

VERMONT FISH & WILDLIFE DEPARTMENT

Wildlife Management Area Report



2009 Annual Report

Vermont's Wildlife Management Areas

Managing Fish and Wildlife Habitat, Providing Outdoor Recreational Opportunities, and Much More.

The Vermont Fish & Wildlife Department (VFWD) spends thousands of staff hours and hundreds of thousands of dollars to manage habitat on Wildlife Management Areas (WMAs). The foundation for why WMAs exist in Vermont, as well as in most of the U.S., is a cultural reason rooted in the North American Model of wildlife conservation. In the early 20th century, hunters and wildlife managers were alarmed that wildlife populations were at critically low levels due to habitat destruction and unregulated harvest. Protecting habitat in public ownership is one strategy they used to conserve wildlife.

Today, the harvest of wildlife is heavily regulated, but significant challenges and threats remain with regard to habitat. Vermont is occupied by over 630,000 residents and thousands more seasonal visitors, so the landscape is greatly influenced by our presence. Homes, businesses, roads, and all the associated infrastructure of modern development have affected the quality and quantity of fish and wildlife habitat statewide.

Consider the following points in Vermont:

- Nearly 50 percent of the state's original wetlands have been lost or severely impaired.
- Vermont loses over 450 acres of significant wildlife habitat such as deer yards to regulated development annually. This figure does not include the loss of wildlife habitat to unregulated development which is typically two-thirds of the land developed in Vermont.
- The department reviews regulated development projects each year and has documented the loss of over 6,000 acres of critical wildlife habitat since 1995.

What does the future hold? Looking to our neighbors to the south in Massachusetts and Rhode Island for trends in human land use changes allows us to view what our future development patterns and pressures may be here in Vermont.

- According to Losing Ground IV, a recently released Massachusetts land use report, the rate of development in Massachusetts between 1995 and 2005 is 22 acres each day, primarily converted to residential development.
- In the mid-1980s in Massachusetts 600 acres per week was developed into some form of housing units or commercial development.

- Today, many towns in eastern Massachusetts are reaching their "build out" capacity.
- In Rhode Island between 1970 and 1995, developed land increased by 43 percent even as the population increased by 10 percent and households shrank to an average of 2.47 persons.
- Since 1995 in Rhode Island, 30 percent of land designated as undeveloped has been developed. If land development trends continue, by 2025, 45 percent of the state will be developed, and by 2060, it will equal 71 percent.

Vermont is not immune to these land development trends, and our decisions about land use will have a profound impact on the future for our state and our conservation interests. In time, land development will destroy wildlife habitat and erode public access to properties. This erosion can be so gradual that we can forget we are losing it. Public access and opportunities for activities like hunting, fishing, trapping will be lost.

Why is this information important for us to be planning for today? There are many reasons why this is the pivotal issue for wildlife conservation in Vermont, not the least of which is the ability to ensure the presence of sufficient habitat for wildlife conservation in the future. A nationwide survey in 2008 documented the top three reasons why people no longer

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Although hunters fund most of the operational costs, WMAs are popular for many other activities such as wildlife viewing and photography, hiking, Nordic skiing, snowmobiling, and berry picking. Photo: John Hall



Most of the programs described in this report are funded through the Federal Aid in Wildlife Restoration Program. This program was initiated in 1937 as the Federal Aid In Wildlife Act and created a system whereby taxes are paid on firearms, ammunition and archery equipment by the public who hunts. Today this excise tax generates more than one hundred million dollars each year that are dedicated to state wildlife restoration and management projects across the United States. The state of Vermont uses these monies for acquiring land, and for restoring and managing wildlife. These excise tax dollars, coupled with state hunting license fees have been the predominant source of money funding the successful restoration and management of Vermont's wildlife resources.



Conserving fish, wildlife, plants and their habitats for the people of Vermont.

WMAs at a Glance

The VFWD owns 85 WMAs and numerous riparian parcels totaling over 129,730 acres. These lands play an important role in meeting the department's mission. Management of these areas emphasizes the conservation of fish and wildlife and their habitats, and the properties provide important public access for hunting, fishing, trapping and other fish and wildlife-based activities.

