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## Important Dates

(tentative)

### FLG Breakfasts

May 19, 2007

June 16, 2007

July 21, 2007

August 18, 2007

September 15, 2007

Grand Summer Social July 28, 2007

# Friends of Lake Glenville

## Protect & Preserve Lake Glenville

Fall 2006

[www.friendsoflakeglenville.com](http://www.friendsoflakeglenville.com)

Howard M. Austin, Editor

Official Announcement: Annual FLG Meeting August 4, 2007 9am Glenville CDC

## And the Lucky Winners are...

An over-flow crowd, a flurry of last minute ticket sales and end-of-the-season jocularities were evident as Friends of Lake Glenville members and their guests gathered at Trillium Landings on Saturday, September 16th for this year's final communication breakfast and to draw the names of this year's winners in FLG's 2nd Annual Summer Raffle, the **Great Greenback Giveaway**. Helium-filled balloons, streamers and door prizes contributed to the festive atmosphere as the time for the drawing arrived. **Pat Strickland**, operations chair of this year's raffle, made sure that all ticket stubs were included and well shaken as board member **David Leach** Acting MC announced the winning names as they were

*(Continued on page 3)*

## Mountain Musings: 10 Slip Docks, Funneling, and Other Difficult Issues

Howard M. Austin, Editor

As development around Lake Glenville has accelerated in recent years, with the building of more single family homes and the arrival of "lake clubs" for large off-lake communities, concerns have been raised about **esthetics**, both on the shoreline with more fixed structures and fewer trees and on the lake with more boats in the water and more docks with a greater number of slips projecting out into the waters, **boating safety** due to the greater number of boats, the greater speeds of those boats, and the increase in the number of boats towing a skier or tuber, **shoreline erosion** due to more boats, higher boat speeds, and boaters too close to the shoreline, and a

## Lake Glenville Water Quality 3: Temperature Rules

Don Hansen

In previous issues of the *FLG Newsletter* I have described the secular deterioration of water clarity in Lake Glenville that is evident in both historical Secchi disc measurements and more recent nephelometric measurements. So far I have shown measurements only from near-surface waters of the lake, but nephelometric measurements can be used also to investigate other aspects of our turbidity problem, such as variations of turbidity with depth within the lake and the turbidity of inflowing streams. Knowledge of such features can help us to understand the sediment pathways to and within the lake and to decide what must be done to reverse the adverse trend of water quality. First, however, it is essential to understand the dominating role of the temperature structure of the lake in controlling the

Figure 4.  
Temperature profiling with the Clinefinder instrument. The author on his boat on Lake Glenville.



# The President's Message Fall 2006

Carol Adams

Predictions for a spectacular fall leaf season are flying throughout the community. As I write this message in early October, the shoreline and mountainsides are already showing fall hues, a few leaves have fallen, and there is a slight chill in the air. Our skies are still clear Carolina blue and the smooth surfaced lake is in reflective sparkle.

During the 2006 season Friends of Lake Glenville officers, volunteers and members planned and participated in our usual activities and events. Between the May breakfast kick-off and the season close at the September raffle drawing, we all enjoyed the Fourth of July boat parade and a spectacular fireworks display, the Grand Summer Social and the excitement of the Great Greenback Giveaway, our 2006 raffle fundraiser.

**PROTECT and PRESERVE Lake Glenville** is the branding slogan selected for FLG and we are using it everywhere and every way we can. Presently our most difficult challenge is...to protect and preserve Lake Glenville. For the past several years much of our money and efforts have been consumed with intervening in Duke Energy's re-licensing attempt. The Duke re-licensing proposals we oppose will harm some aspect of the lake...either the shoreline, water levels, water quality, boating safety or general conditions on the land in front of your home, club or association property. We have expert legal help, determined partners such as the Jackson County officials, agencies and fellow citizen organizations fearful, as we are, that this giant corporation, Duke Energy, will be allowed

to institute policies mostly for the benefit of those other than the local community.

Although the Duke re-licensing intervention remains an important challenge several other very disturbing lake conditions are facing our organization. Ten-slip docks in general, especially those permitted and built for developments and organizations located miles away from the lake, threaten to cause an overload of boats and personal watercraft on the lake. In addition many of these craft are capable of speeds unsafe on this lake. In lake descriptive language, we are a ribbon lake. This means our shores are not far apart. Too many boats, traveling too fast contribute to extensive shoreline erosion and to serious boating safety issues. Board member Howard Austin is heading a newly formed committee, Shoreline Liaison/Boating Safety that is aggressively addressing this issue through extensive research, which will result in an action plan to insure the lake remains safe for all users.

The Lake Sedimentation and Turbidity Team headed by Doug Odell focuses on another serious challenge. Boat traffic and development run-off are the culprits that cause a murky lake. Many members have observed that a few years ago they could stand on their docks and see the bottom of the lake but not any more. The LSTT has provided a list of agencies and officials to contact when you see building site run-off, clear-cutting or any general substandard practices that would cause sedimentation. Insistent calls to appropriate agencies on this list of contacts (reprinted in this newsletter) resulted in one member's

ability to require the culprit to rid sediment from an incoming stream on their property.

Our annual fundraiser is an important source of funds for our mission to **Protect and Preserve Lake Glenville**. We thank all the volunteers and members who helped with the Great Greenback Giveaway raffle and especially those who bought tickets. (News of the winners and the results are elsewhere in this newsletter). Lake Glenville is not just an amenity for lakeside property owners. Everyone who lives in the Glenville/Cashiers community benefits from some aspect of the lake. Although the enjoyment of lake recreation attracts many, it is the enhanced property values of being located on, near, in view of, or with access to the lake that has increased Lake Glenville's population in recent years. It is reasonable then for us to expect widespread participation in FLG, our activities and our fundraisers by our members, property owners and lake users...if you were with us in 2006, *thank you!* If not, *why not?*

A board member recently overheard a disturbing conversation about Friends of Lake Glenville. One conversant stated, *"Well, they are just against everything"*. What a shame that individual is so misinformed! FLG will be doing a better job, you can be sure, to send out the message that our mission is to *protect and preserve Lake Glenville*. Our organization stands against only those things that damage water quality, make boating unsafe and cause damage to the rural environment and lush amenities enjoyed by so many Jackson County residents.

