

We want to thank you for your interest in Lake Lanier and our Association's views on important factors affecting the lake.

Last year and this year have seen significant challenges to the lake. Businesses are closing, residents are losing property values, safety is being compromised and the lakes contribution to the quality of life has been impaired.

We know that droughts are a part of nature and that when this drought is over, there will be others.

We hope that our views will contribute to the important dialogue that needs to take place regarding the best and most effective ways to assure Lake Lanier's continued contribution to the quality of life for the north metropolitan Atlanta area and for the millions of Georgians that depend on it for water supply, recreation, and their livelihoods.

## Lake Lanier Association Goal: A FULL and CLEAN Lake Lanier

- Over 40 years working to benefit the Lake
- Over 4,000 individuals and businesses
- Adopt-A-Lake and water quality monitoring
- Shore Sweep – 50 tons removed in 2007
- Gwinnett sewage discharge plant
- LLWQC - consensus among ALL Lanier water systems to adopt more stringent discharge limits
- Tri-State Water Rights Litigation
  - Intervened to protect Lake Lanier's unique needs and interests



For more than four decades, the LLA has collaborated with the Corps to benefit Lake Lanier. We have all seen Lake Lanier visitors rise to over 7.5 million over these 40 + years.

Lake Lanier continues to be a crown jewel of the Corps of Engineers and the North Georgia area.

We believe that our activities on behalf of the millions of visitors, supported by over 4,000 members – both individuals and businesses – contribute to the Corps of Engineers work to make sure that Lanier remains one of its most popular and well managed facilities.

The activities listed are but a few of the more notable ones we have undertaken to benefit the Lake.

It is important to us that we work COLLABORATIVELY with the Corps to protect this unique and valuable resource.

## Meeting Objective

- Represent unique role of Lake Lanier in ACF
- Present our recommendations for RIOP
- Discuss Lake Lanier specific triggers
- Engage in discussion regarding Water Control Plan development
- Enhance the working relationship between COE and LLA



Our meeting today has a clear and limited set of objectives. We do not expect changes to fundamental Corps of Engineer principles to occur as a result of this meeting. We do hope that it will begin a dialogue regarding some key issues however.

We understand fully that managing a resource such as the ACF is complex. Simple solutions, while attractive, fall apart when confronting reality. Some would have you just 'put a plug' in the lake and stop any further water discharge. I tell them that is the best way to create over 3 million instant enemies.

What we want to do today is present our view of the unique role of Lake Lanier in the ACF. We all know the numbers – 64% of the water and 6 % of the watershed. But there are some aspects of the RIOP that we believe work to the detriment of Lake Lanier in serving the important role that it has in the ACF.

We want to discuss Lake Lanier-specific triggers; engage in discussion regarding the Water Control Plan development; and most importantly create an approach that will enhance the working relationship between COE and LLA.

## RIOP – Flawed Concept

- ACF not designed as a ‘system’
- MRF is only management criterion
- Abandoned WCP storage management
- Composite Storage management ignores unique reservoir characteristics
- Multi-year drought leads to lower lows since refill is not primary objective



Let's jump right into it...

Fundamentally we believe the IOP – and its 6 variations since 2006 – is a flawed concept for these basic reasons:

1. The ACF was not designed as a ‘system’. It grew piece by piece. As such it represents a complex conglomeration of disparate elements that need to act like a system, but can only do so if the unique characteristics of each element are recognized.
2. In the RIOP, the management criterion that drives all decisions is the Minimum Required Flow from Woodruff Dam.
3. Storage management, which included the goal of having full reservoirs by June 1 of each year, has been effectively abandoned.
4. Instead of three distinct reservoirs, the ACF is managed as a Composite Storage resource as though it were one big bucket of water.
5. These – and other – characteristics of the RIOP seem to us to virtually guarantee that in multi-year droughts, Lake Lanier will experience lower lows each year since refill is not the primary objective.

Lake Lanier's small watershed assures that it will always refill slower than the other reservoirs leading to an unbalanced status with the smaller reservoirs at Zone 1 and Zone 2 while Lanier struggles along well into Zone 4. A situation we have today.

