stations which function in fish and game culturing, management of Division wildlife management areas and sanctuaries, technical assistance to the general public on fish and wildlife resource matters, and stocking of fish and game birds to enhance fishing and hunting recreational opportunities.

The Fisheries, Wildlife, and Natural Heritage and Endangered Species Sections are responsible for monitoring wild plant and animal populations and implementing the various management strategies necessary to maintain the Commonwealth's floral and faunal diversity. Each of the three sections carries out a wide variety of other activities within their individual areas of responsibility, including restoration (e.g. wild turkey, American burying beetle), stocking (e.g. rainbow trout, ring-necked pheasant), and surveys to determine the status of particular species (e.g. creel

surveys, deer biological check stations, colonial waterbird survey).

Although organized in three functional units, the Wildlife, Fisheries, and Natural Heritage and Endangered Species Sections are operated in a manner that integrates the biological management efforts of the agency. For example, forest land management plans integrate forestry practices to achieve wildlife management objectives such as creating



AMERICAN BURYING BEETLE

habitats to benefit neotropical migrant birds, upland game birds, and watershed protection. It also demonstrates the value of appropriate wildlife management practices to private land owners. Another example is the application of environmental review by the Fisheries and the Natural Heritage and Endangered Species Sections. These sections maintain inventory data on fresh water fisheries resources, aquatic systems, endangered, threatened, and special concern plant and animal species, and natural communities throughout the state. They review potential impacts of proposed development on those resources, rare species and their habitats under the Massachusetts Environmental Policy Act (MEPA), Endangered Species Act (MESA), and Wetlands Protection Act. The MDFW plays an integral part in interjurisdictional management through cooperation with federal, other state, and local conservation agencies on mat-

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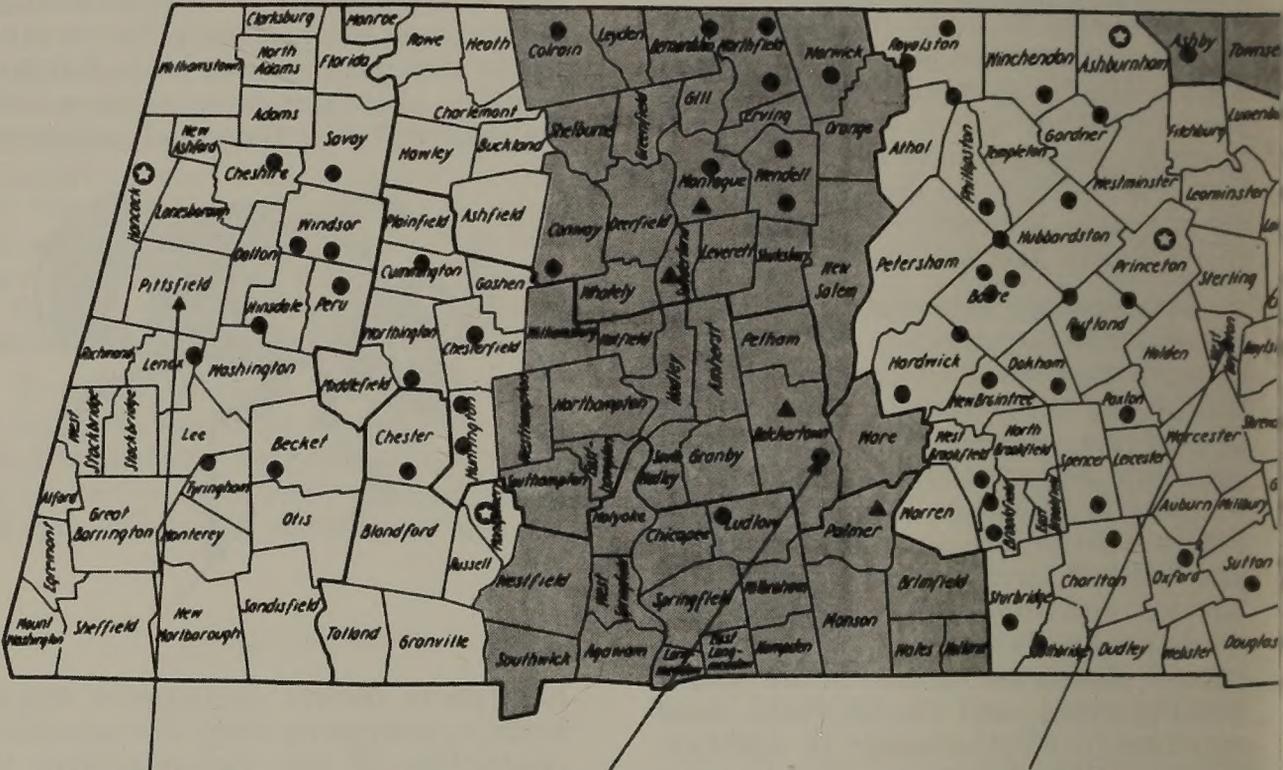
The Commonwealth of Massachusetts

