Let's Keep Clear Lake Clear

Lake Association News

A newsletter for the Association for the Preservation of Clear Lake

FALL 2005

FEATURE PROJECTS

CITY BEACH STORM WATER IMPROVEMENTS

- **Project completed in October, 2005**
- **2 storm water grit collection chambers installed (picture below)**
- **2 storm water infiltration trenches installed**
- **1 rain water garden installed**
- **Over 18 acres of urban runoff treated**
- **Project funded by the City of Clear Lake and the Hanson Foundation**

WETLAND RESTORATIONS

- **Project currently under construction**
- **100 acres of row crop converted to native vegetation and wetland**
- **Project located in western portion of Clear Lake watershed**
- **Project funded by USDA Farmable Wetlands Program**

Zebra Mussels Collected at Clear Lake

The first collection of a zebra mussel in an inland Iowa lake occurred this summer at Clear Lake. Two specimens were collected near the Bell Harbor area on the south shore of the lake. "This sighting of zebra mussels is certainly cause for concern," said Kim Bogenschutz, the DNR's aquatic nuisance species program coordinator. "But it is too early to tell if there is a reproducing population in the lake or if this is an isolated incidence of a couple individuals that were released into the lake." Although the public has been asked to be on the lookout for more zebra mussels in the lake, by the end of October, none have yet been found.

It is difficult to speculate what the implications would be for Clear Lake if a large population of zebra mussels became established. However, one can use examples from other inland lakes in the Midwest where zebra mussels now inhabit. If populations become large enough, the mussels can disrupt the ecosystem of a lake because they feed exclusively on plankton, the base of the aquatic food chain. Each zebra mussel can filter one liter of water every day. This large filtering capacity can often lead to a major reduction in both phytoplankton (algae) and zooplankton, which young fish feed on. Water clarity often increases as a result of less phytoplankton in the water. This can lead to a change in the fish population structure and an increase in aquatic vegetation and filamentous (plant-like) algae.

Zebra Mussel - Michigan State University. Actual size is about 1" long

Scientists are also seeing a link between zebra mussels and an increase in microcystis, a type of blue-green algae that can produce toxins that are harmful to animals and humans. Zebra mussels may increase the amount of this harmful alga due to their rejection of microcystis as a food source while readily eating other algae that may compete with the microcystis. Because they will attach to any hard surface, zebra mussels also cause a variety of other problems such as clogging water intakes and killing native mussels.

At this point, there does not appear to be a significant population of the mussels in Clear Lake, so the immediate impact on the lake appears to be minimal. However, it is important to keep an eye out for the mussels and report them if found. The DNR requests that if you find a zebra mussel, note its location and contact Fisheries Biologist Jim Wahl at 641-357-3517.

More Storm Water Improvements On the Way

The Iowa DNR, Cerro Gordo County, and the City of Clear Lake are each finalizing design plans on storm water improvements for their respective jurisdictions. A total of five projects are slated to be constructed this fall and next spring. The projects are a result of an investigation of six potential improvement sites conducted by Bonestroo Rosene Anderlik & Associates this past spring. The projects include a variety of best management practices (BMPs) such as grit chambers, infiltration trenches, detention ponds, and rain gardens. The projects are expected to have a total cost of more than $350,000. Grant funds from the EPA, Hanson Foundation, and State of Iowa will assist with roughly 2/3 of the project costs.

The locations of the outlets where the improvements will be completed are: All Vets Golf Course, Bayside Ave, Black Locust (Ventura Heights), Ventura Grade, and the Ventura Marsh parking area. These projects are expected to keep 25 to 30 pounds of phosphorus from entering the lake on an annual basis. Each pound of phosphorus can lead to 500 pounds of algae in the lake.

FEATURE PROJECTS

7TH AVE SOUTH POROUS PAVEMENT PROJECT

- **Project currently under construction**
- **1,500 square feet of Unilock EcoStone paver block (example below)**
- **Rock infiltration trench installed under paver blocks**
- **200 square foot rain garden constructed at end of the approach**
- **Project funded by the City of Clear Lake and an EPA grant**

Ventura Marsh Project Moving Forward

A key aspect of improving the water quality of Clear Lake is making Ventura Marsh function as a contaminant-filtering wetland again. One of the more surprising finds in the Iowa State University study was that the marsh was actually contributing 9% of Clear Lake's annual phosphorus loading. Upon learning this information in 2001, state and federal officials began determining a plan and financing strategy for installing the Ventura Marsh improvements recommended by ISU.

Congressman Latham was instrumental in getting the U.S. Army Corps of Engineers involved in the restoration efforts. In 2004, it was determined that the land value of State owned property in the project area will cover the 35% local matching funds requirement. Therefore, the partnership with the Corps will allow the project to be completed with very little or no local cash requirements. The total cost of the project is estimated to be around $2 million, including over $1 million in state land value credits.

This fall the project took another step forward with three investigations being completed on the marsh. Geotechnical (soil boring), archeological, and surveying information is all being collected this fall. These projects are being funded by a grant from EPA and the Association is the contracting officer for this work. The Corps is providing the technical assistance. Partnering to perform the needed investigations in this fashion has helped to speed the project.

A change in the restoration recommendations has also helped quicken the restoration process. In 2004, it was determined that installing the proposed dike in the west end of the marsh will not be included in the first phase of the restoration plans. State and federal officials did not feel the dike was necessary to accomplish the goals of reducing carp populations and increasing vegetation in the marsh. Those primary restoration goals should be accomplished by a new pumping station and fish barrier structure. If restoration goals are not met, the dike can be installed as a separate project at a later time. By not including the dike, about two years of Corps investigations were avoided and about $1 million was trimmed from the project cost.

Construction of the project could begin as early as 2007. In 2006, the Corps plans to formulate an array of possible solutions, conduct a habitat evaluation to determine the benefits of the project alternatives, complete preliminary cost estimates, and select a recommended plan. These activities will be done in collaboration with state staff. The first major activity will come shortly after the marsh freezes. In December, the team plans to conduct a detailed site visit to evaluate the existing conditions of the marsh. This information will be used to determine the proposed project benefits.

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