The VFWD has purchased WMAs using several funding sources, including funds from hunting license sales, Vermont Waterfowl Funds from the sale of state duck stamps, US Fish & Wildlife Service (USFWS) Federal Aid in Wildlife Restoration (Pittman-Robertson) Fund, Vermont Housing and Conservation Board, and the Land and Water Conservation Fund. Management and administration of all WMAs are primarily paid for through USFWS Federal Aid in Wildlife Restoration Funds. Each year, at least 16 VFWD biologists and specialists work on WMA management and administration.

Technical Assistance from the Vermont Department of Forests, Parks, and Recreation (FPR) staff is essential for completing WMA long range management planning, property administration, and habitat management projects. Wildlife habitat enhancement activities are conducted through commercial and noncommercial means to provide the rich diversity of habitat types and forest ages necessary to meet the needs of many wildlife species.

The management of WMAs is guided by Long Range Management Plans (LRMP). LRMPs are based on a thorough natural resources inventory and public input gathered through various methods. Management activities primarily focus on providing a diversity of fish and wildlife habitat as well as quality opportunities for fish and wildlife-based outdoor activities.

2009 Management Highlights

- Inventories were conducted on 21 WMAs to develop management strategies for rare, threatened, or endangered species or natural communities.
- An additional 17 spruce grouse were re-introduced to Victory Basin WMA, providing a total 51 birds released over two years towards the goal of establishing a second Vermont population of this state-endangered boreal species.
- Dead Creek WMA hosted the 8th annual Dead Creek Wildlife Day. The successful celebration of Vermont's wildlife heritage was attended by over 500 people, prompting the Vermont Chamber of Commerce to designate next year's Dead Creek Wildlife Day one of "Vermont's Top Ten Fall Events for 2010."
- Fisheries biologists investigated brook trout populations in Bill Sladyk WMA as part of the Long Range Management Planning process.
- An experimental mechanical treatment was initiated to control bracken fern on 0.75 acres of blueberry fields at Steam Mill Brook WMA
- Friends of WMAs volunteers released 30 apple trees and cleared brush on one mile of access trail.



Ruffed grouse are pursued by raptors and mammals of all sizes, from the tiny ermine to the orange clad hunter, so they inhabit dense thickets to survive. Photo: VFWD

Vermont's WMAs *continued from page 1*

continue hunting. The reasons were as follows: 1) aging and associated physical limitations, 2) time constraints because of work and family obligations, and, 3) lack of access for hunting.

We know that urbanization of the landscape is a barrier to access by both wildlife and hunters and other wildlife enthusiasts. Having open public lands where the public have opportunities to participate in these activities is one action the department can use to meaningfully address the issue of public access to land.

Wildlife Management Areas play an important role in providing access and opportunity for the public to enjoy the outdoors and Vermont's magnificent wildlife heritage. We are fortunate that surveys conducted by the US Fish and Wildlife Service documented Vermont is 3rd nationally in the percent of the public who watch wildlife, hunt, fish or trap. This is advantageous to the state, but trying to maintain a public that is well connected to the out-of-doors will be a challenge for the future. WMAs will be part of addressing this challenge.

Our History of WMA Management is almost 100 years old. Recognizing that habitat is critical to healthy wildlife populations the department first secured land for habitat protection in 1919.

Today, the department has 85 WMAs totaling over 119,000 acres.

- Thirty-nine percent of these WMAs have Long Range Management Plans (LRMP), and these plans are the basis for managing each WMA.
- Sixty-two percent of WMA acreage is under a Long Range Management Plan. Draft plans are currently being developed on an additional 13,235 acres, and by 2014 74.2 percent of WMA acreage will have LRMP associated with them.
- WMA LRMP plans are important to provide fish and wildlife based outdoor activities, direct habitat management actions, plan budgets, and strategically plan for additional acreage.

In addition to public access and wildlife habitat, WMAs are also important for several other reasons. WMAs are managed for ecological roles, including providing habitats for healthy wildlife populations. These areas need to be dynamic in the future for processes such as river migration, floods and fires, as well as to offset losses of young forest and shrub lands. WMAs can provide greater abundance and diversity of various species. Wetlands created, restored and managed on these properties provide many functions including groundwater recharge, sediment retention, flood abatement, fish spawning habitat, and habitat for many rare plant and animal communities. These restoration efforts help to offset wetland destruction that occurs elsewhere in the state.