Division of Fisheries & Wildlife

**Western
District**

**Connecticut Valley
District**

**Central
District**



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Wildlife District Supervisor
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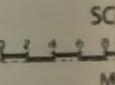
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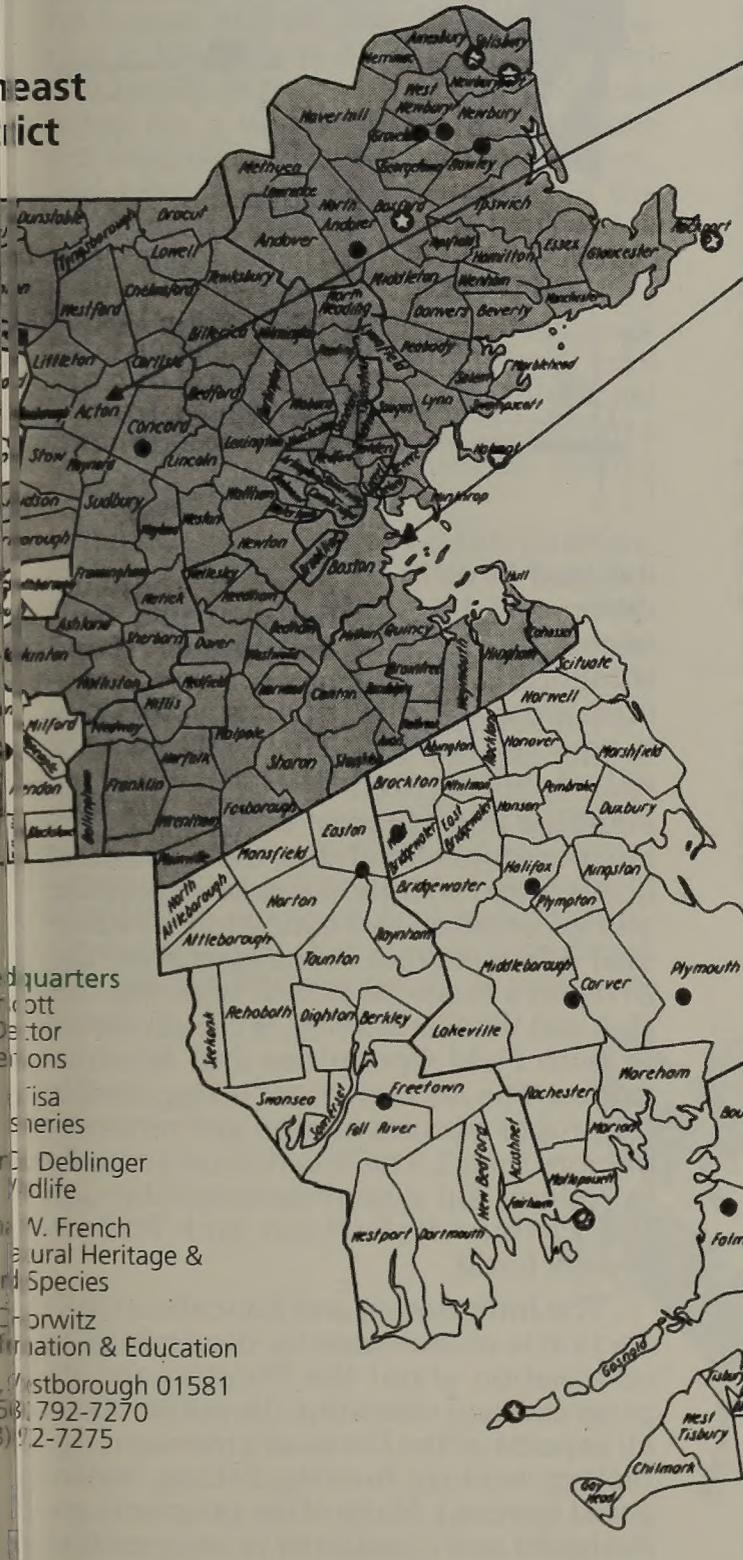
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Gwilym S. Jones - Framingham
Michael P. Roache - Orange

