

# RESTORING THE MARSH

## PHRAGMITES REMOVAL AND MONITORING

### PROJECT AREA



The marsh restoration project area includes Lake St. Clair Metropark, areas of Harrison Township and St. John's Marsh in Algonac.



Great Lakes marshes are valuable wetland habitats, full of nutrients that help support diverse plant and animal life. They also provide ecological services such as water filtration and flood protection along the coast. However, many marsh habitats are threatened by pollution, development and non-native aquatic invasive species, like Phragmites.

### RESTORING THE MARSHES

*Phragmites australis*, an invasive plant, quickly spreads through marsh and wetland areas, robbing the fish, plants and wildlife of nutrients and space; blocking access to the water; and spoiling shoreline views. Once it has become established, removal by hand is nearly impossible.

As Phragmites overtook the Lake St. Clair marshes, for example, removing the invader and restoring the natural balance of the marshes required strong measures. Natural resource managers devised a plan to eradicate and manage invasive Phragmites that included herbicide applications and controlled burns.

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### WHAT WAS DONE?

- The Michigan Department of Natural Resources approved a control plan and the Michigan Department of Environmental Quality approved the required permits.
- Trained professionals followed the plan.
- First, an herbicide was applied by helicopter and on the ground.
- Then, controlled burns were used to remove dead Phragmites. Burning the stalks allowed sunlight to penetrate the ground and native plant seeds to germinate.

- Managers will continue to monitor the project area and will encourage the re-establishment of native species in the marshes.

### TECHNOLOGY

Natural resource managers used Geographical Information System (GIS) technology to determine how and where to reduce and remove Phragmites to allow native plants to regenerate.



#### YEAR 1 FALL

Herbicide, a chemical used to kill plants, was applied by helicopters and on the ground with sprayers. Trained professionals used Glyphosate, an EPA-approved aquatic herbicide to spray the plants. People were not allowed into the treatment area.



#### YEAR 2 SPRING

Controlled burns (in combination with the herbicide) were used to remove dead Phragmites, allowing sunlight to penetrate the ground.



#### YEAR 2 FALL

Herbicide application on the ground continued. The only herbicides that are effective in controlling Phragmites are broad spectrum, meaning they affect other plant species. However, native plants recover within a few years after initial herbicide treatment.



#### ONGOING

Managers will continue to study the project area while maintaining and protecting the recovering wetlands. There are many tools they use, including:

- Flooding, changing water levels, diking;
- Removing plants by mowing, dredging or burning;
- Applying herbicides or other chemicals to help prevent the growth and spread of invasive species; and
- Adding nest structures, plants and other habitat improvements to make it hospitable for native species to return.

# PHRAGMITES AUSTRALIS, COMMON REED

While invasive Phragmites may look like a pretty wetland grass, in the Great Lakes region it is one tough invasive species. Also known as common reed, Phragmites is an aggressive plant that quickly outcompetes native plants and displaces animals.

## PHRAGMITES FACTS

- Average height of the plant is 8-10 feet tall, but it can reach up to 18-20 feet.
- It can spread aboveground, underground and in the water, and stems create dense stands.
- Despite its height, most of the plant (nearly 80%) is found below the ground.
- Roots spread horizontally and vertically and can extend 6-8 feet deep, making removal by hand nearly impossible.
- Each stalk produces up to 2,000 seeds. The seeds are spread by the wind, transfer of soil, animals, etc.
- Seeds can float for one or two months, carried by water to new areas.
- The plants can also regenerate from relatively small pieces of rhizome or roots.

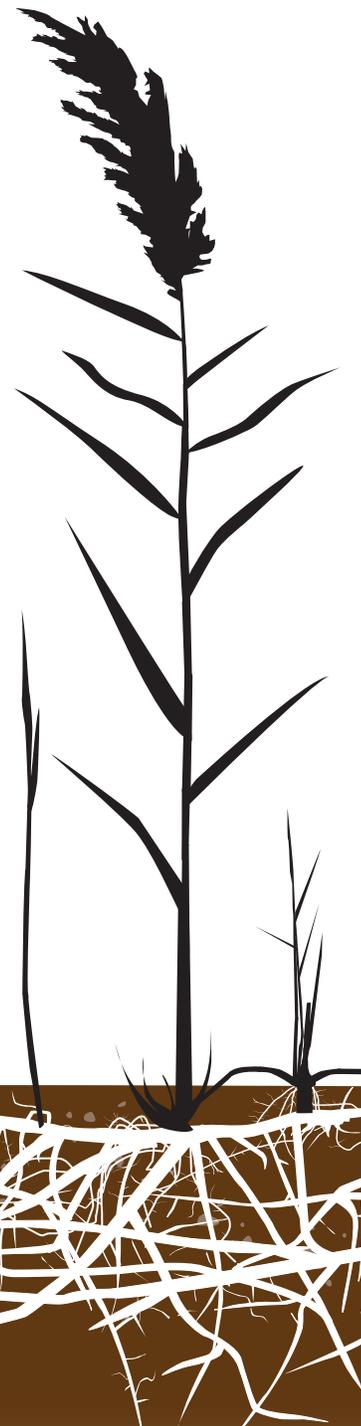
## COOPERATIVE PROJECT EFFORT

The Marsh Restoration Project at Lake St. Clair Metropark has been a cooperative effort of the Michigan Department of Natural Resources, the Huron-Clinton Metropolitan Authority, Michigan Sea Grant, Harrison Township, Michigan Chapter of Ducks Unlimited and the Southeast Michigan Council of Governments. Other collaborators include St. Clair Flats Waterfowlers, Inc. and the St. Clair County Parks and Recreation Commission.

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