## FLG Social Calendar

Debbie Rankin, Social Chairperson

This summer's social season was a real success. If it is true that food brings out a crowd, Friends of Lake Glenville has that down pat! We had literally hundred's in attendance at our monthly communication breakfasts at Trillium and nearly ninety members attended the Grand Summer Social in July at the Lake Club.

Thank you to our volunteers who helped to put the "grand" in the summer social and to those dedicated individuals on the call committee who made monthly reminder calls to members about the breakfasts and to announce the other FLG sponsored activities and events.

## Great Greenback Giveaway, continued

(Continued from page 1)

drawn by former presidents **Neil Greiser** and **Doug Odell** and long time member **Don Hansen**.

### *The Winners*

This year's lucky raffle winners include Friends of Lake Glenville member and Sunset Cove resident **Lynn Leach**, third place winner, who received a check for \$2,000. The second place prize of \$3,000 went to FLG member and Fenley Forest Trail resident, **Ted Okolichany**. A local Yellow Mountain resident, **Debbie Bradley**, who is employed at Tangles Hair Salon, is the \$5,000 first place prize winner. Pat Strickland sold the winning ticket.

### *The Results*

This year's raffle raised **\$27,000**. These funds will enable FLG to continue our intervention in Duke Energy's re-licensing

application with FERC and to expand our efforts in the areas of soil erosion and sedimentation and the proliferation of multi-slip docks on the lake.

### *Thanks to Our Members and Local Sponsors*

Many of our members gave generously of their time and money in support of this year's raffle. Special thanks go to **Carol Adams, Rich Becherer, John Chaffee, Helen Cook, Joanne Lindquist, Pauline Marr, Pat Strickland** and **Tom Turner** each of whom contributed their time and talents to make the raffle a success.

This year's presenting sponsor was **RiverRock**. Other local sponsors include **Mountain Lake Properties, United Community Bank, Landmark Realty, and Macon Bank**. Thank you to each of these committed businesses for their support of our efforts to protect and preserve Lake Glenville for present and future generations to enjoy.



Right: Grand Winner Debbie Bradley (striped shirt, far left) receives check from Joanne Lindquist, Carol Adams, & Pat Strickland.

Left: 3rd place winner Lynn Leach & 2nd place winner Ted Okolichany show off their checks.



## Water stream quality monitoring for Lake Glenville

### Sandy Bishop, Water Quality Chairperson

With increasing use of the lake, water clarity has decreased over the recent years. The Water Quality Group has evaluated factors which contribute to the increasing turbidity of the lake with major emphasis over the past six years on monitoring water quality entering the lake from the major streams. Water samples from seven stream sites have been collected monthly by volunteers and the samples take to the Environmental Quality Institute at the University of North Carolina at Asheville for analysis. The team, currently led by Sandy Bishop, includes Sam Lupas, Mark Pentacosta, Bill Johnson, Ken Kitchen, Pat Strickland and Karen Scarborough. Samples are collected on the 4th Sunday of each month and the samples transported to Asheville on Monday. Additional volunteers would be welcome to assist in the collection of samples and transport to Asheville; please call Sandy Bishop, 743-1620, if you are interested in becoming part of the team.

The water samples are tested for a variety of substances, including: turbidity, and total suspended solids (both indicators of water clarity and suspended particulate matter); acidity (pH) and alkalinity (which may indicate effects of acid rain – pH – or other specific discharges); conductivity and heavy metals – copper, lead, zinc, (which are a measure of domestic wastewater or agricultural or highway runoff); and nutrients – Orthophosphate,

Ammonia Nitrogen and Nitrate/Nitrite (which may indicate natural plant, sewage or agricultural runoff). In general, the streams entering Lake Glenville are among the cleanest in the region, and generally rank very close to the average of strictly forested streams. Immediately after heavy rains, there is often increased turbidity (muddiness) in the stream water. Occasional high levels not related to recent very heavy rains will serve as a warning that specific activity along stream beds needs to be monitored and evaluated.

Factors playing a role in the increasing turbidity noted in Lake Glenville over the past several years include sediment in streams from runoff from developments some distance from the lake. Development around the lakeshore and adjacent areas is also a major contributor to lake sediment. Other major factors include varying lake levels, especially high levels resulting in bank erosion, and increased boat traffic. The major developments which drain into the lake are regulated and monitored. There is less strict regulation and very little monitoring of individual home development around the lake, and in the aggregate, these constitute a major contribution to lake sediment. To assist the county in regulation of such sites, individuals noting problems should contact Robbie Shelton, Erosion Control Officer, at 631-2261.



# FRIENDS OF LAKE GLENVILLE

## SPONSORS

### 2006



Thank you to those members who choose to be Gold, Silver or Bronze sponsors. Along with funds from other sources such as the lottery, these much appreciated donations allow the organization to prosper and achieve goals beyond those possible just from the basic membership dues.

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[Make a sponsorship donation and your name will appear here too.]

## **Mountain Musings** continued

*(Continued from page 1)*

decrease in **lake clarity and cleanliness** due to the erosion discussed earlier from boats as well as construction runoff and the stirring up of the lake bottom by boating in shallow areas.

These concerns are not unique to Lake Glenville in particular or to the Duke Energy lakes in general. Scientifically rigorous studies have been done and are

available that attempt to quantitatively access these concerns. Numerous surveys have been done in a more qualitative way to also access how people perceive a given lake.

