

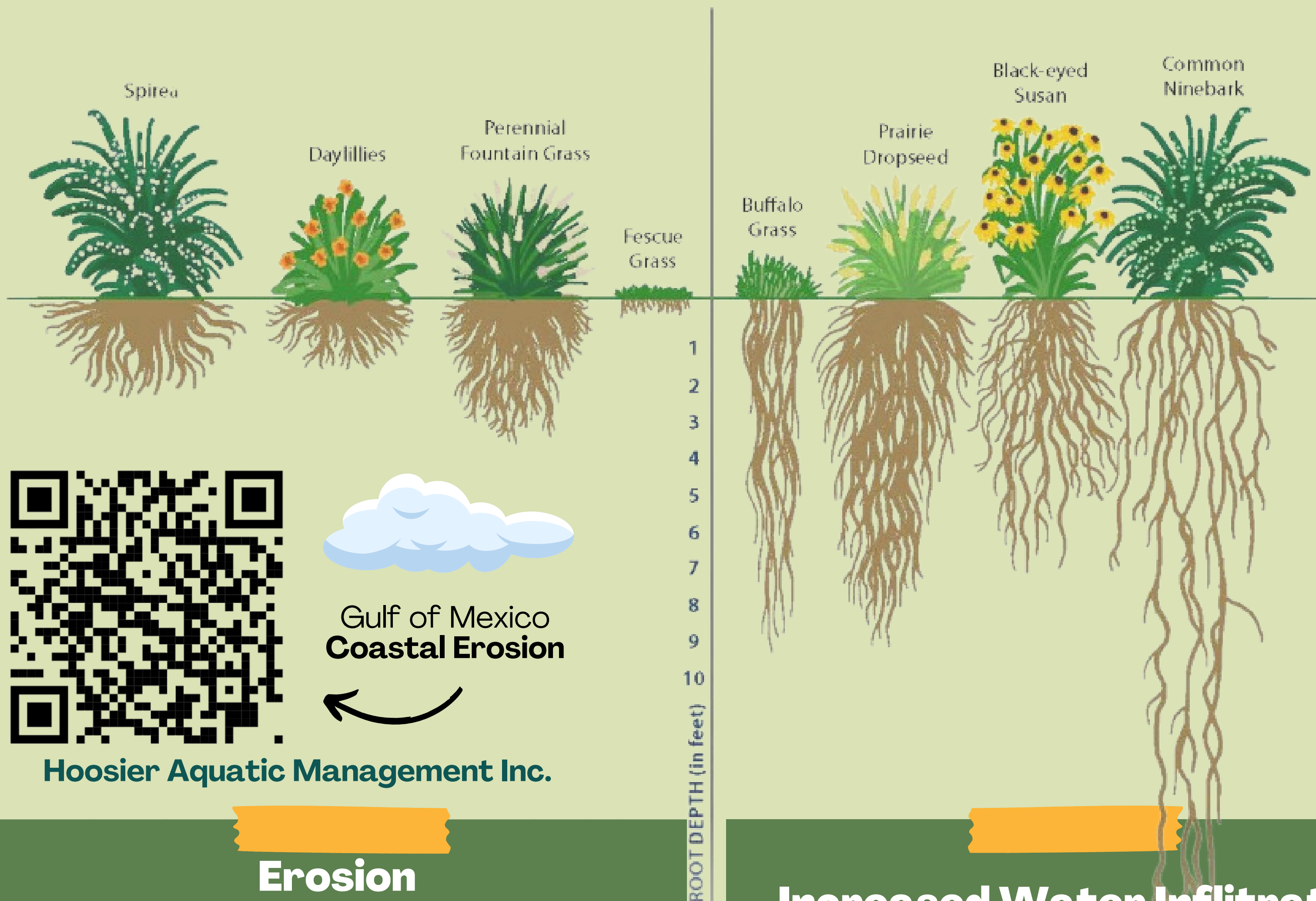


# How Native Plants Restore the Shoreline



## NON-NATIVE PLANTS

## NATIVE PLANTS



Gulf of Mexico  
Coastal Erosion



Hoosier Aquatic Management Inc.

### Erosion

- Natural process of land towards the shoreline being worn away.
- Caused by wind, stormwater run off, waves, human activity, or other reasons
- Leads to loss of land, soil, and sediment impacting humans and animals negatively.
- Plants can slow down this process by **rooting themselves deeply in the soil** creating a strong barrier against erosion.

### Increased Water Infiltration

- Process of water from the surface of the ground entering into the soil
- As the water moves deeper into the soil, sediments such as clay filter the water until it reaches the next part of the water cycle.
- This is very important for fresh/drinkable water.

### Shoreline Resoration

- Plants bury their roots into the soil and bind together.
- This creates a barrier that slows down erosion from breaking down the shoreline.
- Native plant roots provide stabilization of the bank because their root systems can go down up to 30 ft below the ground.
- In comparison, grass root systems only extend a few inches.