WMA meadows and old fields provide habitat for native pollinators such as butterflies and bumblebees, as well as insects, seeds, forage and nesting cover for many grassland birds and other wildlife. Photos: Leif Richardson

Where essential habitat elements such as snags and cavity trees are lacking due to historic land uses, management techniques such as waterfowl nest boxes and osprey nest platforms are used to bolster populations and aid the recovery of some species. Wetlands are also manipulated to expose mudflats during migration periods, providing important feeding habitat for many migratory birds.

Upland habitats are also managed to increase habitat diversity, primarily by providing grassland, old field and young forest habitat, often interspersed by forest habitat at various stages of maturity. Timber harvesting, mowing, burning, and brush cutting are techniques used for this purpose. These habitats support a wide variety of birds, mammals, insects, and plants not found in mature forests or wetlands. Productivity of these habitats is enhanced by selective cutting to release hard mast (nut-bearing trees and shrubs) and soft mast (apples, berries, cherries) producing species, burning to maintain blueberry and shrub production, and delayed mowing schedules to maximize flowering and seed production in grasses and forbs. Increasing the productivity of such habitats increases the abundance and diversity of wildlife via higher winter survival rates, higher birth rates, and increased health and disease resistance of both predators and prey.

Management of WMAs provides wildlife biologists a venue in which to demonstrate science based techniques to private land owners, consulting professionals, and the public. Active management on WMAs serves the wildlife conservation mission of VFWD by providing demonstration areas readily accessible for use in technical assistance workshops, where landowners can learn techniques applicable to private lands which comprise about 81 percent of the landscape.

Additionally economic and cultural benefits are derived from the roles WMAs have throughout the state. A 2006 National

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Property Administration

An essential component of any land management program is the maintenance of the property's boundaries and infrastructure, such as roads, bridges and signs. Without these efforts, the habitat management and public use goals of each area may not be achievable. The 85 WMAs routinely require boundary line surveying and maintenance, building maintenance, signage, trash removal, and responses to encroachments and other trespasses.

The following maintenance activities were completed on WMAs during the 2009 calendar year:

- Installed or repaired **25** culverts or bridges
- Maintained **4** buildings
- Mowed/maintained **29** dams, dikes and levees
- Maintained **52.4** miles of forest roads
- Maintained **2,600** feet of fence
- Improved/maintained **14** parking areas
- Maintained **16** WMA signs/kiosks
- Maintained **36.2** miles of property boundary line and surveyed **5.9** miles
- Maintained **6** gates and installed **2** new ones
- Conducted **4** cultural resource reviews
- Acquired **205** acres for habitat and public access to wildlife based recreation
- Addressed **84** policy issues (encroachments, etc.)
- Conducted **19** presentations or press releases



Although scenic to the casual eye, invasive plants such as purple loosestrife and Japanese knotweed (white flowers above) increasingly pose challenges for providing native shrub and young forest habitat on WMAs. Photo: Leif Richardson

Non-commercial Wildlife Habitat Management

Non-commercial fish and wildlife habitat management activities include projects where the habitat is enhanced through methods other than standard timber harvest contracts. In most cases, VFWD wildlife biologists, other Agency of Natural Resources staff, volunteers, or private contractors perform these management activities.

The following non-commercial wildlife management activities were conducted during the 2009 calendar year:

- Installed/maintained **6** beaver wetland devices
- Mowed or maintained **1,042** acres of grassland and cropland
- Cleared competing brush from **154** apple trees and **55** young oaks trees
- Planted **4** acres plus **20** more fruit or mast trees
- Planted **200** pine seedlings on **24** acres
- Burned **53** acres and reclaimed or brush-mowed **67** acres to maintain **120** acres of old field habitat
- Restored **6,415** feet of stream bank by planting **2,400** trees
- Managed water levels on **1,006** acres of wetland habitat for waterfowl
- Maintained **686** waterfowl nest structures
- Treated **10.5** acres to control invasive plants
- Thinned saplings to accelerate growth on **12** acres of future deer winter habitat
- Conducted **32** habitat, wildlife or public use inventories



