The following is a summary of the September 16, 2006 MLSA Regions 1, 5 & 6 Fall Conference program.

Agenda:

Time	Topic	Speaker
08:00 – 08:30	Registration/Continental Breakfast	All
08:30 – 08:40	Introduction of Officers	J.D. Holler, CEP, CLM MLSA Region 6 VP
08:40 – 09:10	Mechanical Weed Harvesting to Manage Nuisance Aquatic Vegetation	Eric K. Gleisner, Inland Lakes Weed Harvesting Company
09:10 – 09:40	Chemical Herbicides to Manage Nuisance Aquatic Vegetation	Dick Pinagal, Aqua-Weed Control, Inc.
09:40 – 10:00	Goose Control on Inland Lakes	Chris Compton, Goose-Busters
10:00 – 10:30	Break	
10:30 – 11:15	Shoreline Landscaping and Wetlands Management Techniques to Improve Lake Characteristics	Steve Martinko, Atwood Lawn Care, Inc.
11:15 – 11:45	Update on the Effects of Groundwater Augmentation Well Pumping on the Ecology of Waumegah Lake	John K. Bistoff, II, Friends of Waumegah Lake
11:45 --.12:45	Lunch	
12:45 – 13:30	Regulatory Aspects of Dredging Activities On Inland Lakes	Bethany Perris, MDEQ
13:30 – 14:00	Ecological Aspects of Dredging Activities On Fisheries	Jeff Braunscheidel, MDNR
14:00 – 14:30	MLSA New Business/Wrap-up	Don Winne

Topic #1: Mechanical Weed Harvesting to Manage Nuisance Aquatic Vegetation

There are three major elements to consider for harvesting: acreage, cost, and ownership vs. contracting.

Acreage: Lakes from 1-250 acres are viable candidates for harvesting. Lakes from 300-500 acres generally use chemical treatment due to economics.

Cost: The cost for a harvesting service ranges from $250 to $350 per acre and a typical lake needs to be harvested three (3) times per year. The variability in price depends upon the types of weeds to be harvested, the ease with which weeds are removed, and the disposal location for the cut weeds.

The minimum size to make a weed harvesting contract practical ranges between 10 and 20 acres. Lakes often establish a Lake Board or a Special Assessment District (SAD) to fund weed harvesting because the process can be expensive.

Harvesting, when the cut weed material is removed from the lake, is a positive means of weed control. The physical removal of weeds from the lake helps maintain oxygen in the water that would otherwise be consumed by cut or chemically treated weeds left in the lake to decay. Weeds harvested from the lake can be collected, mixed with wood chips, and provided to a

landscaping company to use for beneficial purposes. One successful weed control strategy has been to combine selective chemical treatments with a harvesting program. If chemical treatment and weed harvesting are timed correctly, vegetation can absorb the herbicide, killing the root system, and weed harvesting, done while the plant is still upright, then removes the damaging biomass and minimizes oxygen depletion in the water.

On the average, approximately 97% of the weeds harvested from a lake are successfully collected and removed. The plant debris that misses collection generally does not create a problem through plant fragments re-rooting. If the lake is a motor boat lake, there will be far more weed fragments floating in the lake from normal boat action than from the weed harvesting.

Ownership: Equipment ownership is an economic decision for the lake community given that weed cutters can cost $150,000.00 or more. A strategy for weed harvesting could involve combining ownership and contracting… i.e., an outside company could be brought in to do one or two harvests and this would be augmented through continuous Association provided cutting services using Association owned equipment.

Topic #2: Chemical Herbicides to Manage Nuisance Aquatic Vegetation

The four nuisance weeds generally removed through chemical treatments are Eurasian Watermilfoil, Duckweed, Curly-leaf pondweed, and Algae. It is not permissible to apply contact herbicides in water that is deeper than 5 feet deep. Lilly pads and cattails can only be removed from a 40 by 40 foot section to support boating activity in front of a riparian property. For algae, the applicator is only allowed to treat in a strip close to the shoreline. After the treatment, it is not uncommon for untreated algae to blow in towards the shoreline thereby nullifying the prior algae treatment. As such, it is a better option for the lake to seek out the nutrient source and correct the problem rather than continually applying chemicals to treat the resultant algae bloom.

Significantly more Chara and Chara-like algae plants are now found in lakes. Chara looks like a long filamentous plant; however, it is really a colony of algae. A plant called “Starry Stonewort” (it looks like a big Brillo-like clump of plants) is algae similar to Chara. It is also heavily present in lakes. It, like Chara, is very difficult to control-both chemically and with harvesting. Hydrilla is a nuisance plant that is very difficult to control. Hydrilla has now been found 60 miles from the Michigan border in Indiana. It’s just a matter of time before we find it in Michigan.