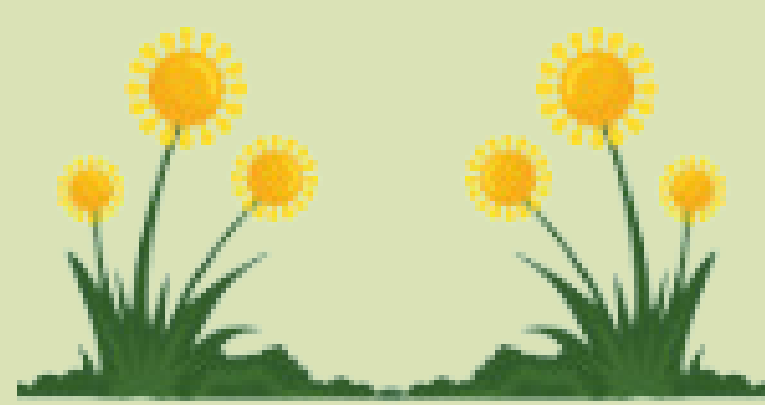
### Nutrient Uptake

- Native plants primarily absorb the elements nitrogen and phosphorous.
- These elements are essential for plant growth and root development and directly contribute to the growth of algae.
- Strong plants can slow down erosion by rooting themselves deeply in the soil creating a strong barrier against it.