## RIOP Deficiencies

- Drought Zone trigger is too low, too late
- DCO – insufficient relief from MRF
- Inadequate BI storage when available
- Fall rates are unnecessary, waste water that could otherwise be stored
- No fail-safe point at which flow augmentation will be discontinued or at which Lake Lanier will be disengaged from flow augmentation

The Drought Zone defined in the RIOP is too low and too late. In 2007, the Composite Storage only entered into the Drought Zone late in November and then for only a couple of weeks time period. By then Lake Lanier was already down to below 1,051 elevation. We would argue that the actions contemplated by the RIOP should really take place as soon as the Composite Storage enters Zone 4 if the Composite Storage level continues as the trigger.

The Drought Contingency Operations that go into effect in Zone 4 provide no effective relief to the Minimum Required Flow.

In general, the last year has demonstrated that more Basin Inflow needs to be stored when it is available. The levels stipulated in the RIOP should be increased substantially.

There is considerable debate over the fall rates in the RIOP. We believe they require more water to be released than is necessary. The argument that they protect the mussels seems to ignore the fact that the natural flow of the river has historically included dramatic fluctuations in flow and fall rates substantially in excess of what the RIOP allows - and that it was under these conditions that the mussels not only evolved but thrived.

An important point is that there is no fail-safe point at which flows from the reservoirs – and Lake Lanier specifically - would be disengaged. The only interpretation is that Lake Lanier and the other reservoirs could be sacrificed totally to meet the MRF. That is an unacceptable possibility.

## Too much Lanier Conservation Storage used for augmentation

- Between June and November 2007, over 50% of available ACF Conservation Storage was used to augment flow into the Apalachicola
- Over 1,700 cfs augmentation required for 6 months
- After Sep 07, only Lanier had water to give
- Lake Lanier cannot support that demand

As Dr. Couch pointed out in her comments on the RIOP, between June and November of 2007, over 50% of the ACF available Conservation Storage was released to augment flow into the Apalachicola River. That is approximately 200 billion gallons or 614,000 ac-ft when the Composite Storage was down to approximately 1,000,000 ac-ft. That is enormous.

During those 6 months over 1,700 cfs of augmentation was required in order to meet the MRF. This is indicative of the conditions the biological and ecological system in the Apalachicola area experienced from nature prior to the ACF reservoirs being built.

After September 2007, the other reservoirs were almost down to their inactive zones. Lanier was the only lake with water left to give so it saw daily discharges in excess of 3,000 cfs on numerous occasions.

Lake Lanier cannot support that level of demand.

## Protection of the Species does not require 5000 cfs or even 4500 cfs

- The Corps' projection of take at 4750 cfs under the EDO was 5600 FTR and 100 PBC and CSS.
- The actual take calculated by FWS was 1469 FTR and zero PBC and CSS, less than  $\frac{1}{4}$  of the projected take.
- Despite this, the minimum RIOP flow, in the face of the lowest lake levels in history is 5000, with a reduction to only 4500 using a trigger that will seldom, if ever, be pulled.



We understand that the Fish and Wildlife Service projected a take of 21,000 Fat three ridge mussels if flows were reduced to 4500. However, the fact that the actual take when flows were reduced to 4750 was only  $\frac{1}{4}$  of the projected take of 5,600 at 4,750 cfs should give the Service some pause in considering the accuracy of its take projections. The fact that the take of all three species was so far below what the Service initially projected suggests that the Service's methodology is not accurate enough to use as ACF management guidelines.

The resulting water savings from the relatively miniscule reduction from 5,000 to 4,500 cfs will be so minimal and so late in coming as to be almost inconsequential.

Given that the latest Biological Opinion documented an estimated 233,000 fat three ridge mussels gives cause to want a more thorough investigation of the endangered status of at least this mussel.

## JWLD Minimum Release Issues

- RIOP provisions for minimum releases use triggers that are too high and storage percentages that are too low
- RIOP does not allow any storage if BI <8,000 cfs EXCEPT in the winter or during DCO.
- During the spawning period, the RIOP does not allow any storage if BI <11,000 cfs in Zone 3, and 16,000 cfs in Zones 1 & 2.
- The result is missed opportunity for storing water when it is needed the most