- ▲ Fish Hatchery
- Game Farm
- Wildlife Management Area
- ⊙ Wildlife Sanctuaries



Wildlife

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 Wildlife District Supervisor
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 Phone: (508) 263-4347

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 Jack Buckley,
 Deputy Director, Administration
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 Chief of Wild Lands
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Southeast District

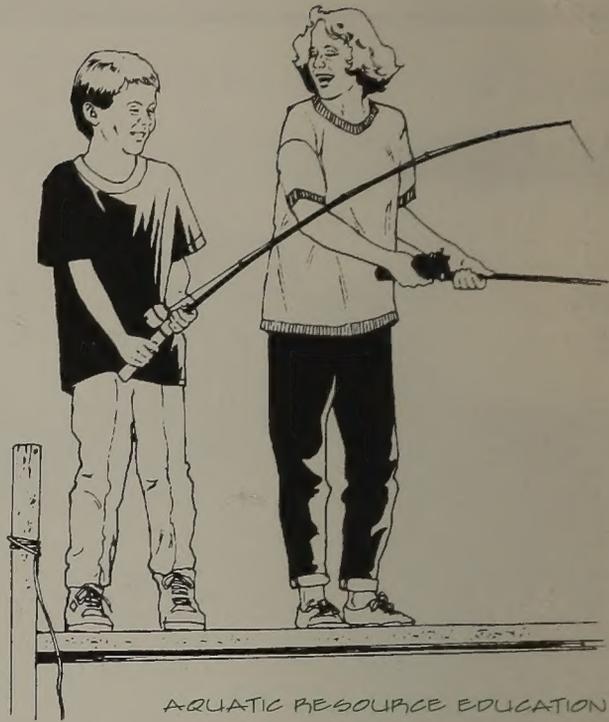
Southeast Wildlife District
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 Westborough 01581
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 2-7275

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ters of mutual concern, such as intrabasin diversions of water, anadromous fish restoration (e.g. Atlantic salmon, American shad), and endangered species restoration (e.g. piping plover, bald eagle, peregrine falcon). The Division is committed to the maintenance of biodiversity and the conservation of wetlands and uplands by use of its ability to protect the state's flora and fauna through regulation, environmental permitting, and acquisition of property.

Field Operations, which includes both research and management, is overseen by the Deputy Director of Field Operations. It is headquartered in Cronin Field Headquarters (#1 Rabbit Hill Road, Westborough). It includes the five Wildlife Districts, which roughly represent natural divisions within the state. Each district has a headquarters office and is overseen by a District Fisheries and Wildlife Supervisor (i.e. District "Manager"). These offices are responsible for 1) management practices within their areas, including aid to staff biologists in both data collection and application phases of management, 2) maintenance of over 87,000 acres of Division owned land statewide, and 3) stocking propagated



AQUATIC RESOURCE EDUCATION

fish and birds in suitable habitat. In addition, the Northeast and Central Districts each maintain a substation on a wildlife management area.