A major issue on Lake Glenville at the close of the Summer 2006 season is the steady increase in large multislip docks on the lake, either already in existence, permitted but yet to be built, or rumored to be planned. The Indiana Lakes Management Society with offices in Angola Indiana () has given a name to the process by which a small parcel of lake

front property allows a large off lake group access to the lake: **funneling**. In Figure 1 below, each property around the small hypothetical lake has one boat on the lake. In Figure 2, the last remaining undeveloped property becomes the lake portal for a large off-lake community, each member of whom adds a boat to the lake. The illustrated example shows a lake choked with boats after funneling has taken place. Fortunately for Lake Glenville, the largely off lake communities with lake access have not had members all of whom had boats and used the lake. That

*(Continued on page 5)*

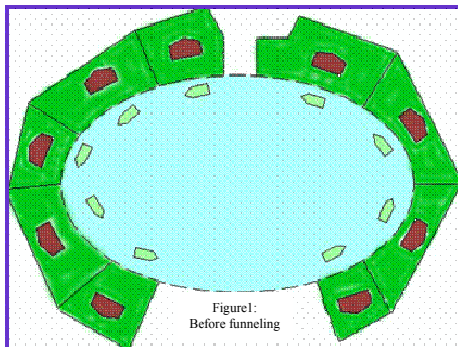


## Mountain Musings continued

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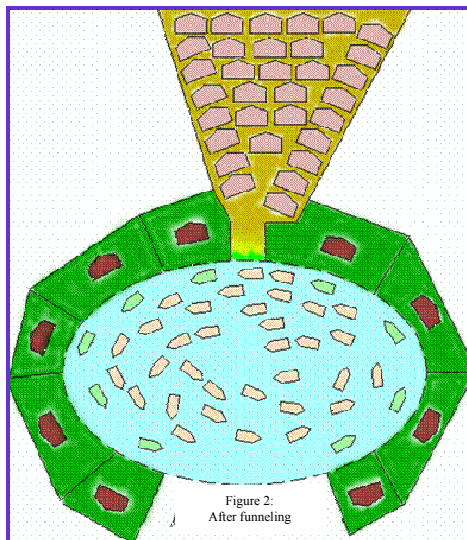
could change if a new community got lake access and had either a very large number of property owners OR had a high percentage of a smaller number of property owners who had boats AND used them frequently. The issue is not just who has a right to use the lake, a natural resource common to all the citizens of the area, but the impact of an overabundance of people and motorized watercraft on the lake ecosystem.

Determining how many users a resource can tolerate is called the **carrying capacity**. Many ecologists say the "limit" may only be determined when the ecosystem is near collapse. Other investigators have attempted to quantitatively assess that capacity scientifically. Two that are close to us and recent were done by Holly Bosley at North Carolina State University for the Catawba-Watauga Relicensing Coalition and by the Town of Lake Lure. In simplified form,



both assign a boat doing a specific activity (i.e. a powerful motorboat towing a water skier, a pontoon boat on a scenic cruise, or a paddler in a kayak) an amount of lake surface (the power boat with the skier would need 10-20 acres of lake surface, the kayaker as little as two acres) and then compare the available surface area of the lake to projected lake usage at different times. In one of Lake Lure's scenarios, the lake was at 144% of capacity, in other words over used, mostly because of high powered boats that were towing skiers or tubers. To determine available lake surface, not all the watery surface is considered to be available. Duke Energy, in a study of Lake Glenville, said the 50 feet adjacent to the shoreline should not be

considered usable, being a shoreline buffer zone. Most other studies excluded 100 feet from shore, with up to 400 feet from shore being excluded in swimming areas. Lake



Lure has a "no wake" rule within 75 feet of the shoreline and in all coves less than 200 feet across (as well as from 9PM to 7AM on the whole lake) and excludes them from consideration as useable areas. Swimmers are required to stay within 50 feet of shore, with boats of more than 10 hp forbidden within 75 feet of the shoreline. Unlike Lake Glenville that is owned by Duke Energy, Lake Lure is owned by the adjacent town, so they have rules and remedies available that are different than does a FERC (Federal Energy Regulatory Commission) regulated lake. Lake Lure has a permit system to limit outsiders' access to the lake. Jet skis are banned outright. Among the scenarios contemplated by the Lake Lure study are limitations on the power of boats on the lake, speed limits, limitations by time for activities (like water skiing) that use up a lot of lake surface, scheduling lake use with a maximum number of users, and more. Summer weekends, especially holiday weekends, are the worst case scenarios, with weekdays and off season use almost never a problem capacity wise.

One solution dealt with only in passing in both studies is the effect of increased **law enforcement** on lakes that are crowded (or perceived as such) or that have dangerous features such as narrow areas or events such as regattas or sunsets (or fireworks in the case of Lake Glenville) that concentrate boats in one area. The Lake

Lure study specifically mentions a paucity of law enforcement presence and seems to suggest that they have been lucky to not have had any more accidents or deaths than have occurred with their other restrictions and limitations. Many Lake Glenville residents have asked for more patrols by law enforcement, with the emphasis on reckless boating or impaired boaters or incompetent boating and less on technical details like number of life preservers, fire extinguishers, and up to date registration decals. While important from a boating safety point of view (and as a revenue source in a state strapped for cash), the latter may only save the boaters who object to the random searches by boating law enforcement from themselves, while citing or removing dangerous or impaired boaters will save innocent victims who happen to be in the way of the bad boaters.

The proliferation of **multislip docks** on Lake Glenville, either actually present on the lake or planned or allegedly contemplated, mostly by off lake communities at this time, seemed to have been addressed in the past by FERC rules associated with the permit to operate a hydropower lake (Article 34 in recent FERC licenses) or pre-1996 Shoreline Management Rules of Nantahala Power and Light, Duke Power/Duke Energy's predecessor company. They appear to require 1000 feet or, under other circumstances, one half mile of separation from each other. Having two in one cove (both are approved but only one has been built as of Fall 2006) or several in a row (currently in existence at one location on the lake and allegedly planned in another location by another developer) would apparently not have been allowed under the old rules but have been recently or could be in the future. Efforts to have these rules included in the final Settlement Agreement could be one solution for those seeking to slow down the proliferation of multislip docks and funneling.

