

TAG Meeting February 13, 2008

Note to reader: Outline numbers will correspond with agenda as listed below.

Attendance (voting members):

Rob Richardson (chairman), Rob Emens (secretary), Rich Noble, Mike Grodowitz, Mike Smart, Bill Bolin, Kirk Rundle & Vic Dicenzo.

Also present: Chris Cheek, Pete Deschenes, Mike Duncan, Doc Daugherty, Sarah Miller, Mark Heilman, Glenn Bishop, Brian Murphey, Brian McRae, Doug Henderson, Chris Horton & Jeff Meyers.

Italicized names notate attendance via conference call

Agenda

1. Discuss Remetrix survey
2. Review Lake Gaston related research from 2007
3. Review 2007 management and implications for 2008
4. Determine grass carp recommendations for 2008
5. Respond to LGA letter
6. Review/discuss funding situation for 2008 Lake Gaston research
7. Other as needed (lyngbya discussion)

Dr. Richardson brought the meeting to order at 9:00 AM.

1. Doug Henderson (ReMetrix) reports: [Attachment 1](#)

Hydroacoustic (transects) and point sampling was performed on entire lake. Data interpreted to estimate the following:

SAV - 1,400 acres total

Hydrilla - 1,235 acres total

A total of 867 rake sampling points were conducted. A printed report describing the methodology and detailed results of the survey will be available.

Smart: Was *M. spicatum* and *L. wolei* identified in survey?

Henderson: Yes, positive at 4 points and 37 points respectively.

A few people offered personal observations and mutually agreed that very little *M. spicatum* was noted in 2007 compared to previous years.

Grodowitz: Was hydrilla identified as monoecious or dioecious?

Henderson: Not proficient in this type of identification and bio-types not noted.

Richardson: Has anyone observed dioecious hydrilla within the last 5 years?

Smart: Recall finding dioecious plants some time ago, but cannot confirm exact year.

The importance of annual surveys was reiterated. Effective management relies heavily on data collected during the fall survey. The manner in which data is collected and interpreted should be done carefully and accurately. The LGWCC must continue to appropriate sufficient funds for annual surveys. The group also discussed survey types in general.

Henderson: Hydroacoustic surveys provide a sharper image of SAV occurrence relative to aerial imagery.

Cheek: Various types of surveys have been performed from year to year over the last few years, does this cause inconsistencies in total vegetation measurements?

Henderson: This was the first year I [ReMetrix] conducted a survey on Gaston and was not briefed on historical measurements of SAV.

Smart: The LGWCC needs to continue budgeting for annual surveys, and these surveys need to be consistent.

Group discussed whether or not there is a need for TAG to formally acknowledge the acreage figures offered in the ReMetrix report.

Grodowitz: Request that ReMetrix staff provide TAG with detailed methodology of sampling.

**** Action Item ****

ReMetrix to respond to Grodowitz request.

Smart: Motion that the TAG accept the last 3 surveys as an accurate indication of the amount of vegetation in the lake (i.e., noting a significant decline in SAV in 2007).

Grodowitz: 2nd motion
vote passed - all in favor

**** Action Item ****

Mr. Emens to draft letter stating that TAG has adopted the measurements of SAV as reported in the Lake Gaston 2007 Submerged Vegetation Mapping Summary Report by ReMetrix and also provide some methodology comparisons with previous surveys.

2. Mike Duncan (Virginia Tech) presented grass carp telemetry study: [Attachment 2](#)

" Objective is to determine dispersal and movement patterns throughout Lake Gaston using radio tags.

" 29 grass carp were tagged (delivered from hatchery, not recaptured from lake).

" Fish were anesthetized and outfitted with 8-gram internal whip antennae style tags (note: these tags are guaranteed to provide 2 years of service).

" Tagged fish were released at two sites.

" Tracking was performed by boat and airplane.

" At 6-9 hrs post release fish movement averaged ~1/2 mile.

" At 24 hrs post release fish movement averaged ~ 2 miles.

" At 30 days movement was found to be 1.7 miles at upper site (near I85) and 5.2 miles at the lower site.

" January 2008 - 27% remain alive, 31% missing, & 41% stationary (i.e. deceased fish or

expelled tag).

" Generally, the carp reside in the back ends of coves. This preferred site did not shift seasonally.

Group found the results of this study to be very beneficial to the grass carp aspect of the management plan. This information provides us with a better understanding of carp behavior in Gaston and will allow us to fine-tune the role they play in our integrated management approach.

Grodowitz: What would be the estimated cost of continuing this study through 2008?

Murphey: \$50,000 - \$70,000 (depending on man-hours needed for tracking additional tags on lake and also engagement of search & recovery of stationary tags)

Noble: What about the cost of tracking only the remaining fish [from 2007]?

Murphey: \$10,000 - \$15,000

Smart: Motion that tagging research is continued regardless of 2008 supplemental stocking decision. Diconzo: 2nd motion
vote passed - all in favor

Vic Diconzo presented grass carp otolith sampling:

" Bowfishermen harvested 50 grass carp.

" Sized ranged from 1 - 75 pounds (average wt. was 30 lbs.).

" Otoliths were removed and inspected to determine age of fish.

" Working with the otoliths from grass carp is notably more challenging than for most other species (e.g. ageing studies on game fish are common and those fish produce larger and more uniform otolith structures).

" Some difficulty in identifying the 1st year-band is partly due to the fish being grown in the controlled conditions at the hatchery.

" Technicians were not provided with historical stocking dates (avoiding the potential to bias results).

" Age determinations match very well with stocking history.

Rob Richardson presented the program of utilizing lake-resident volunteers to collect data on aquatic vegetation distribution: [Attachment 3](#)

" About 20 volunteers participated.

