

# NET ENVIRONMENTAL BENEFITS ANALYSIS HABITAT FACT SHEET: EMERGENT WETLAND HABITATS

## I. Habitat Description

The emergent wetland habitat is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. Emergent wetlands are also known as marshes, meadows, fens, prairie potholes or sloughs. Emergent wetlands in a riverine system have been classified as nonpersistent, which means that most of the emergent vegetation falls to the substrate or below the level of the water at the end of the growing season, often leaving no indication that there were once emergent plants there. In colder climates the movement of ice during the winter removes any trace of emergent vegetation.



## II. Sensitivity to Oil Spills

Emergent wetland habitats are highly sensitive to oil spills. This habitat provides a home to many plants and animals, making the biological diversity in these habitats very significant. Some of the many animals that inhabit the emergent wetlands are frogs, toads, fish, and a wide variety of invertebrates as well as a wide variety of migratory waterfowl. There are also a wide variety of plants. Some of the most commonly occurring plants are wild rice, arrowhead, arrow arum, pickerelweed and cattail.



Oil spills that occur in or near emergent wetlands are of particular concern because they are home to many endangered species of plants and animals. Many animal species use the wetlands for reproductive and early life purposes. These animals are most susceptible to the effects oil during these life stages. Significant loss of this habitat would greatly affect the populations of these animals and consequently, the local ecology.

## III. Sensitivity to Response Methods

### Methods Causing Least Adverse Habitat Impacts

#### *Debris Removal*

- Degree of oiling that warrants debris removal and disposal depends on human and sensitive resource use of the site

#### *Flooding*

- Most effective when the oil is fluid and adheres loosely to the sediments
- Use on heavy oils is likely to leave large amounts of residual oil in the environment

# NET ENVIRONMENTAL BENEFITS ANALYSIS HABITAT FACT SHEET: EMERGENT WETLAND HABITATS

## *Natural Recovery*

- Least impact for small spills, lighter oil types, and remote areas

## *Sorbents*

- Excessive pressure can cause erosion
- Use on heavy oils is likely to leave large amounts of residual oil in the environment
- Use on gasoline spills may transport the oil to more sensitive habitats

## Methods Causing Some Adverse Habitat Impact

### *Vacuum*

- Early use of vacuum on pooled, liquid oil can prevent deeper penetration

### *Manual Oil Removal/Cleaning*

- Minimizes sediment removal and problems of erosion and waste disposal
- Preferable when oil is mostly on the surface, not deeply penetrated or buried

### *Sediment Reworking*

- Use to break up heavy surface oil or expose persistent subsurface oil deposits, particularly where sediment removal will cause erosion
- Use where there is sufficient exposure to waves to rework the sediments into their original profile and distribution

### *Mechanical Oil Removal*

- Tends to remove large amounts of sediment with the oil
- Applicable for heavier oil types, which are difficult to remove otherwise

### *Shoreline Cleaning Agents*

- May be only technique to remove viscous oils without removing sediment
- Individual products vary in their toxicity and ability to recover the treated oil

### *In-Situ Burning*

- Can effectively remove pooled surface oil accumulations
- Concerns about air pollution, physical nature of the residue, and thermal impact on biota
- May have to dig trenches to accumulate oil in pools
- Lighter oils will not remain on the sediment surface

## Methods Causing Probable Adverse Habitat Impact

### *High-Pressure, Cold-Water Flushing*

- High-pressure water jets will flush oiled sediments in to near shore habitats
- Excessive pressures can cause erosion if large amounts of sand are present

### *Low-Pressure, Hot-Water Flushing*

- Any organisms present will be affected by hot water

# NET ENVIRONMENTAL BENEFITS ANALYSIS HABITAT FACT SHEET: EMERGENT WETLAND HABITATS

## Methods Causing Most Adverse Habitat Impact

### *High-Pressure, Hot-Water Flushing*

- Will flush oiled sand into near shore zone and affect any organisms present

#### **Sources:**

[http://www.great-lakes.net/partners/epa/acp-rcp/app\\_VI.html#3.0](http://www.great-lakes.net/partners/epa/acp-rcp/app_VI.html#3.0)

<http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.htm>

[http://response.restoration.noaa.gov/book\\_shelf/911\\_coastal.pdf](http://response.restoration.noaa.gov/book_shelf/911_coastal.pdf)