The Administrative Section, overseen by the Deputy Director of Administration, is responsible for budgeting, accounting and records, financial reporting, personnel functions, distribution of licenses and stamps, issuance of permits, and information and education. The Federal Aid Program Administrator, the Division's financial liaison with the U.S. Fish and Wildlife Service, is closely linked to both Field Operations and Administration. The Administrator is responsible for proper documentation and recovery of more than 2.5 million dollars annually in Federal Aid apportionments through the Pittman-Robertson and Wallop-Breaux funds.

The Information and Education (I&E) Section is responsible for disseminating information about the Division and its programs and educating the public about all aspects of the Division's mission (e.g. biology, ecology, hunting, fishing, endangered species). Many of the programs are designed and conducted in cooperation with District and research personnel. As a means of keeping the public informed, the print and electronic media are provided with regular press releases. The I&E Section also produces *Massachusetts*



MALLARDS

Wildlife, a quarterly magazine.

Training courses in Project WILD and Aquatic WILD are offered for elementary and secondary school teachers; these programs foster a sense of personal responsibility for wildlife and environmental issues. The Aquatic Resources Education Program is designed to instruct children in fishing, an activity they can enjoy for a lifetime, and includes the teaching of basic safety, outdoor ethics, and a broad ecological perspective. Becoming an Outdoorswoman provides opportunities for women to explore fish and wildlife related activities culturally associated with men. The I&E section is also involved in such educational programs as the Massachusetts Junior Conservation Camp, Massachusetts Envirothon and Massachusetts Hunter Education Program.

In order to preserve wildlife habitats, one of the highest priorities of the Division of Fisheries and Wildlife is land acquisition. Field Operations staff (particularly District Managers and their staff) other Division staff, Board members and friends of the Division are all involved in identifying lands for acquisition by the Division. The land acquisition process is used for all Bond and Wildlands Conservation Stamp acquisitions. The goals of acquisition are to protect and perpetuate ecosystems that contain significant fish and wildlife resources, to conserve

biological diversity, and to provide adequate routes for public access to the lands and waters. Potential acquisitions are reviewed and prioritized by the Lands Committee, which determines their resource and recreational value. Negotiations and processing are carried out by a core staff consisting of a Bond Fund Administrator, Chief of Realty, lawyer, paralegal and five land agents. Technical input is provided by the Districts and a representative from each of the three biological sections—Fisheries, Wildlife, and Natural Heritage and Endangered Species. Massachusetts' law requires the review and approval of all acquisitions by the Fisheries and Wildlife Board.

The structure and goals of the agency reflect its commitment to the conservation of diversity of both the flora and fauna. Its approach reflects the integrated nature of the resources for which it is responsible through the General Laws of the Commonwealth.



BECOMING AN OUTDOORSWOMAN



The Future

Massachusetts has changed dramatically within the past 20 years. During the economic boom of the 1980's, the state experienced unprecedented residential and commercial development, which resulted in the conversion of forests, wetlands and meadows into office parks, malls and housing developments. With such development has come increased potential for air and water pollution, and continued degradation and outright loss of habitat, all of which pose a grave threat to the quality of life of both animals and plants, including humans. The restoration and maintenance of a healthy, diverse environment requires an extraordinary response by state and local governments, as well as private citizens. The Division has and will continue to seek to prevent problems as well as solve those that exist. The challenge is immense and the available financial resources are limited.