The cost for a permit to apply chemicals to control lake weeds ranges between $75.00 and $1500.00 annually. The permit generally includes a request to apply the maximum number of chemicals that may be needed at their maximum application rates to allow for lake-specific conditions that may arise and to avoid the need to apply for multiple permits. Permit applications should be submitted to the DEQ by no later than February of the year treatment is needed. Last year, the DEQ approved 1900 permits for herbicide treatments in Michigan’s inland lakes.

The direction in the weed control industry is to use a combination approach where harvesting is the primary method of control and chemicals are applied in the shallow areas and where harvesting is not practical/cannot be done. This strategy is emerging due to the broad impact that some of the herbicides have on lake ecology. The DEQ direction is to allow for chemical treatment of the exotics and to encourage the use of harvesting to control native aquatic vegetation. The DEQ stresses that herbicide treatments should have no or minimal impact on native species in the lake. As such, it is important to perform a weed identification survey to inventory the plant population in the lake prior to initiating a plant control program.

SONAR (fluridone), a chemical sometimes used to treat for Eurasian Watermilfoil, may not effectively control the exotic plant because the plant is becoming resistant to this herbicide. Furthermore, in accordance with Michigan law, this herbicide can only be applied once every

three years at a rate of 6 parts per billion in the upper 10 feet of the water column. The department may amend a permit to authorize an additional treatment 14 to 21 days following initial treatment, if the average fluridone concentration of all surface samples taken 13 to 15 days after treatment is less than 5 parts per billion. There is question whether or not the chemical provides effective treatment at such low levels. Michigan's allowable application rate for fluridone is much more stringent than the federally allowable limit.

Topic #3: Goose Control on Inland Lakes

An adult goose produces about 7 lbs of fecal matter in one day.

Geese molt in June as their hormones change. At that time, the geese cannot fly. There is a 3 week window during that time period at which time the geese can be rounded up from the area and removed.

A DNR permit is required to capture geese, to destroy goose nests, and to remove eggs from the nests.

The cost for "Goose-Busters" to remove aggressive geese is $75 per adult goose, $20 per nest and $5-10 per baby.

Round up fees are: 1-25 - $300, 26-50 - $450, 51-75 is $600 and $150 for each additional 25. For this service, lake residents need to participate in the round-up by herding geese into a fenced area for the contactor to remove them.

"Goose-Busters" works with the DNR to relocate the captured geese. The DNR either takes the geese up to northern Michigan or to other states without an excessive goose population. In theory, the geese are expected to return to the area where they molted and where they have food and habitat. Experience has shown that, once removed, not all of the geese do return and the goose population on the lake is reduced.

Topic #4: Shoreline Landscaping and Wetlands Management Techniques to Improve Lake Characteristics

When looking for plants to place close to the water, look for native varieties with a good strong root system. Avoid plants with stolons (stolons, or runners, are not roots but are above ground horizontal stems) that have a shallow root system and spread horizontally across the area sprouting new plants every so often. An example of a plant with stolons is Buffalo Grass. This type of plant is very aggressive and tends to require constant control.

Oaks, Maples, and River Birch are good trees to use by a lake. Another recommended tree for lake-side landscaping is the Valley Forge Elm Tree. It is 99% resistant to Dutch Elm disease and it s a good choice for planting near water. A 6 foot tree can be purchased on the Internet for $80.00 and it can be delivered by UPS. The tree grows 3-5 feet / year and has a good canopy. Turf Type Tall Fescue is a good plant choice for a slope; however, it should not be cut.

A good resource for plants that can be used in shoreline landscaping is http://wildtypeplants.com.

Most commercial companies now use low to no phosphorus fertilizers for lawn care. There is no need for phosphorus in grass fertilizers. Grass only needs phosphorus to germinate (not to grow). Fertilizer with slow release nitrogen is best. This fertilizer is recognized by its yellowish color. If the fertilizer is white, the nitrogen in the fertilizer is typically the quick release type. The nutrients in fertilizer used around a lake or water well should be 30-0-10 and 50% of the nitrogen should be of the slow release type. The best nitrogen application is around 4.5 lbs per 1000 square feet.

Lake front lawns should be well watered. When a lawn gets hard, it does not absorb rain water and any surface contaminants easily wash from the yard into the lake during a rain event. A spongy soil retards surface runoff. If your lawn feels "hard" when walking across it, then you do

not have a sufficient bio-filter in the lawn to stop containments or fertilizers from running off your lawn into the lake.