Shoreline erosion and silting in of the lakes in the two studies also did not get a lot of attention, though the Lake Lure study mentions the majority of lots on the lake have seawalls, mostly vertically stacked stone walls that reflect the waves rather than breaking them up like rip rap along the shore does. Most versions of Duke's

(Continued on page 7)

## Lake Glenville Water Quality 3: Temperature Counts Continued

(Continued from page 1)  
sediment pathways.

Swimmers diving a few feet below the surface sometimes can notice that that deeper water is a little cooler. If only they knew! Figure 1 shows the typical early summer temperature profile (pattern of temperature with depth) that I observed on 7 July 1999. 1999 was a year in which I made quite frequent measurements with an instrument capable of measuring temperature to 100 feet depth, and a year in which NCDENR also visited the lake. This profile shows that the temperature within the upper ten feet had almost uniform temperature of about 75 F. Below that the temperature decreased rapidly to about 53 F at the 60-foot depth, and then decreased more gradually to less than 50 F at a depth of 100 feet. The lake is *thermally stratified*. The region of rapid change of temperature is known to limnologists (and fishermen) as the *thermocline*, while the more uniform layers above and below it are called the *epilimnion* and *hypolimnion* respectively.

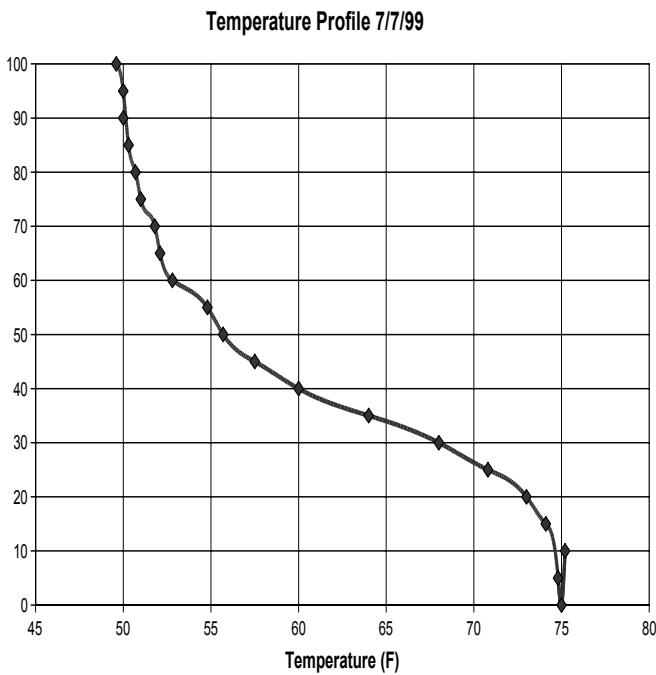


Figure 1. Temperature profile measured at Talweg North station on 07/07/1999. [Depth in feet vs. temperature]

Figure 2 shows that the thermocline structure was already well established when I started the summer measurements in early June, but the epilimnion was thin and the hypolimnion was quite thick. As weeks of summer sun warmed the lake the epilimnion became warmer and thicker; surface temperature reached nearly 83 F on 1 August during the hottest week of the year when the air temperature reached 90 F at both Toxaway Mountain and the Highlands Biological Station. During this time the Secchi disc measurements decreased from their deepest of the past decade to less than ten feet. Simultaneously, water of the hypolimnion also warmed rapidly during July, but not because that water was being heated. Rather, the coldest deep water was

being drawn out to the powerhouse through the discharge at 85 feet below the “full pool” level. Consequently the deep waters were replaced by warmer water from above. The thermocline became deeper and stronger.

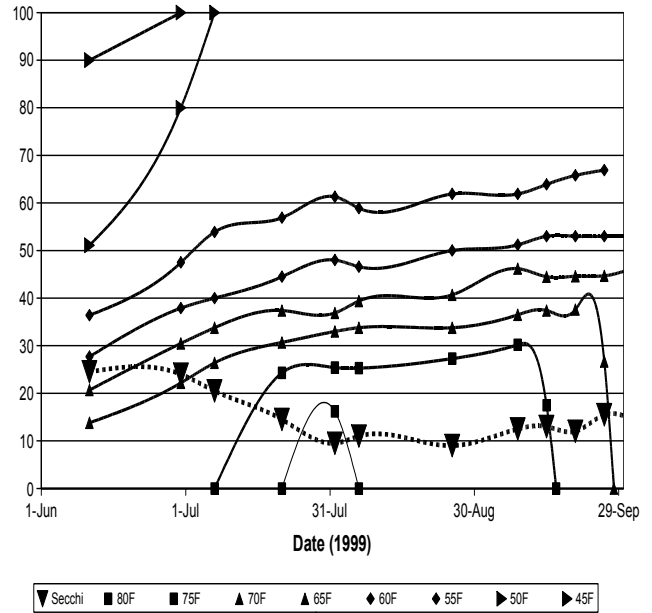


Figure 2. History of isotherm and Secchi depths during summer of 1999. Short straight lines show Secchi depths. Vertical axis in feet.

A volume of water at temperature 75 F weighs about a quarter of a percent less than the same volume of water at 50 F. That seems a small amount, but it is enough to give the warmer water enough buoyancy to “float” on the thermocline. In other terms, the difference of buoyancy between these two temperatures is about 2500 milligrams per liter. Milligrams per liter (mg/l) is not a familiar unit of measure that you will see on products shelved at Ingles, but it is particularly useful to us here. Sediments suspended in the water also influence its density or buoyancy. In my previous article I mentioned that the nephelometric turbidity units (NTU) used for turbidity measurements are sized to approximate the suspended sediment concentration in mg/l (also approximately equal to parts per million by weight). The largest turbidity value ever measured in Lake Glenville (following hurricane Ivan in 2004) is 38 NTU. The effect of this sediment concentration on the water in which it is contained will actually be somewhat smaller, so it is clear that that during the summer season temperature has a more important effect on buoyancy than does turbidity.