" Training sessions were conducted to familiarize volunteers on ID and sampling techniques.

" Sampling kits (funded by grant money) were provided. Kits included a GPS, collection and ID tools, & water quality recording instruments.

" ~100 cumulative man-hours were spent scouting some 57 miles of shoreline, collecting and recording observations.

" Data collected included: location, depth, water clarity, presence of hydrilla or other vegetation, grass carp sightings, length of hydrilla shoots, and condition of plants.

" Data was compiled and overlaid on existing topo map of Gaston.

Rob Richardson presented tuber monitoring operations: [Attachment 4](#)

" 9 sample sites were selected: 3 control sites (with no scheduled public treatments), 3 one-year treatment sites (fluridone treatment in 2007, but no treatment scheduled in 2008), and 3 multi-year treatment sites (fluridone treatments in 2007-2008).

" Hydrosol core samples were taken and transported to NCSU campus where tubers were extracted and counted.

" Control site results: ranged from 30% decrease to 76% increase.

" Treated site results: all experienced >55% decrease and as much as 90% decrease.

Mike Smart presented outcome of ecological studies (test plantings) from 2007: [Attachment 5](#)

" No funding was provided in either the USACOE or USDA budgets for aquatic plant related efforts in Lake Gaston during FY07.

" Other funds were used to finance a site visit in September '07 for the purpose of evaluating test plantings and grass carp exclosures installed in 2006.

" Test plantings were conducted (in 2006) at Flat Creek, Hubquarter Creek, and Lizard Creek.

" Plants chosen for study included: water shield, water lily, American lotus, American pondweed, Illinois pondweed, coontail, southern naiad, and wild celery.

" Observations are in following table:

Plant species	Flat Creek	Hubquarter Creek	Lizard Creek
Water shield	1	1	1
Water lily	1	1	1
American lotus	2	2	2
American pondweed	2	1	1
Illinois pondweed	2	1	2
Coontail	x	x	1
Southern naiad	x	x	1
Wild celery	1	x	2

Key: x = did not survive 1 = survived in at least some of exclosures 2 = spread outside of exclosures

Group was delighted to know that many of these native plants persisted and agreed that results of these test planting will be very useful in directing the long-term vegetation management in Gaston.

The general consensus of the TAG is that we need to steady the course of a holistic management approach and increase the re-vegetation aspect over time. It is important that this philosophy is well communicated to the LGWCC and community at large.

Grodowitz: Motion that APHIS funding is used to promote a large-scale restoration project.

Bolin: 2nd motion.

vote passed - all in favor

Mike Grodowiz presented news on bio-control (hydrilla flies) study:

" Hydrilla fly rearing on monoecious hydrilla was a focus of '07 biocontrol efforts.

" A colony has been maintained at ERDC using standard rearing procedures.

" Experiencing difficulty with growing monoecious hydrilla under greenhouse conditions during winter, leading to low fly population.

" Monoecious hydrilla culture also growing in pond at LAERF.

" Caledonia prison farm fly rearing facility is operational and working through the learning curve. Water quality issues prevented successful rearing of flies in 2007, though problem has not been corrected and production expected to occur in 2008.

3. No discussion commenced.

4. Grass carp stocking for 2008:

Richardson: Before we get into the stocking discussion I was asked to bring the concerns of LGWCC over bow-hunting grass carp before the TAG.

Rundle: The NC WRC allows people to take 2 fish per day by bow.

Dicenzo: Virginia does not allow any take of grass carp.

Group engaged into discussion and came to two assumptions:

1) The number of hunters is likely low, leading to very low percentage of carp being removed from system.

2) The hunters are likely targeting the large to very large fish.

Noble: Large carp [pound for pound] are not the big consumers.

Murphey: Referencing carp consumption per body weight study - fish that are > 14Kg consume 0.5% of their body weight per day.

McRae: This is more of a public perception issue than a real concern from a management standpoint.

Group discussed that from a scientific perspective, we could not make any recommendation on this without having some facts on what sizes and how many carp are being harvested by bow hunters.

Emens: Having very large grass carp in Gaston is a public safety concern. An encounter with a 70 pound carp that is darting in a flight response could result in personal injury. Removing very large carp will reduce the chance of an incident.

TAG agreed that if regulating agencies need to respond to concerns over any aspect of bow-hunting grass carp, they should conduct a survey to determine the magnitude of this practice so that an educated decision can be made.

Discussion moved into suggestions on supplemental stocking in 2008. Plugging the 2007 fall survey vegetation figures into the cohort analysis model predicts that we have attained the 10 GC/acre target. The benefit of recommending 400-500 carp to be stocked to produce another year-class was considered. The need for placing a "minimum order" to the hatchery to receive the fish needed for the tagging study was considered.

Grodowitz: Motion that no large-scale stocking be recommended since updating our model with the fall survey figures predicts there are >10 GC/acre.

Noble: 2nd motion

vote passed - all in favor

5. LGA letter: TAG did not come to an agreement as to how we should respond to this letter, or if we even need to. It was suggested that LGA review the management plan supported by LGSB.

6. A general concern within TAG members over the presence of *Lyngbya wolei* remains. A brief discussion pursued on other sites within NC currently infested with *lyngbya* and the types of control efforts taking place.

Richardson: Motion to select at least two sites and begin *lyngbya* control/abatement operations in the 2008 weed season. Specifically, herbicide control, water quality measurements, and bio-control trials should be included.

vote passed - all in favor

Adjourn until autumn 2008 (date was not established).

Prepared by:

Rob Emens, Secretary

Lake Gaston Stakeholders Board - TAG