Improving wildlife habitat via commercial logging on WMAs provides local wood products and jobs, and demonstrates the concept of a working landscape. Photo: Paul Hamelin

Commercial Wildlife Habitat Management

Commercial wildlife habitat management activities can enhance forest wildlife habitat while removing merchantable wood products. Commercial logging operations also improve public access for fish and wildlife based activities by helping the VFWD develop or maintain WMA roads, culverts, bridges, and herbaceous openings. All revenue generated by the commercial sale of timber on WMAs is reinvested into the management or acquisition of these lands. Timber sale receipts from commercial forest management activities on WMAs have increased sharply in recent years. In 2003 the VFWD entered into a partnership with the Ruffed Grouse Society (RGS) to address a backlog of planned timber harvests on WMAs, and to accelerate the level of non-commercial habitat management activities. The 2004 Legislature appropriated \$40,000 in capital funds to the VFWD to facilitate these activities. An additional \$50,000 was

appropriated in 2005. The RGS partnership and the capital appropriations have been productive, resulting in a dramatic increase in WMA timber harvests and noncommercial habitat management activities during FY05 through FY09. A summary of WMA timber harvests for the 5-year period FY05-FY09 is provided in Table 1.

Table 2 reports the commercial wildlife habitat management activities on WMAs in FY09. Variations in harvesting volumes across different regions of the state are a result of disparities in state-owned timber acreage and accessibility on WMAs, staffing levels, stand conditions, and work priorities. Table 3 indicates the acreage and minimum projected income for 15 timber harvests that were active, sold, or about to be sold on 11 WMAs as of January 1, 2010.

Table 1. Wildlife Habitat Timber Harvests on VFWD WMAs FY05-09^a

	FY05	FY06	FY07	FY08	FY09	5-Year Totals
Fee Acres Harvested (#)	446	527	444	659	624	2,700
Board Feet (MBF)	677	613	898	891	992	4,071
Cord (#)	2,838	2,430	2,473	3,008	3,477	14,226
Program Income (\$)^c	\$188,606	\$188,236	\$180,487	\$294,582	\$268,200	\$1,120,111
Non-fee Acres Harvest (#)^b	1,400	150	110	105	300	2,065
# of Active Timber Sales	8	10	12	12	11	N/A: Timber Harvests Span Several Years

Table 2. Wildlife Habitat Timber Harvested on VT Fish & Wildlife Departments WMAs - FY09^a

	District I Springfield	District II Rutland	District III Barre	District IV Essex Jct.	District V St. Johnsbury	State Totals
Fee Acres Harvested (#)	80	113	0	92	339	624
Board Feet (MBF)	287	242	0	180	283	992
Cords (#)	1,103	183	0	704	1,487	3,477
Program Income (\$)^c	\$41,861	\$56,800	\$0	\$60,328	\$109,211	\$268,200
Non-fee Acres Harvested (#)^b	300	0	0	0	0	300

^a Includes pre-harvest payments; ^b Timber rights privately owned; ^c All revenues generated on WMAs go back into the management of these properties.

Table 3. 15 Timber Harvests Active, Sold, or Ready to Sell on 11 VT Fish & Wildlife Depts. WMAs as of Jan. 1, 2010

District	Number of Sales	Clear-Cut Acres	Selective Acres	Acres Total	Income Projection*
Springfield	1	9	28	37	\$0**
Rutland	5	13	179	192	\$23,259
Barre	1	0	133	133	\$85,398
Essex	3	27	151	178	\$90,259
St. Johnsbury	5	45	151	196	\$77,294
Totals	15	94	642	736	\$276,210

*Based on actual price of purchased sales or minimum acceptable bid for sales ready to sell. Projection = payment amount remaining in active sales + uncut sold sales + Prospectus minimum bids. Revenue subject to winter operating conditions; total income may not be realized until after June 30, 2012. **Sale paid in full in FY09.

