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State-Owned Wildlife Management Areas in New England

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Abstract

State-owned wildlife management areas play an important role in enhancing wildlife populations and providing opportunities for wildlife-related recreational activities. In the six New England States there are 271 wildlife management areas with a total area exceeding 268,000 acres. A variety of wildlife species benefit from habitat improvement activities on these areas.

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Introduction

With massive changes in land use and ownership, the role of public lands in providing wildlife habitat and related human-use opportunities is becoming more important. One form of public land ownership that has received only limited recognition is the state-owned wildlife management area (WMA). While state lands in this ownership category predated the Federal Aid in Wildlife Restoration Act (Pittman-Robertson Act) of 1937, much of the impetus to create WMA resulted from this legislation. Federal funding has assisted the states in acquiring and managing these lands, which are dedicated primarily to wildlife enhancement.

In recent years throughout much of New England, the rapid development of traditionally rural areas has reduced wildlife habitat and made many areas unavailable for the public to pursue wildlife-related recreational activities. Both farm attrition and intensification of operations on remaining farms have resulted in changing habitat conditions since much crop and pasture land has been taken out of production and is reverting to forests. As these second-growth forests mature their value as habitat for some of the most desired wildlife species diminishes.

Further, human population growth and increased use of rural areas for residential, recreational, and commercial development have resulted in additional losses of wildlife habitat and made much of the remaining habitat unavailable to a large segment of the general public. Other private lands that had been open to public use are being posted against trespass, severely restricting public use. As a result, the role of public lands has become more prominent with respect to maintaining diverse wildlife populations and providing wildlife-related recreational opportunities.

This paper describes the state owned WMA in the six New England States, the wildlife species targeted to benefit from habitat enhancement in these areas, and the habitat improvement practices that have been implemented.

Methods

The information in this paper was obtained in 1985 through interviews with staff members of the wildlife management agencies in each of the New England States. Agency staff were asked to complete a set of worksheets for each WMA in that state. When necessary, additional information was obtained from regional offices within the respective states.

Size and Distribution of Areas

In 1985 there were 271 WMA in the New England States totalling 268,192 acres (Table 1). Vermont had both the most WMA and the largest total acreage. The average size per WMA for the region is 990 acres, ranging from nearly

1,275 acres in Massachusetts to fewer than 600 acres in Connecticut and New Hampshire. Water accounted for about 8 percent of the total area of WMA in New England.

Table 1 — Number of New England wildlife management areas (WMA) and acreages by state, 1985

State	Number of WMA	WMA in:			Average size of WMA
		Land	Water	Total	
		-----Acres-----			Acres
Connecticut	36	19,728	1,038	20,766	577
Maine ^a	46	35,222	13,675	51,011	1,109
Massachusetts ^b	44	50,961	632	56,055	1,274
New Hampshire	43	20,614	4,259	24,873	578
Rhode Island ^c	27	28,163	700	28,863	1,069
Vermont ^d	75	52,195	335	86,644	1,155
Total^e	271	209,002	20,639	268,192	990

^a Complete data on acreages of land and water not available. Total acreage data are complete but exceed total of land and water acreages.

^b Total acreage for state includes Hockomock Wildlife Management Area (4,432 acres) for which there was no information on land and water acreages.

^c Total acreage for state includes Prudence Island (1,284 acres) and Carolina (1,569 acres) Wildlife Management Areas for which there was no information on land and water acreages.

^d Complete data on acreages in land and water not available. Total acreage data are complete.

^e Due to missing data, row and column totals are not equal.

Throughout the region, 73 percent of the WMA were fewer than 1,000 acres in size (Table 2). However, this size category accounted for only one-quarter of the total area in

WMA. While there were only 11 WMA in the region that are 5,000 acres or more, they accounted for 29 percent of the total area.

Table 2. — Size distribution of New England wildlife management areas (WMA), 1985

Area (acres)	Number of WMA	No. acres in size class	No. areas in size class as percent of total	No. of acres per WMA	Percent of total acreage
0 to 999	198	67,092	73.1	359	25.0
1,000 to 1,999	37	52,316	13.7	1,414	19.5
2,000 to 2,999	17	40,209	6.3	2,365	15.0
3,000 to 3,999	5	16,854	1.8	3,371	6.3
4,000 to 4,999	3	13,369	1.1	4,456	5.0
5,000 to 5,999	4	21,407	1.5	5,352	8.0
6,000 to 6,999	1	6,086	0.4	6,086	2.3
7,000 to 7,999	2	15,162	0.7	7,581	5.7
8,000 +	4	35,697	1.5	8,924	13.3
Total	271	268,192	100.1	990	100.0

Habitat Improvement Activities

The target species for which habitat manipulation practices are designed vary considerably among WMA and from state to state (Table 3). It should be noted that habitat enhancement designed for specific target species also benefit other wildlife with similar requirements. Geographic differences in climate and vegetative cover determine species' availability, so wildlife that receive considerable attention in some states may be virtually nonexistent in others. For example, much of the habitat improvement in Massachusetts and Connecticut is aimed toward pheasant, but the three northern New England States are beyond the primary range of this species.

