



PHRAGMITES CONTROL – 2003 LEGISLATIVE REPORT

SUMMARY:

The Maryland Department of Natural Resources (DNR), U.S. Fish and Wildlife Service (USFWS), and Maryland Department of Agriculture (MDA) combined to treat Phragmites on 651 acres of public lands and 1,059 acres on private lands in 2003.

DNR PUBLIC LAND ACTIVITIES

In 2003, the DNR applied the herbicide AQUANEAT by helicopter to 651 acres of Phragmites on publicly-owned properties on the lower Eastern Shore and the Patuxent River (Table 1). Previous aerial reconnaissance by the DNR had targeted 200-acre stands of Phragmites on the Patuxent River and several hundred acres on Deal Island Wildlife Management Area (WMA) in Somerset County for control in the fall of 2003. The

USFWS funded control on 75 acres of the Patuxent River's approximately 200 acres of Phragmites.

Costs of herbicide, surfactant, drift control and helicopter application totaled \$36,720.19, or an average cost of \$56.41 per acre in 2003, as compared to \$84.00 per acre in 2001. The cost of herbicide was substantially reduced by a new aquatic herbicide (AQUANEAT). Funding was provided by the Maryland Migratory Game Bird Stamp Fund.

TABLE 1

AERIAL APPLICATIONS/PUBLIC LANDS	ACRES
MARYLAND MARINE PROPERTIES WMA/ SOMERSET COUNTY	100
DEAL ISL./MONIE BAY WMA/ SOMERSET COUNTY	225
MERKLE NRMA/ CALVERT COUNTY*	250
WYE ISLAND NRMA/QUEEN ANNE'S COUNTY	10
ELLIS BAY WMA/WICOMICO COUNTY	6
WILDFOWL TRUST/QUEEN ANNE'S COUNTY*	40
AUDUBON PROPERTY/SOMERSET COUNTY*	20
TOTAL ACRES TREATED	651
*DENOTES AERIAL APPLICATION FUNDED BY U.S.F&WS	

ASSOCIATED DNR COSTS:

HELICOPTER APPLICATOR	\$20,640.00
* U.S. F&W.S.	(\$6,660.00)
AQUANEAT (HERBICIDE)	\$8,749.44
DIRECT(DRIFT CONTROL)	\$168.00
SPEADER ADJUVANT	\$502.75
TOTAL COST	\$36,720.19

Approximate cost/acre===== \$56.41

DNR's PRIVATE LANDS PHRAGMITES CONTROL COST SHARE PROGRAM

In 2003, the DNR offered cost-share opportunities to private landowners in Caroline, Talbot, Dorchester, Worcester, Wicomico, Somerset Queen Anne, Kent and Cecil counties. This year's program was the most successful thus far at offering both financial and technical assistance to the public.

With support from the MDA, the USFWS and the Chesapeake Wildlife Heritage, approximately 1,059 acres of phragmites were treated on 459 sites belonging to private landowners in the DNR Cost-Share Program counties. An additional 400 acres were controlled as a result of technical services provided by the DNR.

In 2003, reduced chemical costs allowed expansion of the Cost-Share program to include landowners in all the Eastern Shore counties. In previous years, Somerset, Wicomico and Dorchester counties were targeted because of large stands of Phragmites in tidal wetlands that potentially threaten migratory waterfowl habitat. A news release went to the media in early July, 2003 describing the details of the Phragmites Control Cost Share Program and the counties where the program applied (Attachment B).

Prior to 2002, private land control was limited to landowners wishing to control Phragmites stands totaling 3 acres or more where helicopter-application was feasible. A lack of truck-mounted spray equipment precluded treatment of small stands or stands in wooded areas. In 2002, a partnership formed between DNR's Wildlife and Heritage Service, MDA's Weed Management Division and the Chesapeake Wildlife Heritage enabled control efforts to be offered to all landowners, large or small. The fall control of Phragmites worked well for MDA's Weed Management personnel, as dates for herbicide treatments of noxious weeds had passed. Weed Management personnel in all nine counties in the Phragmites Control Cost-Share Program offered their time and expertise @ \$75.00/hr. and herbicide (Aquaneat) was provided by the DNR, as the State cost-share towards the control efforts.