In the Spotlight: Pomainville WMA

By Joel Flewelling

The Pomainville Wildlife Management Area in Pittsford, Vermont was acquired by the VFWD in 2005 using funding provided by Ducks Unlimited and the Vermont Waterfowl Restoration Fund. Prior to VFWD ownership the parcel was enrolled in the USDA-NRCS Wetland Reserve Program and is managed through a restoration and management plan. Several fish and wildlife habitat management techniques are used throughout the 356-acre WMA.

The main focus of the restoration and management plan is to restore a natural floodplain forest and associated wetlands along Otter Creek. To accomplish this, a 150-foot riparian buffer was established along the entire length of Otter Creek on the property. This buffer was planted with more than 2,800 trees and natural regeneration has been allowed to grow. The buffer will provide many benefits including stabilizing the banks of Otter Creek, providing a travel corridor for wildlife, and providing habitat for many wildlife species.



In 2009 VFWD fisheries biologists seined the restored wetlands on Pomainville WMA and found young-of-the-year northern pike, confirming these wetlands provide important spawning habitat for this species. Photo: Shawn Good.



Muskrat also use the restored wetlands. While seining for fish, department biologist worked around the mounds of vegetation the muskrat piled for their lodges.

Three water control structures were installed in a former ditch network in meadows to restore 46 acres of open water and wetland habitat on the WMA. The water levels are managed to provide nesting and migration habitat for waterfowl and marshland birds, as well as spawning habitat for fish including northern pike and minnows.

Other habitats the department is managing include forestland, grassland, and hardwood swamp. The forestland is managed to provide hardwood and

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Pomainville WMA



In the Spotlight: Pomainville WMA *continued from page 6*

softwood stands. The hardwood stands provide food for wildlife in the form of apples, nuts and woody browse. Over 75 apple trees have been released and pruned. The softwood stands provide cover and wintering habitat for deer and wild turkey. Approximately 80 acres of the WMA are grassland habitat. The grasslands are managed using a technique called delayed mowing. This annual mowing of the fields occurs after the nesting season for waterfowl and grasslands birds has passed, usually mid August.

The Rutland County Audubon Society has been monitoring birds on the WMA for less than a year, and they have already documented 99 species. In October two rare sparrow species, Le Conte's sparrow and Nelson's sparrow, were discovered using Pomainville's grasslands on their migration south. Audubon Society members have documented many species breeding at the WMA, including wood ducks, mallards and hooded mergansers in the wetlands, and bobolinks and savannah sparrows nesting in the fields. Virginia rails, green herons, pied-billed grebes and American bitterns can be found around the pond edges, and



Pomainville WMA offers wildlife a diversity of habitats, including marsh and hardwood swamp wetlands, grasslands, and upland forest. Photo courtesy USDA-NRCS.

wild turkeys, ruffed grouse and American woodcock are found in the wooded habitat.

Along Otter Creek, Vermont's longest river, Pomainville WMA showcases a variety of habitat management techniques that can be used by landowners throughout the state, and it's quickly becoming a wildlife hot spot for the Rutland region.

Vermont's WMAs *continued from page 3*

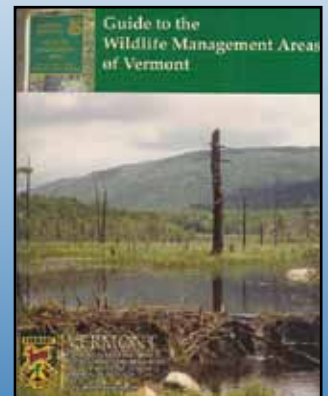
Survey by the U.S. Fish and Wildlife Service found that hunting, fishing, trapping and wildlife viewing generated over \$376 million annually in direct expenditures in Vermont. Hunting and fishing contributed more than \$253 million of this amount. These dollars are spent throughout the state but often are spent in rural communities. A 2000 National Survey of the Vermont Visitor by UVM's School of Business Administration and the Vermont Tourism Data Center found that tourists coming to Vermont for the primary purpose of fishing or hunting spent an average of \$2,096 in Vermont on their trips during the year. This was higher than average expenditures for all the other types of recreation in the survey.