When the air temperature became lower and the nights longer in September the near-surface water cooled quite rapidly and began to erode the top of the thermocline by the end of the month. Secchi depths also began to deepen, possibly due to mixing of the deeper water into the turbid epilimnion. I was not here to make the measurements, but it is expected that this

(Continued on page 7)

## Lake Glenville Water Quality 3: Temperature Counts Continued

(Continued from page 6)

erosion from the top will continue until sometime in winter the lake will have a uniform low temperature and the lake mixes freely top to bottom. The stratification process will start over the following spring.

Another consideration is the considerable quantity of water carried by the inflowing streams. On an annual average the streams carry enough water to replace the lake volume each 42 weeks. There is some day-to-day variation of stream water temperature according to the weather, and stream-to-stream variation depending upon whether the watercourse is shaded or open to sunlight, but stream temperatures in midsummer are typically 63 F to 65 F. As this water enters the lake it does not spread across the surface, and it does not mix uniformly into the lake (except in winter as noted above). Rather it seeks its own buoyancy level, which, as is clear from Figure 2, is found in the middle of the thermocline, 20 to 40 feet below the surface. Earlier in the season the thermocline is colder, but so are the stream water temperatures so the same process is in effect until autumn when cooling has destroyed the thermal stratification. For a few hours following heavy rains one often can see a sharp line on the lake surface near where the streams enter the lake, marking a boundary between muddy-looking stream water and

noticeably clearer lake water. This line is known as the *plunge line*, for it marks where the cold stream water plunges beneath the warmer lake surface water. Figure 3 is a schematic illustration of the principal features of the lake circulation.

An important consequence of all this is that during summer the epilimnion waters of the lake are partially isolated from the deeper waters of the lake. They are affected only by energy and material exchanges across the lake surface and around the margins. Horizontal mixing, on the other hand, is enhanced because the surface water can be pushed around on top of the thermocline by surface winds rather easily.

One exception to the control of lake flows by water temperature should be mentioned. When a part of the lake bottom has not been exposed to wave action for months or years it will accumulate a relatively thick layer of loosely consolidated sediments. This material has the density of mud rather than water, and hence has large negative buoyancy. If that part of the bottom is steeply sloping the sediment layer can become unstable and cascade down the slope rather like a snow avalanche or terrestrial earthslide. This process is expected to be highly episodic in nature. It has never been directly observed in Lake Glenville, and cannot be without great effort, but likely is the mechanism by which much sediment is moved to the deepest parts of the lake.

This brief tutorial on lake physics will set the stage for understanding the subsurface turbidity measurements that I will show in subsequent articles. Much of it has been of a somewhat theoretical nature; the corroboration will come.

*Acknowledgements:* I want to thank Eva and Anders Hansen, Keith Dixon, Bob Larson, and Nancy Tatum for assistance in the data collection process. R. C. Cole and Peggy Cowart kindly provided weather data from Toxaway Mountain and the Highlands Biological Station.

*Editor's note:* Earlier articles can be found in the newsletter archive at [www.friendsoflakeglenville.com](http://www.friendsoflakeglenville.com).

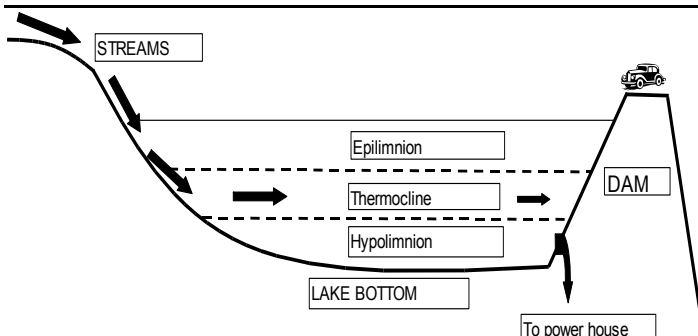


Figure 3. Schematic illustration of main circulation processes in Lake Glenville during summer. (Depth of the lake is greatly exaggerated for illustration.)

### Mountain Musings continued

(Continued from page 5)

Shoreline Management Rules in recent years show rip rap as the preferred way to stabilize a shoreline, though most of the rock walls along the lake today still resemble walls and not a natural sloping rocky shoreline like rip rap. Having a shoreline buffer zone with no powerful boats near the shore or stirring up the mud in shallow water would also spare the unprotected shoreline on Lake Glenville, as would efforts to reduce the lake level fluctuations and therefore the amount of shoreline to be stabilized. A non-lake

source of silt and decreased lake clarity is dealt with in another article in this newsletter, that being runoff from construction projects, in particular runoff from single home construction and not just that from large developments that are more carefully monitored by Jackson County.

What does all of this mean for Lake Glenville? Will most or some or any of the powerful stakeholders on and around the lake stop and think about the consequences of their actions now on future lake users and lakeside property owners? Will the residents and developers around and near the lake, the lake's owner Duke Power, and local natural resource and law enforcement agencies read studies like those mentioned

here and take action in time to preserve Lake Glenville's purity and clarity or will we be collectively like the folks mentioned at the beginning of this article and only wake up as our ecosystem fails? Only time will tell, but **YOU** (individuals, corporations, and agencies) **can act NOW to promote or require responsible use and development** so future generations have the same pristine mountain lake we enjoy today.

[Copies of the two studies referenced here can be obtained from public sources as well as from the Friends of Lake Glenville web site or by emailing the editor. The drawings of funneling are used with the permission of the Indiana Lakes Management Society.]