Habitat loss remains the single most serious threat to the fish, wildlife, and wild plants of Massachusetts. Adequate conservation of habitats is an essential component of the Division's comprehensive effort to protect and maintain the

diversity and abundance of these resources. Continued, aggressive action is needed to protect enough habitat to enable the preservation of viable populations of otter, waterfowl, bluebirds, turtles, salamanders, rare plants and many other species that live in Massachusetts. To be successful, this effort requires the continued acquisition of critical habitats to bring those areas into the permanently protected status provided by the Division's ownership and active ecosystem management. The three bond issues which the General Court has enacted since 1983 have provided considerable money for open space acquisition. However, additional land acquisition is essential. The threat is so great during this era of rapidly escalating land prices and diminishing open space that additional funding is urgently needed. We humans are part of the environment. In the worst scenario, if living support systems fail, neither the wild species nor we will survive, let alone be able to maintain a reasonable quality of life.

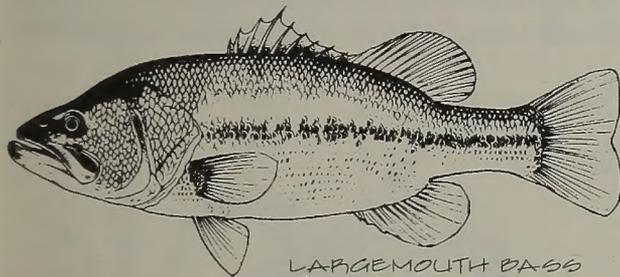
Once acquired, certain habitats must be maintained (i.e. managed) in order to sustain particular plant and animal species and communities. The Division will continue its efforts to maintain biodiversity through active management such as controlled burns in southeastern Massachusetts and on the islands, and through selective forest cutting throughout the state. These efforts will be continued as required and others will be instituted as deemed necessary.

Exotic species are a potential threat to native species through competition, introduction of diseases and parasites, and habitat destruction or disruption. The Fisheries and Wildlife Board established policy which protects against potentially destructive introductions of



non-native species. It states that "No exotic species will be released until it is determined that its biological requirements and impacts are compatible with the environment and existing wildlife populations, and until the Board has approved the release," and that "Accidentally or illegally introduced exotics shall be retrieved and destroyed if at all possible." In addition, the aquaculture regulations promulgated by the Board insure that exotic fishes will not escape into the environment.

Further, the Division intends to expand its ability to more thoroughly analyze the potential impacts of proposed projects on natural habitats currently reviewed by the Division under MEPA,



MESA, Wetlands Protection Act, Section 404 permits from the Army Corps of Engineers, and other such state and federal regulatory programs. Enhanced analytical capabilities will enable the Division to study in detail the ever-increasing number of proposed actions in fish and wildlife habitats, to take a longer term and more comprehensive view by studying the cumulative impacts of these projects, and to look at development trends in order to identify problems that may occur in the future. This will make it possible to design appropriate mitigation strategies to prevent or minimize the damage that would otherwise occur. Finally, the Division will increase its information and education efforts to make the public more aware that its participation in protecting the wildlife habitat necessary to perpetuate the diversity and abundance of wildlife in Massachusetts is essential. This will be accomplished in part through continued and increased involvement of the Division with private conservation organizations, educational institutions, and other governmental agencies. Success in such essential efforts will greatly enhance the Division's stewardship role.

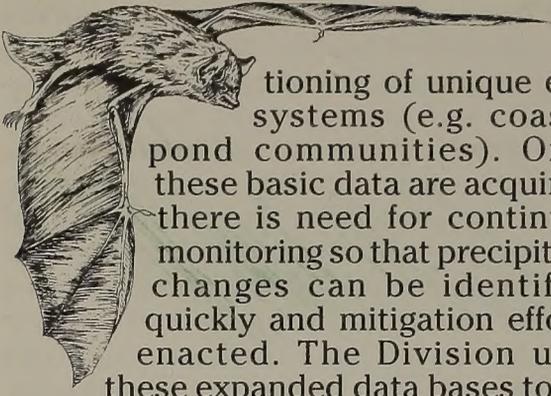
The commitment to ongoing projects is exemplified by the Division's active participation and leadership in the protection and management of migratory waterfowl within the Atlantic Flyway. Massachusetts has the most extensive ongoing waterfowl research program of the New England states. Division staff are also regular participants in cooperative research being undertaken on the major North American waterfowl nesting grounds in Canada. Recognizing the importance of the Canadian nesting grounds to North American waterfowl populations, the Division provides funds for the preservation of those wetlands through the annual sale of a state waterfowl stamp. The Division is also thoroughly involved in the North American Waterfowl Management Plan. Further, Division staff are actively studying the populations of neotropical migrant songbirds which occur in Massachusetts. As with waterfowl, patterns are revealed when these data are pooled with other studies across the continent.