Overall, deer, waterfowl, and ruffed grouse receive the greatest emphasis in habitat improvement activities on WMA in New England. In Vermont, deer was the target species for 30 of a statewide total of 75 WMA. For various reasons, many WMA were not actively involved in any habitat enhancement activities during the study year.

Not all target species are game animals. Massachusetts managed for the enhancement of bluebird habitat on six WMA and Maine worked to improve conditions for the bald eagle on one WMA.

Habitat management on WMA often is constrained by limited budgets. Nevertheless, there are opportunities to

improve habitat through income-producing activities such as timber sales and agricultural leases. Mowing to retain early-stage vegetative succession and provide habitat diversity is a relatively inexpensive and common practice on WMA throughout New England (Table 4). The same enhancement activities may be undertaken to benefit different wildlife species at different locations. For example, specific agricultural activities designed to benefit pheasant

on Massachusetts WMA can be directed toward deer in Vermont. In all of the New England States, waterfowl benefit from the installation of water-control structures. Maintaining and replacing nest boxes for waterfowl, principally wood ducks, is one of the more common practices in New England. Others include apple tree releases, brush cutting, forest and shrub thinnings, clearing establishment, and vegetative plantings.

Table 3. — Target species on New England wildlife management areas by state, 1985

State	Target species	Number of WMA specifying target species
Connecticut	Deer	3
	Pheasant	4
	Quail	1
	Ruffed grouse	2
	Waterfowl	3
Maine	Aquatic furbearers	6
	Bald eagle	1
	Deer	10
	Furbearers	1
	Nongame species	2
	Ruffed grouse	9
	Shore birds	1
	Snowshoe hare	3
	Upland wildlife	4
	Waterfowl	23
	Woodcock	1
Other	2	
Massachusetts	Aquatic mammals	1
	Bluebirds	1
	Cottontail rabbit	6
	Deer	18
	Pheasant	15
	Quail	4
	Ruffed grouse	9
	Snowshoe hare	2
	Upland wildlife	28
	Waterfowl	22
	Wild turkey	1
	Woodcock	18
	New Hampshire	Upland wildlife
Waterfowl		30
Rhode Island	Waterfowl	11
Vermont	Bear	2
	Beaver	2
	Deer	30
	Cottontail rabbit	1
	Grey squirrel	1
	Ruffed grouse	13
	Snowshoe hare	6
	Songbirds and nongame species	3
	Upland wildlife	3
	Waterfowl	15
Wild turkey	2	

Table 4. — Habitat improvement activities undertaken in New England wildlife management areas (WMA) to benefit target species by state, 1985

Improvement activity	Number of WMA participating	Principal benefiting species
CONNECTICUT		
Field Management		
Agricultural co-op agreements	30	Upland wildlife
Mowing	4	Pheasant (3) Quail (1) Waterfowl (1)
Forest Management		
Bulldoze old growth	2	Pheasant (2) Quail (1) Ruffed grouse (1) Deer (1)
Timber harvests	3	Deer (2) Ruffed grouse (1) Waterfowl (1)
Maintain and replace water-control structures	1	Waterfowl
MAINE		
Field Management		
Maintain goose pasture	1	Canada goose
Mowing	10	Aquatic furbearers (2) Bald eagle (1) Canada goose (1) Deer (3) General wildlife diversity (1) Non-game wildlife (1) Ruffed grouse (4) Shore birds (1) Upland wildlife (1) Waterfowl (2)
Forest Management		
Alder clearcuts	1	Woodcock
Alder management	1	Upland game Nongame wildlife
Apple tree releases	4	Deer (1) Nongame wildlife (1) Ruffed grouse (3) Snowshoe hare (1) Upland furbearers (1) Waterfowl (1)
Commercial thinnings	2	Snowshoe hare (1) Ruffed grouse (2)
Prescribed burning	1	Waterfowl
Shelterwood harvest	1	Deer
Strip clearcuts	3	Deer (2) General wildlife diversity (1)

Continued

Table 4. (Continued)