Over 400 landowners and individuals requesting information about Phragmites control contacted DNR between January and November 2003. In addition, 459 individuals participated in helicopter and truck control efforts on 1,059 acres at a cost to the Department of \$18,899.44, or an average cost of \$17.85/acre (Tables 2&3). Comparatively, landowners were rewarded with substantial savings in the Cost-Share Program, with savings of approximately \$60.00/acre for helicopter applications and approximately \$200.00/acre for truck applications.

**TABLE 2
PRIVATE LANDS PHRAGMITES COST SHARE PROGRAM**

AERIAL APPLICATIONS/PRIVATE	ACRES
10 LANDOWNERS/ QUEEN ANNES COUNTY	109
2 LANDOWNERS/ WICOMICO COUNTY	14
3 LANDOWNERS/TALBOT COUNTY	20
2 LANDOWNER/CAROLINE COUNTY	18
17 LANDOWNERS/DORCHESTER COUNTY	340
12 LANDOWNERS/ KENT COUNTY	76
6 LANDOWNERS/ SOMERSET COUNTY	85
4 LANDOWNERS/WORCESTER COUNTY	80
TOTAL LANDOWNERS:	TOTAL
56 LANDOWNERS	ACRES
	742

ASSOCIATED COSTS:

LANDOWNERS---	\$51, 890.00	LANDOWNER AVG.COST/ACRE--\$69.93
DNR COST SHARE		
Aquaneat(herbicide)--	\$9,972.00	
DIRECT(Drift Control)	\$100.00	
Surfactant	\$300.00	DNR AVG. COST/ACRE--\$13.98
DNR---	\$10,372.00	

MARYLAND DEPARTMENT OF NATURAL RESOURCE'S
AND MARYLAND DEPARTMENT OF AGRICULTURE'S
COOPERATIVE PHRAGMITES CONTROL PROGRAM

TABLE 3

TRUCK SPRAYING/ PRIVATE LANDS	ACRES
WORCESTER - 23 LANDOWNERS	25
CAROLINE- 13 LANDOWNERS	8.5
DORCHESTER- 44 LANDOWNERS	27
TALBOT- 22 LANDOWNERS	14.25
WICOMICO- 6 LANDOWNERS	5
SOMERSET- 6 LANDOWNERS	15
QUEEN ANNE- 48 LANDOWNERS	65
KENT- 8 LANDOWNERS	10.25
CECIL- 2 LANDOWNERS	2
TOTAL - 172 LANDOWNERS	172 ACRES

D.N.R. AVG COST/ACRE---\$33.63 (DNR TOTAL COST-\$5,784.36)

LANDOWNER AVG. COST/ACRE--\$125.40 (MDA CHARGES)

In addition, 24 landowners had Phragmites controlled on their properties by MDA's Weed Control Division in Anne Arundel, Baltimore, and Charles counties.

DNR AND OTHER NON-PROFIT AGENCIES

The Maryland DNR supplied cost-share in the form of aquatic herbicides to Chesapeake Wildlife Heritage's (CWH) Phragmites Control Program. The Department donated 35 gallons of Rodeo herbicide to reduce landowner costs associated with the control of Phragmites.

The CWH treated 68 acres of Phragmites on 202 sites in Talbot, Dorchester, Caroline, Kent and Queen Anne counties. The total cost to the DNR was \$2,400.64.

DNR TECHNICAL ASSISTANCE

Although the DNR administered the Phragmites Control Cost-Share Program in all Eastern Shore counties, there were many requests for assistance from other counties. Approximately 50 requests for assistance in the control of Phragmites were received from Baltimore, Harford, Anne Arundel, Prince George and Calvert counties. The DNR served as a clearinghouse for landowners requesting assistance. Advice for permitting procedures, helicopter applicators, professional applicators and MDA's Weed Control personnel could often help landowners, regardless of State Cost-Share assistance.

GOALS For 2004

The DNR's Wildlife and Heritage Service plans to remain committed to those individuals desiring to control Phragmites. However, increased participation by landowners with large acreages of Phragmites has severely strained our ability to treat Phragmites by air. It may be necessary to focus helicopter control in fewer counties in a given year.