# Lake Turbidity & Sedimentation Team Contacts & Data Files

The *Lake Turbidity and Sedimentation Team* has compiled this resource list for members to use for contacting an official or agency. Doug Odell chairs the *Lake Turbidity and Sedimentation Team* and can be reached at 828-743-5079.

## Agency and Department Officials

Linda Cable	Jackson County Planning	828 631-2261	<a href="mailto:lindacable@jacksonnc.org">lindacable@jacksonnc.org</a>
Robbie Shelton	Erosion Control Officer	828 631-2261	<a href="mailto:robertshelton@jacksonnc.org">robertshelton@jacksonnc.org</a>
Barry Stevens	Soil Conservationist	828 586-5465	<a href="mailto:barrystevens@jacksonnc.org">barrystevens@jacksonnc.org</a>
Sheriff Dept	Noise Ordinance Enforcement	828 586-1481	
Kevin Barnett	NC Dept of Water Quality	828 251-6208	<a href="mailto:kevin.barnett@ncmail.net">kevin.barnett@ncmail.net</a>
Forest Westfall	NC Dept of Water Quality Asheville Office	828 296-4500	<a href="mailto:forest.westfall@ncmail.net">forest.westfall@ncmail.net</a>
Steve Reed	Dept of Water Resources	919 715-5424	<a href="mailto:Steven.Reed@ncmail.net">Steven.Reed@ncmail.net</a>
Chris Goudreau	NC Wildlife/Biologist	828 652-4360	<a href="mailto:goudrecj@wnclink.com">goudrecj@wnclink.com</a>
Brent Hyatt	NC Wildlife/Enforcement	828 293-3417	
Lake Levels	Duke Power Auto Response	800 829-8253	
Lisa Leatherman	Duke Power Lake Manager	828 369-4513	
Joe Hall	Duke Power Management	800 777-3853	
John Wishon	Duke Power Re-licensing	828 369-4604	<a href="mailto:jewishon@duke-energy.com">jewishon@duke-energy.com</a>
David Baker	U.S. Corp of Engineers Asheville Office	828 271-7980 Ext. 225	
Steve Foster	NC Extension Agent Biological/Ag Engineering	828 369-3958 Cell 828 342-2297	<a href="mailto:stevofoster@ncsu.edu">stevofoster@ncsu.edu</a>

## The Lake Turbidity and Sedimentation Team

Doug Odell	Chair	Cell 865 599-0523	<a href="mailto:dodell@juno.com">dodell@juno.com</a>
	FLG Re-licensing Chr	828 743-5079	
Sandy Bishop	Inflow Stream Testing	828 743-1620	<a href="mailto:spbishop@earthlink.net">spbishop@earthlink.net</a>
Don Hansen	Lake Testing	828 743-1611	<a href="mailto:doneva@netscape.com">doneva@netscape.com</a>
Mickey Henson	LTST Member	828 568-197	<a href="mailto:mickey.henson@appalachianenvironment.com">mickey.henson@appalachianenvironment.com</a>
		Cell 828 342-3269	
Bill Johnson	LTST Member	828 743-5548	<a href="mailto:wjjohnson917@yahoo.com">wjjohnson917@yahoo.com</a>
Ken Kitchens	LTST Member	828 743-2960	<a href="mailto:kkitchens@mindspring.com">kkitchens@mindspring.com</a>
Dick Rank	LTST Member	404 233-9099	<a href="mailto:richardrank4@aol.com">richardrank4@aol.com</a>
		Cell 404-280-1714	
Jon Scheidt	LTST Member	828 743-4123	<a href="mailto:scheidtjon@verizon.com">scheidtjon@verizon.com</a>

## Existing Data on Turbidity and Sedimentation

In addition to compiling the officials list the LTST has assembled a list of data relating to turbidity, erosion and sedimentation. If you would like to refer to any existing data, copies of the documents can be obtained from the agency or department involved or from any member of the LTST.

## **Publicity and Public Relations** **Promoting Friends of Lake Glenville in the Community**

In 2006, The Friends of Lake Glenville Board initiated an effort to make the organization more visible, to more clearly communicate the FLG mission, and to do a better job of promoting FLG events and activities.

First, FLG communications have begun to use "**Preserve and Protect Lake Glenville**" as a "branding" slogan. Many members of the Cashiers/Glenville Community were not sure why FLG exists and what its goals are. First and foremost, all fund raising and all initiatives are designed to bring those interested in Lake Glenville together

with the common goal of preserving this wonderful resource. The Friends of Lake Glenville's primary mission is to protect the lake from anything that could harm the Lake Glenville experience that we have all enjoyed through the years. This mission provides a focus for all FLG activities. Hopefully, with the lake as our common interest, we can also build a community that will provide a social component for FLG members.

Secondly, the FLG Board has attempted to clarify our communications. One area of confusion involved the FLG positions and priorities in the re-licensing process. To provide additional clarity, we developed a comprehensive comparison of Duke and FLG positions regarding a number of re-licensing issues. [Editor's note: see prior newsletters online.] Hopefully FLG members and the Lake Glenville community now have a better understanding why re-licensing is an

important issue and what FLG hopes to accomplish through their involvement in the re-licensing process.

The third initiative has been to gain exposure for FLG, get more recognition of what we do, and to better inform the public of our events and activities. Weekly advertisements have appeared in the *Crossroads Chronicle* to announce the breakfasts, the raffle, and the social. We want more people to join and participate in FLG. The advertising is designed to keep everyone informed and generate more interest in the organization.

Next year we hope to have FLG even more visible in our community. We feel FLG has an important mission, and increased visibility should increase membership and support. Any suggestions you have to better promote the organization or gain additional members will be welcomed.



