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DLWID SOS – aquatic plant plan – Jack Strayer – August 2016

Devils Lake Aquatic Plant Plan

Objective: To establish aquatic plants in Devils Lake to about a 20% level which would revive the heart beat of the lake that would soak up nutrients, add oxygen, increase phytoplankton, zooplankton, insect larva and small crustaceans, increase the forage, cover, food and habitat for fish, birds, and wildlife and reduce the occurrence and severity of harmful algal bloom, and reduce the need for mitigating measures like the installation of aerators.

Plan: The plan includes: Defining the lakeshore ownership and potential for planting aquatic plants. Also research is needed, to find the best native plants, how to procure them, and finally how to plant them. Part of this is the logistics of acquiring the parts and pieces to facilitate the planting. An aggressive marketing approach is needed to get the public and private lakefront owners activated, energizing volunteer groups, and engaging businesses. The District should research grant opportunities and certify contractors. Finally the plan to plant aquatic plants would be complemented by monitoring the lake plants, computing the percentage of plant coverage and the identifying and controlling of invasive or troublesome species.

Defining the Planting Basics

Research county records to determine who owns what part of the lakeshore.

Research and visually inspect [with the aid of an Aquatic Botanist] the potential for planting aquatic plants at different locations by water depth, soils and other factors around the lake.

Develop a planting guide for Devils Lake to include terrestrial [willows], emergent [cat tails, small rushes and lilies] and water plants [bull rush, water shield, lilies], the benefits for each and what impact it will have on the water front. Also review the lake bed soil, wave and other conditions that determine plant needs.

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Develop a planting handbook for the various aquatic plants to include the best planting practices and techniques, the materials and supplies needed and how they all fit together and other useful information. [see the sample outline for an “Aquatic Plant Guide and Planting Instructions” at the end of this document].

Develop a plan to comply with the regulatory agencies requirements that allow planting aquatic plants in the lake. Preliminary indications are that the owners are allowed to plant in their waterfront if they do not modify [remove or fill] the lake bed. Other owner who desire alteration of the lake bed will need guidance, and assistance from the DLWID Board to negotiate the governmental hurdles to complete their planting projects. It has been suggested that the DLWID help work with the approving agencies to get approval for lake aquatic planting projects.

Develop a Plan for each Lakeshore Owner Class

Each land owner class has different concerns and motivations, they need to be separated and encouraged differently to revive the heart beat of the lake by planting native aquatic plants in their direct water front.

Private land owners:

Identify lakeshore owners, their property and its aquatic planting potential.

Private individual lakeshore land owners would need a planting guide, aquatic plant sources, materials sources, possible contractors where needed.

Government land owners:

Identify lakeshore owners to include, city, county, state, and their shorelines aquatic planting potential. Contacts should be made with key individual decision makers to deal with in design, and implementation of an aquatic planting.

Tribal land owners:

Identify the lakeshore owned by the tribe and its potential for planting. Contacts should be made with key individual decision makers to deal with in design, and implementation of an aquatic planting.

Business land owners:

Identify the business that own lakeshore or land around the lake and its potential

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for planting. Some of the businesses are the Blue Heron Landing, the KOA campground, Vivian's Restaurant and Bill's Barbecue, and others. Contacts should be made with key individual decision makers to deal with in design, and implementation of an aquatic planting.

Develop aquatic plant sources, and planting techniques for the lake

To make the aquatic planting program work, the District needs an aquatic Botanist on call to help develop a list of the right plants for the lake, their best sources [which may be in lake nurseries], soil monitoring, and planting techniques. The SOS committee members have years of experience and large measures of common sense, but lack the detailed aquatic plant training needed to recommend the best decisions for the lake. The Botanist could be connected to the University contract for lake research and services.

Develop a “Aquatic Plant Guide and Planting Instructions”

Lakeshore owners need an easy to read document that shows the aquatic plant benefits for their property, what plants may be used, where they can be acquired, and how they should be planted. A sample outline of such a document is at the end of the plan entitled, “Aquatic Plant Guide and Planting Instructions”. This document is critical to the SOS aquatic plant program. The pamphlet could possibly be contracted for, using a qualified Botanist connected to the University contract augmented by SOS committee members and volunteers.

Coordinate with government regulators

Many projects may meet the DSL criteria for exemption from the approval process by not altering the lake bottom in the planting process [no removal/fill]. But some individual, business and governmental lakeshore owners may need to get some level of regulatory approval.

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The DLWID can be a valuable assistant in streamlining the process, reducing hurdles and seeing more projects to completion. The lessons learned in negotiating the regulatory process by the DLWID Chair Norris's project, may lead to a District template for aquatic plant project approval. This template may help many projects around the lake.

Monitor Lake plant levels

The District must measure aquatic plant levels and progress toward achieving the 20% goal of aquatic vegetation. The monitoring would identify the potential outbreaks of unwanted or invasive aquatic plant species. A contract should be set up by the district with interested universities to do this monitoring annually. Suggestions would also be welcome from the contractor on the DLWID program to encourage native aquatic plants and methods to control unwanted plants.

DLWID Involvement

For each section of this plan, the DLWID Board must assess its expected participation, financing, and involvement. Some of the topics would include:

- define the SOS scope and plan,
- arrange for a consulting Aquatic Botanist to be on call as needed,
- developing an aquatic plant and planting guide,
- financing plants, materials and labor for projects,
- monitoring of aquatic plants in the lake,
- marketing the SOS Project as the Heart beat of the Lake to benefit fish, birds, and wildlife, water quality, and reduce HABS impacts. This would be especially important to enlist public support, business participation, and volunteers.
- research grant opportunities,
- certify qualified contractors.

DRAFT -- Aquatic Plant Guide and Planting Instructions.

Need for aquatic plants:

“The role of plants in aquatic systems is significant. Aquatic plants provide valuable fish and wildlife habitat, serve as a food source for waterfowl and other aquatic wildlife, improve water clarity and quality, reduce rates of shoreline erosion and sediment re-suspension, and help prevent the spread of nuisance exotic plants.”

Source: Propagation and Establishment of Native Aquatic Plants in Reservoirs, Mark A. Webb, Richard A. Ott, Jr., and C. Craig Bonds, R. Michael Smart, Gary O. Dick, and Lynde Dodd, U.S. Army Corps of Engineers, Lewisville Aquatic Ecosystem Research Facility
Texas Parks and Wildlife Department, Management Data Series, No. 273, 2012.

What aquatic plants look like, how do they grow, how do I select plants for my water front, how do I make an aquatic plant plan for my situation?

How do I assess my soil?

Where do I get the plants?

How do I plant the plants [and protect them from the grass carp]?

How do I get the materials needed for the plantings?

Who are the qualified contractors?

What assistance will the DLWID offer?

Expenses? Design? Plants? Materials? Other issues?

What is the Lake Managers role?

What assistance will others provide?

Local Businesses [discounts]? Tribe? Boy/Girl Scouts? Church groups?

Environmental groups? Governments? Other organizations?

When governmental approval is needed [usually because removal/fill issues] contact the lake manager to get District assistance with your projects approval.