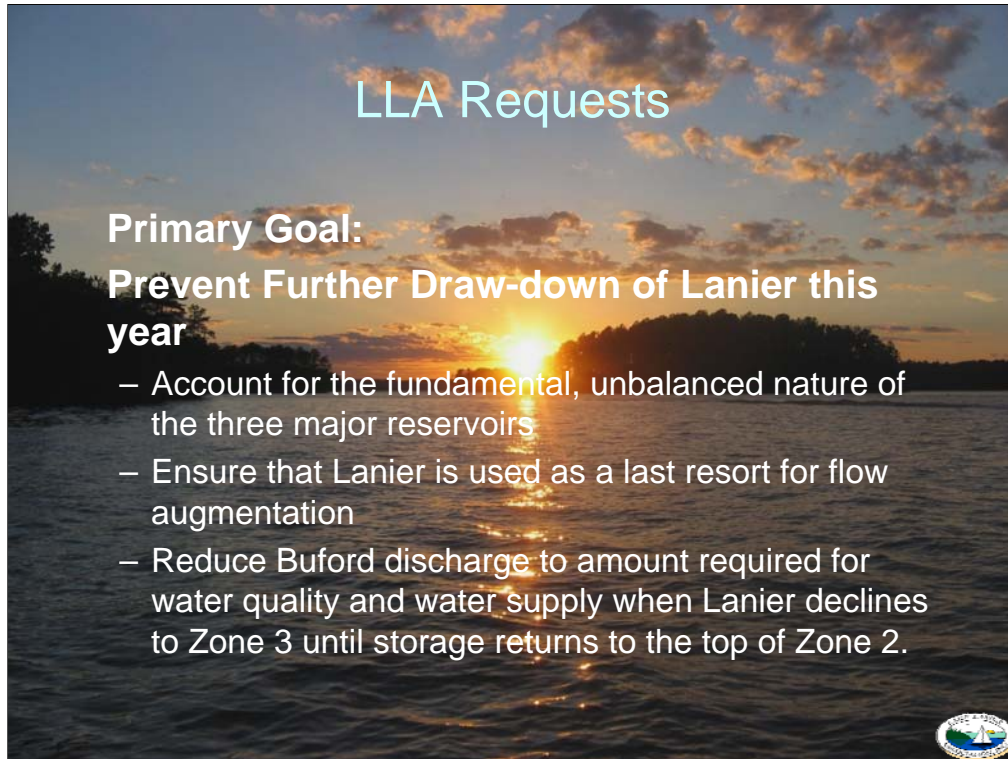
Before allowing storage of any BI, the RIOP sets a minimum of 16,000 cfs during Spawning season when composite storage is in Zones 1 and 2. But once flows reach ~10,000, the two known spawning sites are covered, and any flow over 11,000 cfs does not provide significant additional spawning sites. Even the FWS has noted that the sturgeon spawned in 2005 and 2006 by using higher portions of rock in higher flows, and lower portions of rock in lower flows.

When composite storage is in Zone 3, the RIOP requires a minimum of 11,000 cfs before any storage is allowed. This would be more consistent with our comments about the minimum flow actually needed.

The RIOP also sets a floor of 34,000 cfs before allowing storage of all flows >25,000 cfs when composite storage is in Zones 1 and 2, but 39,000 cfs when in Zone 3. We question the need for this higher threshold in Zone 3, and would argue for allowing 100% storage in all three Zones at a much lower threshold.

We are also concerned that the RIOP does not allow for storage between 5,000 and 8,000 cfs during the “non-spawning” period when composite storage is in Zones 1, 2, and 3. Flows during the summer months are typically low, and preventing storage during these times when Lanier is already very low unnecessarily limits the ability of Lanier to recover. By sporadically increasing unsustained flows up to 8,000 cfs, the RIOP may harm mussels by enticing them to move to higher ground when flows will not sustain them there for long.

In summary: in Zones 1, 2, and 3 between March and November, we would recommend that the Corps give itself additional leeway by raising the percentage of BI available for storage from 50% to 100% and lowering the threshold to 11,000 cfs - to help avoid the type of extreme low storage situation we are experiencing now.



## LLA Requests

### Primary Goal:

### Prevent Further Draw-down of Lanier this year

- Account for the fundamental, unbalanced nature of the three major reservoirs
- Ensure that Lanier is used as a last resort for flow augmentation
- Reduce Buford discharge to amount required for water quality and water supply when Lanier declines to Zone 3 until storage returns to the top of Zone 2.

