

Lake Mills - Aquatic Weed Control – MSBU October 2008

MSBU Background:

In December 2004, an application to create an MSBU for aquatic weed control in Lake Mills was received. In association with the processing of the application, the MSBU Program was asked to assist (in advance of finalizing the MSBU creation process) with the coordination of continued aquatic weed control recommendations which included the introduction of triploid grass carp and the continuance of an existing aquatic weed control contract. Through an advanced funding agreement, the requested services were initiated and provided in 2005. The advanced services included the installation of several fish barriers, the introduction of triploid grass carp, and three months of specific aquatic weed control services. Following completion of the prepaid action items, the continuation of service was on hold until the MSBU petition process was completed and the MSBU was created and assessment schedule was established. [Aquatic weed control treatments were on hold from September 2005 to October 2006 awaiting the availability of the assessment funding.] In January 2006, at the request of the Lake Mills lakefront property owners, an MSBU was established to provide continued aquatic weed control for Lake Mills. Per the governing ordinance, the contracted services rendered via the MSBU were initiated in October 2006. The assessments assigned for the first year included recoupment of prefunded services.

County Funding:

To date, due to the presence of a County maintained park on the lakefront, the County has contributed financially to the aquatic weed control of Lake Mills. The targeted cost share for the County is 10%. The financial contribution provided by the County for specific expenditures equates to cost sharing of approximately 14%. Most property owners on the lakefront pay a cost share of approximately 1.2%. In addition, Seminole County Lake Management Program has contributed \$30,000.00 towards the scheduled whole lake herbicide treatment this winter.

In addition, at no cost to the lakefront homeowners, Lake Mills is extensively monitored by County biologists [Lake Management Program (LMP)] on a monthly basis to assess the hydrilla population, oversight of the aquatic herbicide contract for the treatment of torpedo grass and water hyacinth, and continued evaluation of grass carp mortality and stocking rates. LMP also coordinated with Aquathol product representative for hydrilla treatment test plots within the lake which resulted in the donation of herbicides treating 3 one-acre plots in Lake Mills. Current herbicide contractor applied Aquathol product free of charge.

Upcoming Hydrilla Treatment Plan:

LMP remains as scheduled with monitoring the lake in November and December in anticipation for treatment in January/February 2009. This is typically when hydrilla is actively growing from its dormancy stage and the ideal time to treat. Sonar will not be effective until such time since the plant is at its dormant phase and ultimately, by treating prior to this stage, the plant would survive the treatment (exposure to the product) due to not translocating chemical product effectively into the plant.

Sonar (active ingredient fluridone) can give 1 to 3 years of control with carp levels maintaining the hydrilla re-growth. Treating a lake with Sonar consists of the initial treatment and one to two additional treatments to keep the concentration (in parts per billion [ppb]) of the product within the lake high enough to kill off the plant. Treatment (exposure) can range from 70-120 days at which during this time the product remains active in the water. We will be testing both the water for ppb concentrations of fluridone (called a FasTest) and the plant (called EffecTest) to ensure the ppb levels remain high for maximum exposure and control throughout this time. Additionally, we have already purchased product for the initial treatment (\$27,600 from MSBU assessments and \$30,000.00 from LMP) and are ready for initial treatment when proper conditions arise. Total cost for chemicals and testing is \$79,985.00. Update will be provided at each stage of the treatment process relaying results to the community liaison members via the e-mail contact list.

Hydrilla Treatment Plan Details:

Initial Application: January or when hydrilla is actively growing, 120 pails of Sonar One applied to perimeter and areas of growing hydrilla.

Day 28: Lake survey taking 3 water samples to measure ppb (FasTest); plan 2nd treatment according to test results.

Day 35: Apply 44 pails of Sonar One or as determined by FasTest.

Day 56 or 21 days following 2nd treatment: Lake survey taking 3 water samples to measure ppb (FasTest) and EffecTest (plant test determines condition of hydrilla).

Day 77: Lake survey taking FasTest and EffecTest.

Day 90: Final lake survey as determined by tests/progress of treatment.

Expenditures:

Pre-MSBU: FY0405 & FY0506 December 2004 - September 2006

In the year following receipt of application, services were provided via prepayment (to be reimbursed in FY0607) submitted by private investors. Expenditures were as follows:

1)	\$3,650.00	Fish Barriers
2)	\$3,465.00	Purchase of grass carp
3)	<u>\$1,191.00</u>	Monthly herbicide contract (3 months @ \$397.00/month)
	\$8,306.00	Total expended in fiscal year 2005/2006

MSBU Year 1: FY0607 October 2006- September 2007 – Assessment \$262.00

In the first assessment year, the total assessment collected included repayment of pre-MSBU expenditures and advance collection for the first fiscal year [FY0607] of newly contracted services. Following collection of assessments, the prepayments were refunded to the investors. Monthly service inspections and treatments began in October 2006. During the spring of 2007, it was noted that the stocking level of grass carp was not yielding the anticipated level of hydrilla control. Responsively, additional grass carp were added and herbicide treatments were scheduled. The cost of the combined treatment was above the immediate funding level of the MSBU, however, funds were advanced [\$25,000] via the MSBU Program to enable the treatment provisions. Installment payments will be schedule to provide repayment to the County for the fund advance. Expenditures in FY0607 were as follows:

1)	\$ 4,046.00	Purchase of grass carp
2)	\$ 3,010.00	Monthly herbicide contract
3)	\$21,124.00	Hydrilla Treatment (435 gal@3ppm)
4)	<u>\$ 4,225.00</u>	Hydrilla Spot Treatments/Shoreline
	\$32,405.00	Sub-Total FY0607
5)	\$ 1,000.00	Administration Fee
6)	<u>\$ 95.00</u>	Tax Collection Fee
	\$33,500.00	Total expended in fiscal year 2006/2007

[Additional expenses paid by the County: \$3,500 for herbicide product/application, \$1,200 service contract]

MSBU Year 2: FY0708 October 2007- September 2008 – Assessment \$170.00

Assessment Revenue [per early payment discounts] \$12,266

Budgeted Revenue (carry forward, interest, assessments, county) \$15,273

Budgeted Expenses & Contingency Reserves \$15,273

1)	\$3,735.00	Purchase of grass carp
2)	\$4,110.00	Monthly herbicide contract (less than 12 months)

3)	<u>\$5,493.00</u>	Operating Contingency/Reserve
	\$13,338.00	Sub-Total FY0708
4)	\$1,000.00	Installment Payment
5)	\$ 880.00	Administration Fee
6)	<u>\$ 55.00</u>	Tax Collection Fee
	\$15,273.00	Total expenditure budget fiscal year 2007/2008

MSBU Year 3: FY0809 October 2008- September 2009 – Assessment \$650.00

The increase noted in assessment is the direct result of the efforts required to monitor & control the growth of hydrilla in Lake Mills. The financing goal is to assess at a level that provides reasonable control for hydrilla and other aquatic weeds, and if at all possible, in a manner that minimizes significant fluctuations in the assessment amount. Having reserves in place for years that require more extensive treatments will assist in avoiding wide swings in rates and/or potential delays in essential treatment.

Projected Assessment Revenue [per early payment discounts] \$46,800
 Budgeted Revenue (carry forward, fund advance, interest, assessments, county subsidy) \$110,568

Budgeted Expenses & Reserves \$110,568

1)	\$20,000.00	Contracted Services – includes replacement carp, application of herbicide and additional herbicide
2)	\$ 4,800.00	Monthly herbicide contract
3)	\$ 7,886.00	Operating Contingency/Reserve
4)	\$27,600.00	*Purchase of Sonar One (herbicides for whole lake treatment in Jan/Feb) – Fund Advance
5)	<u>\$30,000.00</u>	*Contributed purchase of Sonar One from LMP
	\$90,286.00	Sub-Total FY0809
6)	\$19,188.00	Installment Payment [for fund advance(s)]
7)	\$ 1,000.00	Administration Fee
8)	<u>\$ 94.00</u>	Tax Collection Fee
	\$110,568.00	Total expenditure budget fiscal year 2008/2009

*Herbicide Product Purchase – to be allocated to MSBU in FY0809

1)	\$ 57,600.00	Sonar Product (for lake treatment Jan/Feb 2009)
		\$30,000 – Lake Management Subsidy
		\$27,600 – Fund Advance

Lake Management Recommendations:

Lake Management Program recommendations for the current fiscal year [FY0809] are as follows:

- 1) Whole-lake hydrilla treatment
- 2) Continued aquatic herbicide maintenance for torpedo grass and water hyacinth
- 3) Future grass carp stockings/carp barrier repair
- 4) Continued monitoring of hydrilla and grass carp activity
- 5) Shoreline re-vegetation (lakefront community/volunteers)

- 6) Establishing a Lake Association, and having at least one annual meeting with topics relevant to Lake Mills
- 7) Increase educational outreach programs to include Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of pointless personal pollution.

LMP will closely monitor and gauge hydrilla in Lake Mills. Hydrilla will deposit bulb like seeds (tubers) into the sediment which can remain viable for up to six years. Tubers are produced in each growing season and are used to perennialize the plant as a means of propagation (re-growth). Since Lake Mills was heavily infested with hydrilla, 40% coverage in December 2003, many tubers were deposited in the lake bed during this time. Currently, there is a viable seed bank of tubers in the sediments within the lake. The recommendation for the management plan in Lake Mills is to integrate use of contact herbicides with grass carp fish as necessary.

LMP recommends future resident-based volunteers involving native plantings along the shoreline. The intention of such an event is to transplant existing in-lake plants to various key areas in need along the shoreline. Residents should organize planting days to accomplish recommendation and contact LMP to assist with outside volunteers aiding the residents in creating a beneficial shoreline for Lake Mills. It is especially important that as aquatic invasive plants (such as torpedo grass and water hyacinth) are being treated, native aquatic plants should be established within these areas. This also provides habitat for fish and wildlife, helps impend invasive exotics from re-establishing, and absorbs wave action thus preventing erosion of the shoreline. All of these best lake management practices are essential to providing a more environmentally stable lake for generations to come.