Improvement activity	Number of WMA participating	Principal benefiting species
MAINE		
Timber harvests	1	Deer (1)
Timber management	6	Forest wildlife (1) Nongame wildlife (1) Ruffed grouse (2) Upland game (3)
Lease land for crops before mowing	1	Waterfowl
Water Management		
Nest box maintenance, replacement	8	Waterfowl
Pothole repair and ditch maintenance	1	Waterfowl
Maintain and replace water-control structures	2	Waterfowl
Manipulate water level	14	Aquatic furbearers (4) Waterfowl (14)
MASSACHUSETTS		
Field Management		
Agricultural co-op agreements	17	Canada goose (2) Cottontail rabbit (3) Deer (2) Pheasants (12) Ruffed grouse (3) Upland wildlife (5)
Brush cutting	11	Deer (2) Pheasant (1) Quail (1) Ruffed grouse (1) Upland wildlife (6) Woodcock (3)
Herbicide treatment	1	Upland wildlife Woodcock
Field Management		
Liming and fertilizing	2	Pheasant (1) Quail (2)
Mowing, liming, and fertilizing	5	Deer (2) Upland wildlife (5)
Planting annuals	2	Upland game
Planting grain	2	Deer (1) Pheasant (1) Waterfowl (1)
Shrub and Perennial planting	7	Deer (1) Pheasant (1) Quail (3) Ruffed grouse (1) Upland wildlife (2) Woodcock (1)

Continued

Table 4. (Continued)

Improvement activity	Number of WMA participating	Principal benefiting species
Forest Management		
Removing white pine	1	Snowshoe hare Upland wildlife
Water management		
Nest box maintenance and replacement	9	Waterfowl
Maintain and replace water-control structures	4	Waterfowl
Manipulate water level	1	Waterfowl
NEW HAMPSHIRE		
Field Management		
Field improvement	1	Upland wildlife
Prescribed burning	1	Waterfowl
Forest Management		
Aspen and alder clearcuts	1	Upland wildlife
Strip clearcuts	1	Deer Upland wildlife
Thinnings	1	Upland wildlife
Water Management		
Nest box maintenance and replacement	27	Waterfowl
Maintain and replace water-control structures	24	Waterfowl
RHODE ISLAND		
Field Management		
Herbacious plantings	6	Waterfowl
Vegetation control	6	Waterfowl
Forest Management		
Apple tree release	6	Upland wildlife
Clearings	6	Waterfowl
Timber management	10	Upland wildlife
Tree and shrub plantings	2	Waterfowl
Water Management		
Next box maintenance and replacement	9	Waterfowl
Pothole repair	1	Waterfowl
Maintain and replace water-control structures	8	Waterfowl

Continued

Table 4. (Continued)

Improvement activity	Number of WMA participating	Principal benefiting species
VERMONT		
Field Management		
Agricultural leases	8	Canada goose (1) Cottontail rabbit (1) Deer (5) Nongame wildlife (2) Ruffed grouse (1) Upland wildlife (1) Waterfowl (3) Wild turkey (1)
Agricultural co-op agreements	1	Canada goose
Brush hogging	2	Cottontail rabbit (1) Deer (2) Nongame wildlife (1) Ruffed grouse (1) Snowshoe hare (1) Waterfowl (1) Wild turkey (1)
Planting annuals	1	Canada goose
Mowing	7	Deer (5) Ruffed grouse (2) Snowshoe hare (1)
Forest Management		
Apple tree releases	1	Ruffed grouse
Aspen management	1	Ruffed grouse
Beech ridge management	1	Bear Deer
Clearings	1	Deer Ruffed grouse Songbirds
Deer yard maintenance	6	Deer
Patch clearcuts	5	Deer (4) Ruffed grouse (3) Snowshoe hare (1)
Retain snags and den trees	1	Nongame wildlife
Strip clearcuts	1	Beaver
Softwood release	2	Deer (1) Snowshoe hare (1)
Thinnings	4	Deer (4) Ruffed grouse (4) Snowshoe hare (1)
Timber harvests	11	Deer (8) Ruffed grouse (3) Snowshoe hare (1) Upland wildlife (1)
Water Management		
Nest box maintenance and replacement	8	Waterfowl
Maintain and replace water-control structures	2	Waterfowl
Manipulate water level	1	Waterfowl

Discussion

With ever increasing developmental pressures on private lands drastically altering the New England countryside, public ownership is one means of retaining some of the environmental attributes that have been at the center of this region's appeal. WMA are one form of public ownership designed to maintain and enhance wildlife populations through habitat management. While habitat enhancement is practiced on other public land ownerships, the widely scattered, usually smaller WMA are especially important because of their geographic distribution.

Habitat management on WMA provides benefits beyond the reaches of their boundaries. Increased wildlife populations resulting from enhancement activities on WMA can also increase wildlife populations on adjacent lands. For

example, improving winter habitat for deer can benefit deer populations over a much wider area than the winter deer yards where they concentrate seasonally. And, adjacent lands may benefit from the overlap of ranges of many wildlife species where population increases are attributable to habitat enhancement. It is obvious that enhancing nesting and rearing habitat for migratory birds at one location can benefit these species at distant locations.

WMA also provide a variety of recreational opportunities including hunting and wildlife observation in areas where wildlands are disappearing or becoming inaccessible to the general public. Demonstrations of habitat improvement activities on WMA are an excellent means of educating landowners, land-use consultants, and managers of other public lands.

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