Riparian owners should maintain a green belt10 to 30 feet from the edge of the water and apply no chemicals to this area. Professional lawn care specialists must maintain a buffer of 20 feet from the waters edge. Homeowners should also adhere to this buffer when they treat lakefront lawns. Whenever possible, homeowners should spot treat small problem patches rather than fertilizing the entire yard if the entire yard does not need care. Typically the most common reason to treat a lawn is for crabgrass and a tall thick lawn with sufficient bio-filter will prevent this problem from being noticeable.

For mowing, it is best to keep the grass 3 inches high in the spring and fall and 3 ½ inches high in the summer. A grass plant will carry a root equivalent to the length of the grass and the deeper the root, the better the grass will tolerate heat, disease, and dry conditions. Too much thatch in a lawn usually comes from cutting the grass too short which cuts the body of the grass and not the green “leaf”. It works well to mow leaves and to allow them to remain in the grass in the fall. Oak leaves are just as good as maple leaves and they do not leave the ground acidic.

For killing moles, a good product to use is called Talprid which contains Coumarin (a blood clotting agent). It is delivered using a gummy worm and works within 4 hours. It is expensive, but it is very effective. The typical mole diet is about 90% earth worms. It is not true that if you have moles, you have grubs. In the past, chemicals like Diazinon would kill everything in the soil, including worms, and this is what drove the moles away. Today’s treatments for Grubs do not kill worms and do not work to eradicate moles.

A good chemical to treat clover by the lake isCloprid.

Topic #5: Update-- Effects of a Groundwater Augmentation Well on the Ecology of Waumegah Lake

A Lake Board was formed to legally set the lake level on Lake Waumegah when the old dam on the lake broke and water level issues arose. The level that the board legally established was 1 foot higher than the top of the old dam and efforts to maintain that high level have caused water to encroach on riparian properties and produced negative impacts on vegetation, wildlife, and wetlands around the lake.

Topic #6: Regulatory Aspects of Dredging Activities On Inland Lakes

The definition of navigable waters -- Michigan uses the “floating log test” to determine navigable water. If a body of water has been used in the past or is presently used by larger commercial vessels (such as tankers, fishing boats, tug boats, etc.), the body of water is navigable. The "floating log" test has long been recognized by Michigan courts. Pursuant to this test, if a body of water (particularly a river, stream or creek) was used during the late 1800’s for floating commercial grade logs, the body of water was deemed navigable. Even if a body of water was never actually used during the lumbering days for floating such logs, it can still be deemed navigable today if the flowing body of water is sufficiently wide and deep that commercial grade logs could be freely floated.

Most work done in the water requires a permit. Repairing a seawall (existing structure) does not need a permit; however placing another seawall in front of or behind an existing seawall is a new construction and the person proposing the work needs to apply for a permit and justify the need for the seawall. Bubblers are considered seasonal structures and do not need a permit from the DEQ.

Dredging requires a permit from the DEQ. By law, the DEQ must provide a final determination on the applicant’s request within 90 days from receipt of a completed application.

For questions, Beth’s email address is perrisb@michigan.gov. Beth is in charge of approving permits for water related activities for the DEQ’s Southeastern Michigan office.

Topic #7: Ecological Aspects of Dredging Activities On Fisheries

Jeff Braunscheidel's phone number is 248-359.9048 and his email is braunscj@michigan.gov. Jeff is a DNR person responsible for natural resource issues in the Southeastern Michigan area.

One of the best ways to combat shoreline erosion is with shallow waters with lots of plants (a natural beach). The boating wave energy is buffered by the aquatic plants and wetland plants, and the shallow water helps to lessen the wave impact on the shoreline.

Typically, there is a dredging ban from March 1 through June 30th as that is when inland lake fish spawn, eggs incubate, and the hatchlings are born.

Avoid dredging in the spring and early summer. The best time to dredge, ecologically speaking, is summer and fall, before the ice.

Good article: Conservation Guidelines for Michigan Lakes & Associated Natural Resources, Fisheries Division Special Report #38. It can be found on their website at: Fisheries > Research > Fisheries Library > Special Report 38.

Suction vs. mechanical backhoe dredging--overall, suction dredging is better, but both will create an environmental impact to small creatures in the lake that cannot get out of the way of the silt from the dredging operation.

It is recommended that a silt curtain be installed to reduce the amount of silt that is created from a dredging project.

The DNR typically looks for a way to reduce the amount of area that people ask to dredge in order to keep the sloping, shallow areas, with the thought of caring for the small animals that thrive there.