# THE DUKE-NANTAHALA RELICENSING CASE:

OCTOBER 18, 2006 UPDATE

1. ***FERC finds Duke violated the license conditions by failing to file reports of deaths and injuries from 1999 to 2006.*** On October 11, 2006, FERC Staff issued a letter order finding that Duke had violated the Project licenses due to its 7 year failure to file required reports of deaths and serious injuries occurring at the projects. This finding is a "black mark" on the company's record that in effect puts them on a kind of informal probation since the violations "will be considered in our review of any future violations to determine appropriate Commission action". It prevents Duke from bragging about their great safety and compliance record. It enhances our credibility in complaining about other things (such as the arbitration point which has still not yet been addressed, our repeated concerns over misreported lake levels at full pond, etc.).

2. ***USF&W urges close scrutiny of the license transfer to the "new" post-merger Duke*** Duke and Cinergy failed to file for prior approval to transfer the Project licenses prior to consummating their merger. In June the Commission ordered Duke to file for approval, which was done in late August. Last week, the US Fish & Wildlife Service filed what can only be viewed as a form of opposition to the transfer until additional matters are resolved. Technically, USF&W is not "opposing" the transfer, but it calls for the Commission to scrutinize the proposed filing carefully. USF&W objects to the lack of adequate maps defining the project boundaries (as have we in prior filings) as well as the insufficiency of project buffers (the Catawba-Wateree projects have no buffer zone in most instances). USF&W also expressed concern about the "host of applications for new pier and boat slips received during the time Duke Energy has applied for transfer licenses." The Comments urge the Commission to require filing of deeds for each project prior to transfer (another point that we had earlier argued). FLG joined in a protest filed with Jackson and Macon Counties and the Town of Franklin. We noted that this was second time Duke had failed to seek prior permission in analogous circumstances.

While FERC in 2001 granted the first request for a back-dated effective date, it stated it did not condone the failure to file. Our joint protest also pointed to Duke's poor compliance record shown by the (above) Letter Order on the failure to file death and injury reports. (The FERC's letter order was issued about 90 minutes prior to our filing deadline on October 11, but we were able to include it in the filing.) *USF&W is of course* a party to the TCST Agreement and in theory committed to not oppose Duke's relicensing filing. Their Comments here are certainly adverse to Duke (if not quite actually hostile). Duke's coalition of the resource agencies appears slipping away and it would appear that our efforts (with the Counties, of course) (including repeated complaints over resource agencies effectively contracting away their duties) are beginning to have an impact.

3. ***Rehearing of notice dismissing appeal of Final EA's failure to review our alternatives.*** On October 10, we filed for rehearing of the Commission's notice dismissing our appeal of the July 14 Final EA. We have argued that the Commission should address the failures of the Final EA now rather than waiting for the end of the licensing process. A year ago, in a similar posture on failure to include our alternatives for scoping, FERC denied rehearing on the grounds that the EA would address the alternatives (as was then repeated by the Chairman in his assurances to Reps. Taylor and Inglis). Now that the EA is done and the failure remains, it is not clear how the Commission will respond.

4. ***Jackson, Macon, Counties, Franklin & Dillsboro Inn object to signing Memorandum of Understanding on Historical Preservation issues.*** The Counties have now formally objected to the proposed MOU. They argue it is premature (as it presupposes approval of the TCST agreement) and that there are questions as to who the licensed entity actually is (due to the pending transfer application for back-dated approval). Other objections were also raised. This is now pending.

## John Cassidy joins FLG Board

John Cassidy has joined the Friends of Lake Glenville Board of Directors to complete the term of Debbie Rankin whose travel plans in 2007 do not allow her to continue on the Board. John's scientific and research experience has already been a great help in researching much of the information being used by the Shoreline Liason/ Boating Safety Committee.

John retired in 2005 from United Technologies Corp. as senior vice president, Science and Technology, where he was responsible for UTC's global research and engineering activities. Prior to joining UTC, John worked at General Electric Corporate Research and Development Laboratories from 1981 through 1989. His responsibilities included control systems research and development. He also served on the board of directors of the General Electric-Fanuc joint venture in factory automation. He

began his career at General Motors Research Laboratories in 1969.

A native of Troy, New York, he earned bachelor's, master's and doctoral degrees in electrical engineering from Rensselaer Polytechnic Institute. He serves on the Visiting Committee on Advanced Technology for the National Institute of Standards and Technology and chairs the Advisory Council to the Georgia Tech Research Institute. He is a member of the boards of directors of the Albany International Corporation and the Nine Sigma Corporation. He is also a senior member of the Institute for Electrical and Electronics Engineers and the Society of Automotive Engineers.

John and his wife, Paulina, are full time residents in Stonebridge on Lake Glenville. They have two children and five grandchildren who reside in the Atlanta area.



**FRIENDS OF LAKE GLENVILLE**  
**2007 Membership Application**

\_\_\_\_ New  
\_\_\_\_ Renewal-No Changes  
\_\_\_\_ Renewal-With changes

For renewals only: DO NOT COMPLETE THE DATA INFORMATION IN SECTION A UNLESS THERE HAVE BEEN CHANGES SINCE 2006. PLEASE INDICATE THE STATUS OF YOUR MEMBERSHIP IN THE UPPER RIGHT HAND CORNER, THEN CONTINUE WITH SECTIONS B THROUGH F OF THE APPLICATION.

Today's Date: \_\_\_\_\_

Name(s): \_\_\_\_\_

A) Lake Address: \_\_\_\_\_ "Home" Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone(Lake): \_\_\_\_\_ Fax(Lake): \_\_\_\_\_ Email (Lake): \_\_\_\_\_  
Phone (Home): \_\_\_\_\_ Fax(Home): \_\_\_\_\_ Email (Home): \_\_\_\_\_  
Lake neighborhood name and/or general area: \_\_\_\_\_  
Lake 911 address if above is PO Box: \_\_\_\_\_

B) Mail all newsletters and other correspondence to \_\_\_lake address or \_\_\_home address (choose one only for whole year).

Type of Resident: \_\_\_Seasonal or \_\_\_Permanent

C) Membership type: \_\_\_\_\_ Voting\* \$45 annually \_\_\_\_\_ Associate \$45 annually

\*Voting member(s) is/are property owners and/or registered voters within one mile of the lake or within Hamburg Township.  
Associate members live outside the voting member area but have an interest in the lake.