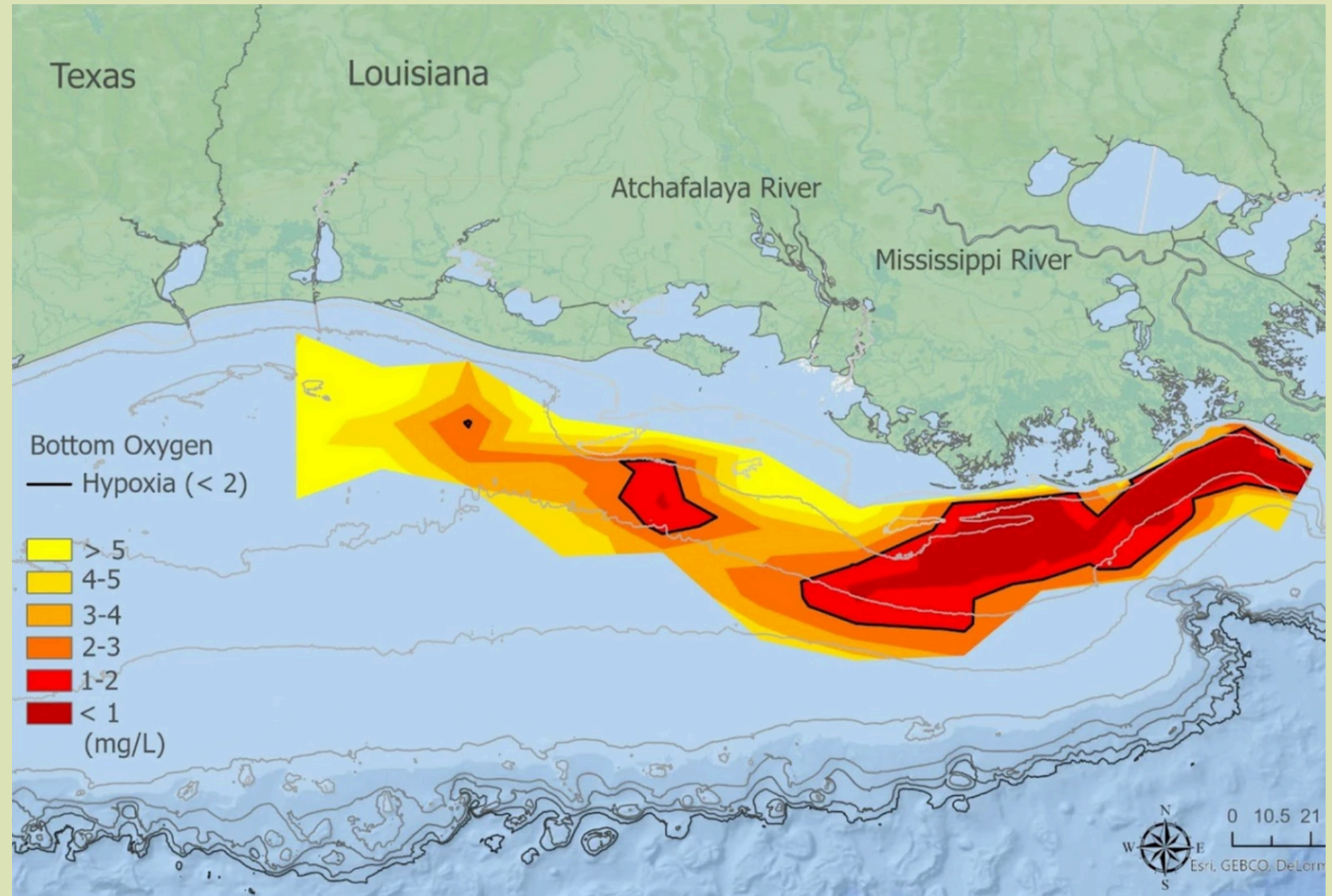


# Plant Nutrient Uptake



## *What is the Dead Zone?*

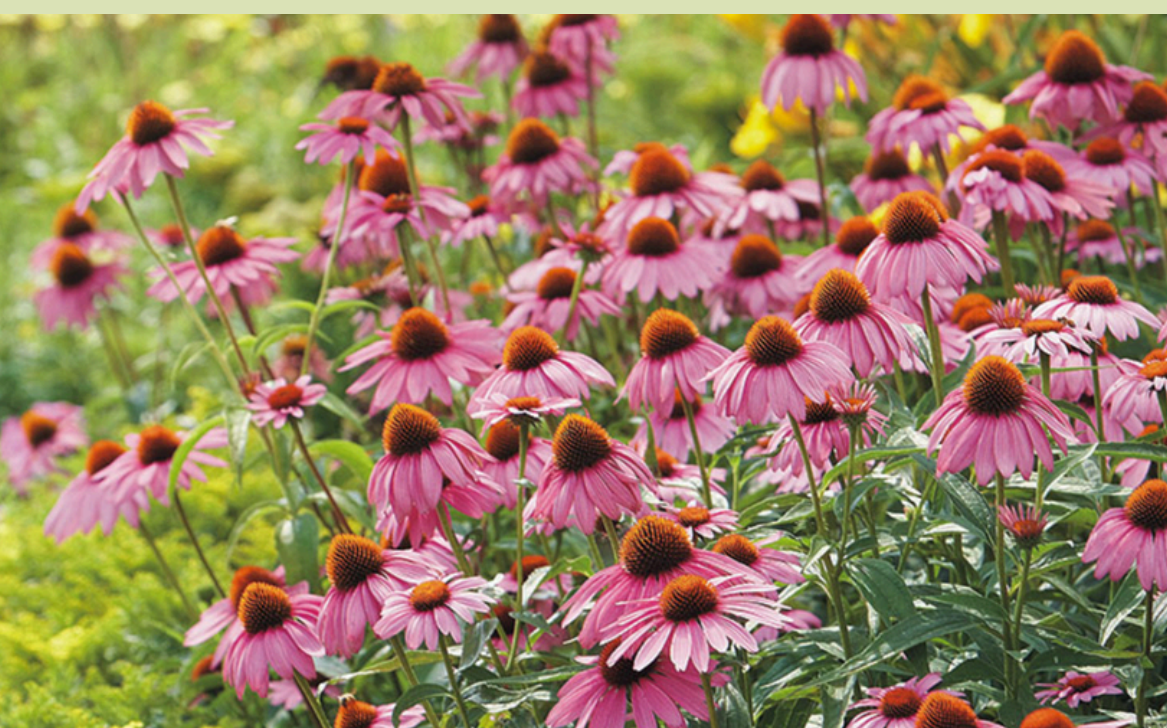
The Dead Zone is a region of water located by the Mississippi River and the Gulf of Mexico. It is about 6,700 square miles as of 2024. The Dead Zone has dangerously low levels of oxygen causing a majority of the marine life to die off. Storm water run-off and melting snow take nutrient dense soils, mostly nitrogen and phosphorus, from areas such as farms and into the Gulf of Mexico. This causes algae to bloom rapidly. As the Algae starts to decompose the bacterial processes soak up oxygen in the water, leaving none for the aquatic life. This is the cause of the Dead Zone.



## *How Do Native Plants on the White River Contribute to Cleaning the Gulf of Mexico?*



BLACK EYE-D SUSAN



PURPLE CONE FLOWER



PENSTEMON

### **Reduce Excess Nutrients**

Native plants can filter out harmful chemicals such as nitrogen and phosphorous that feed the algae. We see the harmful affects of increased algae blooms especially in the Dead Zone.

### **Stabilize Shorelines**

Native plants can stabilize shorelines and keep the soil in place preventing erosion. The plant roots extend up to 30 ft. below the ground and stabilize the soil that surrounds the roots.

### **Filter Pollutants**

The plants have complex roots that grow deep into the soil and filter out pollutants from the water. This protects not only marine animals, but wild life and humans also.

### **Remove Harmful Chemicals**

Native plants can remove heavy metals such as lead, mercury, and arsenic from the water. These chemicals if left in the ocean can disrupt vital functions for marine life such as their growth and reproductivity.

### **Provide Habitats**

Marine animals and wildlife are able to call native plants home. The frequency of animals going extinct each year is increasing. Building new homes is a way we can prevent their endangerment.

**Hoosier Aquatic Management Inc.**