PHRAGMITES CONTROL – 2004
LEGISLATIVE REPORT

SUMMARY:

The Maryland Department of Natural Resources (DNR), U.S. Fish and Wildlife Service (USFWS), Natural Resource Conservation Service (NRCS) and Maryland Department of Agriculture (MDA) combined to treat Phragmites on 500 acres of public lands and 1,209 acres on private lands in 2004.

DNR PUBLIC LAND ACTIVITIES

In 2004, the DNR applied the herbicide AquaStar by helicopter to 500 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 Fishing Bay WMA (Dorchester), Fairmount WMA and Handy WMA in Somerset County for control in the fall of 2004.

Costs of herbicide, surfactant, and helicopter application totaled $29,160.00, or an average cost of $58.32 per acre in 2004, compared to $84.00 per acre in 2001. The cost of herbicide was substantially reduced by new aquatic herbicides (AQUANEAT, GLYPRO and AQUASTAR) that became available after 2001. Funding

for Phragmites control on public lands was provided by the Maryland Migratory Game Bird Stamp Fund.

TABLE 1

AERIAL APPLICATIONS/PUBLIC LANDS	ACRES
MARYLAND MARINE PROPERTIES WMA/ SOMERSET COUNTY	146
MERKLE NRMA/ CALVERT COUNTY	180
FISHING BAY WMA/ DORCHESTER COUNTY	174
TOTAL ACRES TREATED	**500**

ASSOCIATED DNR COSTS:

HELICOPTER APPLICATOR	$24,000.00
AQUASTAR (HERBICIDE)	$5,160.00
TOTAL COST	$29,160.00

Approximate cost/acre==========$58.32

DNR's PRIVATE LANDS PHRAGMITES CONTROL COST SHARE PROGRAM

In 2004, 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, NRCS and the Chesapeake Wildlife Heritage, approximately 1,209 acres of phragmites were treated on 619 sites belonging to private landowners in the DNR Cost-Share Program counties. An additional 200 acres were controlled as a result of technical services provided by the DNR.

In 2004, the Natural Resource Conservation Service (NRCS) offered financial assistance for the first time in Maryland to private landowners wishing to control Phragmites. The Federal Wildlife Habitat Incentive Program (WHIP) offered interested landowners reimbursement for 75% of the costs incurred to control the invasive plant. The landowners were required to enter into a 3-year contract with the NRCS. As an added incentive, the MD DNR offered the herbicide for the control of Phragmites to the landowners under contract with the NRCS as part of DNR's ongoing Phragmites Control Cost Share Program.

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 (Aquastar) was provided by the DNR, as the State cost-share towards the control efforts.

A news release was sent to the media in early July, 2004 describing the details of the Phragmites Control Cost Share Program and the counties where the program applied (Attachment B). Over 600 landowners and individuals requesting information about Phragmites control contacted DNR between January and November 2004. In addition, 619 individuals participated in helicopter and truck control efforts on 1,209 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
9 LANDOWNERS/ QUEEN ANNES COUNTY	241
12 LANDOWNERS/TALBOT COUNTY	137
9 LANDOWNERS/DORCHESTER COUNTY	238
7 LANDOWNERS/ KENT COUNTY	94
2 LANDOWNERS/ SOMERSET COUNTY	25
1 LANDOWNER/ AA COUNTY	8
TOTAL LANDOWNERS: **40 LANDOWNERS**	**TOTAL ACRES 743**

ASSOCIATED COSTS:

LANDOWNERS--- $59, 440.00 LANDOWNER AVG.COST/ACRE--$80.00

DNR COST SHARE
AQUASTAR(herbicide)-- $7,667.76

Surfactant $300.00 DNR AVG. COST/ACRE--$10.72

DNR--- $7,967.76

MARYLAND DEPARTMENT OF NATURAL RESOURCE'S
MARYLAND DEPARTMENT OF AGRICULTURE & CHESAPEAKE WILDLIFE HERITAGE'S
COOPERATIVE PHRAGMITES CONTROL PROGRAM

TABLE 3

TRUCK SPRAYING/ PRIVATE LANDS	ACRES
WORCESTER - 65 LANDOWNERS	36
CAROLINE- 29 LANDOWNERS	34
DORCHESTER- 81 LANDOWNERS	112
TALBOT- 184 LANDOWNERS	98
WICOMICO- 4 LANDOWNERS	4
SOMERSET- 8 LANDOWNERS	5
QUEEN ANNE- 148 LANDOWNERS	110.5
KENT- 40 LANDOWNERS	39
CECIL- 2 LANDOWNERS	5
TOTAL - ***561 LANDOWNERS***	***443 ACRES***

D.N.R. AVG COST/ACRE---$33.12 (DNR TOTAL COST-$14,670.36)

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

In addition, 29 landowners had Phragmites controlled on their properties by MDA's Weed Control Division in Anne Arundel, Charles, Frederick, Harford, and Calvert counties totaling 19 acres.

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 35 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 2005

The DNR's Wildlife and Heritage Service plans to remain committed to those individuals desiring to control Phragmites. However, the Department is encouraging interested landowners to apply for the Federal funded Natural Resource Conservation Service's Wildlife Habitat Incentive Program(WHIP) which offers the greatest cost-share opportunities to the private landowner.

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 product 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 August16, 2004.

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) 221-8838 ext.103 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.