Sponsorships: \_\_\_Bronze (\$100 - \$199) \_\_\_ Silver (\$200-\$299) \_\_\_ Gold (\$300 and up) \_\_\_ Other (contact FLG President)  
All Sponsorships include: 1 Family membership, FLG decal, acknowledgment in a future newsletter and on the FLG website

D) Please rank the following FLG programs and projects on a scale from 1 through 10 according to your level of interest (10=high interest; 1=low interest)

\_\_\_ Member recruitment                      \_\_\_ Newsletter                      \_\_\_ Social events                      \_\_\_ Community beautification  
\_\_\_ Water/boating safety                      \_\_\_ Relicensing                      \_\_\_ Fund raising                      (i.e. Post Office Garden)  
\_\_\_ Lake/shoreline law enforcement                      \_\_\_ Water quality                      \_\_\_ Sedimentation/Erosion                      \_\_\_ Political/legislative

I am interested in being on a committee \_\_\_yes \_\_\_no. If yes, which committee(s)? \_\_\_\_\_

E) Please indicate an FLG activity interest group you might like to enjoy with other FLG members.

\_\_\_fly fishing \_\_\_lake fishing \_\_\_ hiking \_\_\_excursions \_\_\_golf \_\_\_tennis \_\_\_boating \_\_\_paddling \_\_\_cards \_\_\_dinner club

F) Form of payment: Check: Check No. \_\_\_\_\_

Credit card: \_\_\_ VISA \_\_\_ MasterCard [Other cards cannot be accepted at this time.]

Account # : \_\_\_\_\_ Exp. Date: \_\_\_ / \_\_\_

Cardholder (print): \_\_\_\_\_ Signature: \_\_\_\_\_

Mail completed form with check or credit card information to: Friends of Lake Glenville  
P.O. Box 493  
Glenville, NC 28736

\* Dues must be received one month prior to Annual Meeting (July 4, 2007), in order to vote at the Annual Meeting on August 4th, 2007.

# On the Dock

Ken Cowles

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Venturing out upon Lake Glenville requires each of us to interact with others seeking to enjoy those same waters.

Before you decide to “get wet” and hit the water remember that many of the boaters out there have little experience...and that doesn't just mean the rental boats, it includes those in the shiny new \$50,000+ wakeboard boats. It can be comical as it was the time we saw a wakeboard boat with boarder in tow park their boat upon the top of a rock wall ledge. Or another when I witnessed an operator continue on down the lake never realizing their skier had long ago fallen off.

More often though, in instances like these, disaster strikes and we can end up with damaged props and hulls, serious injuries or worse yet fatal accidents.

Participants in water sports; drivers and skiers alike, must take the time to learn the waters, know the equipment they're using, boating laws, as well as the teamwork involved and the fundamentals of the sport.

Some issues to keep in mind;  
Be alert for the wake you throw and that of others.

Watch for submerged objects. Lake Glenville is deep but is often chock full of barely afloat debris. I have pulled incredibly large logs, stumps and discarded construction lumber from all parts of the lake.

Use a spotter. Boat drivers should watch the lake, not the skier

Before accelerating, double check the boat path for obstacles, make sure passengers are seated and make sure the towrope is not caught in the propeller or worse yet wrapped around the skier.

When a skier is down, return immediately. It is difficult for other boats to see a skier in the water, a tow boat slowly returning should alert others a skier may be down. Fallen skiers should signal the driver they are OK with a quick wave, and alert other boaters with raised arms or equipment.

In picking up fallen your skier return slowly and approach with caution, always keeping the skier on the driver side of the boat where you can maintain visual contact.

Never back the boat towards someone in the water and always shut the engine down while the skier is getting back into the boat.

If a skier is injured proceed with caution. Don't yank them into the boat. Have your spotter get in the water and support the skier until the extent of the injury can be determined.

Ski Safe!

[Editor's note: Neighbor and FLG member Ken Cowles is a long time expert water skier and teacher. His columns in the Crossroads Chronicle will be reprinted here from time to time, to promote boating safety and courtesy.]



## Friends of Lake Glenville Board of Directors

Carol Adams President	743-1658	casolveit@yahoo.com
Helen Cook, VP		helen@lodgingresources.com
Howard Austin, Secretary	743-9494	hmaustin@mindspring.com
Joanne Lindquist Treasurer	743-1630	joanne_lindquist2002@yahoo.com
Sandy Bishop	743-1620	spbishop@earthlink.net
John Cassidy		
David Leach	743-1825	leachga@earthlink.net
Doug Odell	743-5079	dodell@juno.com
Richard Becherer	743-0686	richard-becherer@utc.edu

## Jackson County Board of Commissioners

Jackson County Administration	
401 Grindstaff Cove Road	
Sylva NC 28779	
828-586-4055, 828-586-7506 fax	
Kenneth Westmoreland, County Manager	586-7580 (w)
Commissioners:	
Brian T. McMahan, Chairman	586-5451 (h)
Roberta Crawford, Vice Chair; District 1	586-2607 (h)
Conrad Burrell, District 2	586-4301 (h)
Joe Cowan, District 3	586-4328 (h)
Edwin H. Madden, District 4	743-9664 (w)

Jackson County government web site: [www.jacksonnc.org](http://www.jacksonnc.org)  
Jackson County general web site: [www.main.nc.us/jackson/](http://www.main.nc.us/jackson/)

**Friends of Lake Glenville**  
**P.O. Box 493**  
**Glenville, NC 28736**





Friends of Lake Glenville  
PO Box 493  
Glenville NC 28736

FIRST CLASS

**Friends of Lake Glenville**

**Fall 2006**



**On the web: [www.friendsoflakeglenville.com](http://www.friendsoflakeglenville.com)**