

OIL SPILL CLEANUP PROCEDURES

1. Seagrass Beds

Description

Seagrass beds in the Corpus Christi area are generally associated with estuarine environments, which are partially enclosed coastal bodies of water. They are influenced by freshwater runoff from the adjacent land. Shallow, gentle sloping water bay margins are the predominant habitat areas for seagrass vegetation. Seagrass areas are an important aspect of the ecosystem in the Corpus Christi area. The seagrass meadows serve as nursery areas for many kinds of organisms including: fish and mollusks. Seagrass vegetation is an essential food item for many of the threatened and endangered sea turtle species and is also utilized as an important foraging area for shorebirds and other wildlife species.

Seagrass vegetation is generally not found in the intertidal zone; however, extremely low tides occasionally expose these areas for certain time periods. A low tide, in conjunction with an oil spill, would be extremely detrimental to seagrasses inhabiting these particular areas.

Seagrass beds are often adjacent, or in close proximity, to the intracoastal waterway or channels, thereby increasing the possibility for contamination in the event of an oil spill.

Historically, seagrass vegetation has generally experienced minor damage from oil spill occurrences (Zieman et al. 1984). The relative susceptibility of seagrasses to oil spill impacts is a result of a variety of factors including:

- ◆ Subtidal location which protects them from direct contact with oil.
- ◆ Seagrasses have a large percentage of their biomass occurring as roots and rhizomes, which are buried in the sediment.

The major impacts to seagrass communities from oil spills has been associated with faunal communities.

Protection and Cleanup Measures

The use of booms and skimmers is the preferable cleanup method. Following the use of booms and skimmers natural cleansing should be allowed to take place. Other cleanup measures would not be effective or would cause long term damage to the seagrass vegetation. Methods that should be **avoided** include:

- ◆ High and low pressure flushing - This would cause sedimentation of the seagrass areas result in their demise.
- ◆ Manual Removal - This would cause oil and petroleum products to be introduced into the soft sediments, resulting in long term damage to the root systems of the impacted seagrass.

◆ Dispersants - Use of these chemicals would result in irreparable damage to seagrass beds.

2. Mangroves

Description

Mangrove trees are halophytic (salt tolerant), and occur along sheltered bays and embankments. They provide protection from tidal forces to inland communities and serve as a nursery area for a variety of juvenile fish. They are highly productive habitat areas, due to their ability to recycle detritus and organic materials into the surrounding coastal waters.

The root structures of mangrove trees vary among species. Red mangrove trees have exposed prop roots that tend to be 1-2 feet in length. Black mangroves possess a root system known as pneumatophores. These roots protrude from the soil surrounding the base of the tree. White mangroves have a root structure similar to commonly found terrestrial trees.

Protection and Cleanup Measures

The use of booms and skimmers is the preferable cleanup method.

Should oil contact the root structures of the mangrove trees, low pressure flushing and sorbent material would be a viable method of removing the oil from the affected roots. Natural cleansing would then be acceptable for removing the remainder of the oil.

Due to the root structures of many mangrove species, it is a difficult area to access for cleanup crews and equipment. Additionally, a great deal of damage can occur to the root structures of mangroves in attempting to gain access for cleanup of the oiled area.

Other cleanup methods would not be viable in this sensitive habitat area.