There are still areas, such as the following, which require further refinement and development. The Division will continue to expand its data bases regarding fish and wildlife populations in the state. In particular, increased technical inquiry needs to be focused on the biology and management of 1) endangered, threatened, and special concern species, 2) species such as the black duck, which has been experiencing a significant decline for decades, 3) furbearers whose populations and ranges continue to expand, 4) established exotic species such as the mute swan whose population and



range are dramatically expanding and whose effect on native waterfowl is not well understood, and 5) groups such as reptiles, amphibians, invertebrates and wild plants about which relatively little life history research has ever been done. Further, little is known about the func-

BROWN BAT



tioning of unique ecosystems (e.g. coastal pond communities). Once these basic data are acquired, there is need for continued monitoring so that precipitous changes can be identified quickly and mitigation efforts enacted. The Division uses these expanded data bases to develop comprehensive management programs which have as their goal the establishment of self-sustaining populations of the species under MDFW jurisdiction.

The Division, through its regulatory Board, regulates the taking of game species in order to maintain healthy populations and provide legitimate use for the public benefit. It will also seek statutory authority to conserve presently unprotected wild plants and invertebrates. Such a comprehensive plan will empower the Division to manage and preserve the Commonwealth's natural diversity.

The Division will continue to aggressively expand its efforts to save and restore those species which are endangered, threatened, or special concern in Massachusetts, with the goal of returning those species to stable, healthy population levels so that they can be permanently removed from that list. Recovery plans, including long range management plans, will be developed for those species. Once a recovery goal is achieved, management will continue to ensure the continued health of the species.

The challenge with the management of any species is to balance biological and sociological factors. The Division

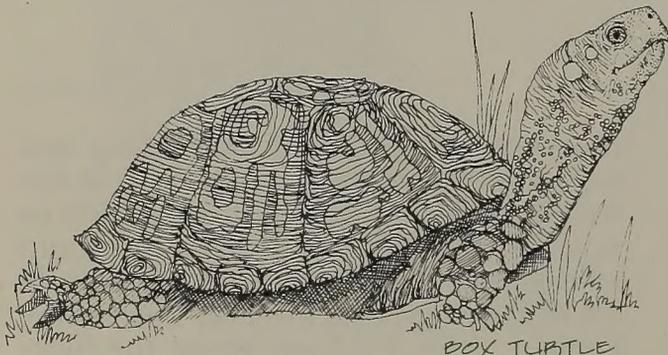
believes that this challenge can be met, provided the public is well-informed. The Division will expand its capability to inform the public of its programs and the status and needs of vertebrates, invertebrates, wild plants and their habitats. By continuing to work with educators, it will also increase its efforts to help develop environmentally literate and responsible citizens.

In addition, the Division will 1) continue to explore new management approaches to deal with such complex issues as piping plover and deer management, 2) educate the public on the value of natural resources and that protection and management (i.e. conservation) of wild populations is of absolute value, and 3) seek public financial support in order to accomplish the mandated tasks.