WMAs also support a viable forest products economy in the most rural areas of the state. Renewable forest products including lumber, paper, furniture, fuel wood, and chips for electricity generation are all obtained from timber harvests prescribed to improve wildlife habitat and forest health. A robust forest products industry maintains rural employment and benefits the local economy well above the value of the products harvested via the multiplier effect, since the revenues of both VFWD and the loggers are often spent on local products and services. The VFWD uses all timber revenues to match federal funds, and re-invests all the money in WMA management, including contracts for services such as road work, brush mowing and bridge construction. Thus, WMA management plays an active role in Vermont's working landscape by providing economic, cultural, and ecological benefits.

Getting there...

WMA maps with a written narrative describing each WMA are available on the department website (www.vtfishandwildlife.com) and also compiled in a statewide atlas, Guide to the Wildlife Management Areas of Vermont.

This atlas is available for \$16.27



Land Acquisition

WMA land acquisition is accomplished by VFWD staff and is aided by Forests Parks and Recreation staff. Many land acquisition projects are made possible with the aid of conservation partners, notably Vermont Land Trust Inc., The Nature Conservancy, Ducks Unlimited, and the Trust for Public Land.

South Bay WMA, Coventry, VT, 63 acres



This year, the VFWD completed the acquisition of a 63-acre parcel along the Barton River in Coventry, Vermont. This parcel is a key step in progress toward bridging the gap between two large wetland complexes in VFWD ownership: South Bay WMA and Willoughby Falls WMA. The parcel is a corridor link in VFWD's strategy to reconstitute the wetlands of the lower

Barton River floodplain, with the ultimate goal of restoring their ecological functions. Intensive agricultural practices, including wetland ditching/drainage and short hay crop rotations severely degraded the ecological functions of the floodplain between the two WMAs. However, the land was enrolled in the USDA NRCS Wetland Reserve Program under a new owner, and just prior to state acquisition the degraded wetlands were restored, promoting a natural flow regime to the Barton River and reducing excessive sediment and nutrient transport to South Bay. Once again the property provides prime breeding and migration habitat for waterfowl, American woodcock, marsh birds, wetland furbearers, reptiles, amphibians, and a diversity of migratory songbirds and other wildlife. VFWD ownership ensures public access to opportunities for wildlife viewing, hunting, angling and trapping.



Wood ducks are one of many wetland species that will benefit from the restoration and management of 63 acres acquired in the Barton River floodplain. Photo: USFWS - Dave Menke

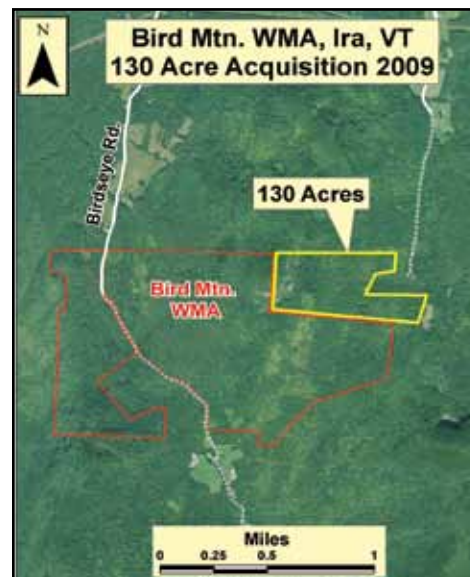
Roaring Brook WMA, Vernon, VT, 12 acres



The addition of this 12-acre parcel to the Roaring Brook WMA ensures public access to opportunities for wildlife viewing, hunting, angling and trapping. The acquisition includes early successional habitat and wetlands that are part of a larger linear wetland-open water complex. This habitat supports a diversity of wetland wildlife including wood ducks and other waterfowl, and herptile species

including wood frogs, gray tree frogs, spring peepers, painted turtles, and northern watersnakes.

Bird Mountain WMA, Ira, VT, 130 acres



The addition of this 130-acre parcel located in the Town of Ira to the Bird Mountain WMA provides permanent protection of public access for hunting, trapping, wildlife viewing, and the conservation of significant wildlife habitat. In addition to supporting nesting peregrine falcons, this 130-acre property supports a Red Oak-Northern

Hardwood Forest and Transition Hardwood Forest. Both forest communities, while not uncommon in the state, are in excellent condition with abundant, mature red oak trees throughout. This is an excellent area of habitat for many species of wildlife including upland game such as wild turkey and white-tailed deer.