ATTACHMENT A

Background Information

Biology of Phragmites

Phragmites, or common reed, is a large perennial rhizomatous grass. It typically grows in marshes and swamps, along streams, lakes, ponds, ditches, and wet wastelands. Although there is some scientific evidence that *Phragmites australis* is endemic to the Northeastern United States, there is also evidence that exotic and invasive genotypes have been introduced to this area as well. It is very difficult to eradicate because it spreads through stoloniferous rhizomes that may reach 10 m or more in length. Rhizomes can reach down almost 2 meters below ground, their roots penetrating even deeper, allowing the plant to reach low-lying ground water (Haslam 1970). Killing frosts may knock the plants back temporarily but can ultimately increase stand densities by stimulating bud development. In smaller stands, shoots that fall over can produce roots and rhizomes that spread far from the original plant. It can colonize in almost any wet soil type, but grows best in firm mineral clays. It can tolerate moderate salinity and thrives where water level fluctuates from 15 cm below soil surface to 15 cm above. Phragmites seeds are shed from November through January.

Phragmites can survive, and in fact thrive, in stagnant waters where the sediments are poorly aerated at best. Air spaces in the above-ground stems and in the rhizomes themselves assure the underground parts of the plant have a relatively fresh supply of air. This characteristic and the species' salinity tolerance allow it to grow where few others can survive. In addition the build up of litter from the aerial shoots within stands prevents or discourages other species from germinating and becoming established. The rhizomes and roots themselves form dense mats that further discourage competitors. These characteristics are what enable Phragmites to spread, push other species out and form monotypic stands.

Phragmites has little habitat value for wildlife. Occasionally, songbirds will roost in Phragmites colonies and muskrats will feed on rhizomes, when more favorable plants are not available. The reduction of large colonies will increase plant diversity and encourage use by many species of wildlife. However, its tendency to form dense monotypic stands has a negative effect on healthy diversity of wetland areas and is included on The Nature Conservancy's "hit list" of exotic invasive species.

However, The Nature Conservancy also acknowledges that not all Phragmites stands are invasive or pose a threat to the diversity of native habitats and rare species. Young stands of Phragmites may or may not become problematic to the surrounding wetlands. Where Phragmites appears to be spreading and out-competing native wetlands plants, altering and destroying habitat for native species, it should be controlled. While eradication of Phragmites is often expressed as an ultimate goal, it should be noted that it has, in one form or another, been here for thousands of years and may occupy an important niche in our native wetland habitats. The plants ability to colonize and spread in disturbed soils

makes it very difficult to eradicate. Prioritization of goals for Maryland's Phragmites control program can help target limited resources to areas in greatest danger of losing important plant diversity.

ATTACHMENT B

MARYLAND DEPARTMENT OF NATURAL RESOURCES OFFERS COST SHARE ASSISTANCE FOR PHRAGMITES CONTROL

In partnership with Maryland Department of Agriculture's Weed Management Division, the Department of Natural Resources' Wildlife and Heritage Division will offer both financial and technical assistance towards the control of Phragmites on private lands this fall. Requests for financial assistance in the control of Phragmites must be made by landowners to the Department of Natural Resources' Wildlife and Heritage Service by August 16, 2003.

Also known as "common reed", Phragmites is an invasive wetland plant species that spreads rapidly by rhizomes and seed in both tidal and non-tidal wetlands. Phragmites out-competes valuable wetland plants that provide both winter food and cover for a variety of wetland dependent wildlife species. While scientific debate continues over the native origin of this plant, it is generally considered to be exotic to the Chesapeake Bay.

The 2003 Phragmites Control Cost Share Program will be offered to landowners in Dorchester, Worcester, Caroline, Somerset, Wicomico, Talbot, Kent, Queen Anne and Cecil counties. Priority will be given to individuals who own properties containing stands of Phragmites that significantly threaten the preservation of valuable wildlife habitats.

Interested landowners should contact Donald Webster (Waterfowl Habitat Manager) at (410) 827-8612 to determine eligibility for the Program. Applicants interested in spraying in wetlands to control Phragmites are responsible for obtaining necessary permits before spraying activities begin. Applications are available upon request.