It is probably obvious that our primary goal is to prevent further draw-down of Lake Lanier this year. We recognize that the criteria since January has been to release only water that is required for supply and quality purposes. And that has kept the drop in the lake level as small as possible.

Lake Lanier is not only the crown jewel of Corps lakes, it is the water supply for millions of Georgians. It provides for the livelihoods of thousands of LLA constituents. To drain it without an equal and corresponding formula for refilling is simply not responsible. Events of the last two years have shown us that the IOP in its six iterations have contributed materially to the decline in Lanier's levels to their lowest in history. We now face the distinct prospect of entering 2009 with Lanier lower than it is now.

Both the Corps's own projections and common sense would indicate that even with those management decisions, the lake will continue to drop. We do not want to exacerbate the situation to make it even more difficult to recover during the winter rainy season. Hopefully we will be lucky enough to get more nearly normal rainfall this summer – as we have for the first part of July. But I don't think any of us would want to bet on that.

The unbalanced nature of the three reservoirs contributes to the challenge. West Point and George refill quickly and have much more watershed than Lanier.

We would put forward the argument that Lanier should be the last resort for flow augmentation – if it has to occur at all.

There must be a trigger to disengage Lanier as a source for MRF augmentation in times of drought. One suggestion we offer is that when Lanier declines to Action Zone 3, discharges be limited to Atlanta water supply and quality flows until the lake returns to the top of Zone 2.



The Endangered Species Act prohibits acts that harm listed species. It does not create an affirmative obligation on the part of the Corps to augment the natural flows of the river to protect the Species when nature herself would not.

The River and Harbor Acts of 1945 and 1946 specified a number of benefits to be realized from the construction of Buford Dam. The minimum flow required to realize those benefits is all the Corps is legally required to provide. The benefits intended for the Corps' facilities cannot be relegated to inconsequential status.

The 5,000 cfs MRF specified in the original Water Control Plan was stated to be for the purpose of supporting "downstream industrial uses." The only such use at the time was Plant Scholz, a small, coal-fired power plant whose operation is not even recognized as one of the benefits specified in the R & H Acts. Nonetheless, Southern Company has acknowledged publicly that Plant Scholz requires only 2,000 cfs of flow to operate; therefore, if the Corps elects to support that use, then a flow of 2,000 cfs at the Chattahoochee Gage is sufficient – not 5,000.

During Drought Contingency Operations, recognize that this is a natural condition and return to adjusted basin inflow.

If the MRF is not reduced, then a meaningful exception must be made in times of drought. The flow must be low enough to provide true protection for Lake Lanier, and the trigger must be realistic.

## LLA Requests, cont'd.

- Eliminate maximum fall rates
  - Fall rates are unnecessary, waste water that could otherwise be stored, and may actually harm mussels
- Adjust flow requirements for upstream reservoirs based on the fact that only BI above WFG is controllable

The RIOP re-institutes maximum fall rates, especially during DCO – precisely the time when water can least afford to be wasted. There is no scientific evidence establishing that the mussels need these restricted fall rates. Common sense tells us that they evolved and flourished during times when flows underwent drastic fluctuations not only in volume but in rise and fall. It is certainly arguable that the restricted fall rates required under the RIOP are counterintuitive and potentially harmful to the mussels, again enticing them into places where nature would otherwise have been sending signals for them to remain in deeper portions of the river.

It is especially noteworthy that the Corps requires a fall rate of .25 ft/day when initiating the DCO. We can see no justification for this requirement.

It is also our understanding that all the Corps' RIOP requirements are established using total BI, rather than BI ABV WFG. It is common knowledge that the BI below WFG – approximately 57% of total BI - cannot be stored, and including it in any computations of whatever flow upstream reservoirs will be required to provide appears to be fraught with complications. At the very least, the Corps should account for the difference in controllable, storable BI in setting its thresholds and releases.