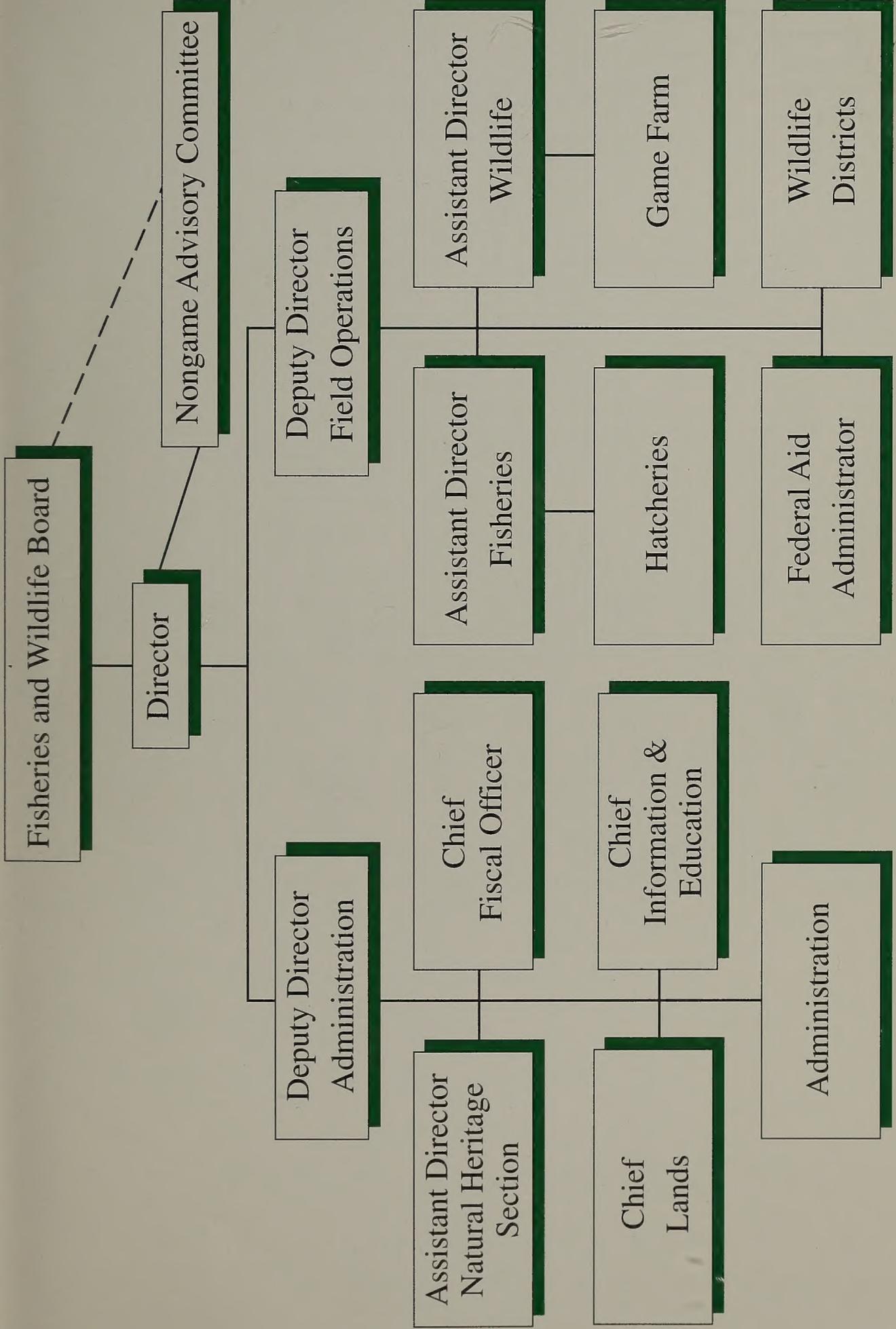


MEADOWLARK

Clearly, management of wild plants and animals in an ever more urbanized society involves challenges. Substantial additional resources in the form of additional personnel and financial support, as well as expanded authority, will be required to fully implement these programs. These efforts are necessary if the Division of Fisheries and Wildlife is to fully accomplish its mandated goal of protecting the Commonwealth's environment. The Division of Fisheries and Wildlife is charged by statute with the management of wildlife in Massachusetts. It is in the best position to articulate the value of the state's wildlife resources.



BOX TURTLE



Fisheries and Wildlife Board

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Deputy Director Field Operations

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