## Keep Lanier As Full As Possible

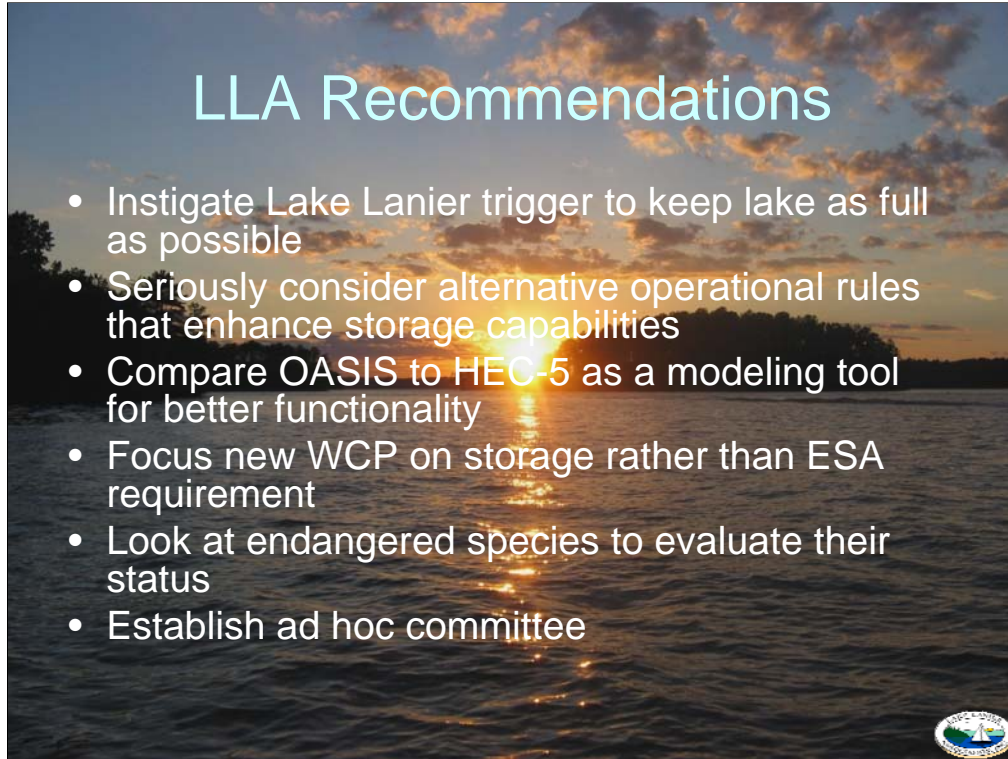
- Maximize storage when basin inflows are comparatively high, even during drought
- Implement Lanier management policies that will reduce discharges when Lanier is in Zones 2 or 3
  - Consider techniques such as reducing peak power generation, that would keep Lanier as high as possible
  - Increase the percentage of basin inflow that can be stored during spawning and "non-spawning" seasons
  - Lower the thresholds at which basin inflow can be stored (i.e., lower the seasonal minimum releases from JWLD)



Our long-term goals include keeping Lanier as full as possible in terms of plentiful BI. We would encourage the Corps to explore ways of reducing flows out of Lanier during such times, and of maximizing the ability of the Lake to refill as well. It is sound logic to preserve Lanier at the highest levels possible in order to provide a cushion in times of drought, which have become much more frequent and severe in recent years.

We are sure there are some additional ideas that will work toward this goal. These are some that we have presented earlier.

We are encouraged that the Corps is willing to 'think outside the box' and to consider additional alternatives. We welcome the opportunity to participate in the process.



So specifically, our recommendations are:

1. Establish Lake Lanier trigger to keep lake as full as possible such as whenever Lanier is below Zone 2, limit discharges to water supply and water quality.
2. Seriously consider alternative operational rules that enhance storage capabilities.
3. Compare OASIS to HEC-5 as a modeling tool. It is licensed for the entire ACF and is available.
4. Focus the new Water Control Plan on storage optimization rather than flow augmentation for Endangered Species purposes.
5. Look at endangered species to evaluate their current status. Are they still endangered.
6. Create an ad hoc committee specifically to investigate ways to keep Lake Lanier as full as possible. Lake Lanier Association will be pleased to be a part of the ad hoc committee.

# Lake Lanier Association

- Committed to a full and clean Lake Lanier
- Committed to working cooperatively with the COE on near-term and long-term objectives

Thank you.



Our commitment continues to be to a full and clean Lake Lanier. But in addition we are equally committed to continuing to work cooperatively with the Corps of Engineers on near term and long term agendas.

We do not have all the answers. We have a perspective that we think is important and represents an important constituent consisting of resident, business, and municipality stakeholders.

Thank you.