

# **Yadkin Hydroelectric Project, FERC Project No. P-2197-073**

## **Scoping Comments of SaveHighRockLake.org**

SaveHighRockLake.org is an organization of more than 8000 stakeholders in FERC Project 2197. Our membership consists of citizens living mostly within 75 miles of Project 2197 sharing common interests in recreation, water quality, fish and wildlife habitat and the aquatic environment at High Rock Lake. Our organization has participated in the relicensing process of Project 2197 since its inception to protect the rights of our membership as defined in the Electric Consumers Protection Act of 1986. Since the interests of our members spanned almost every one of the identified interests, we have had representatives in almost every meeting since the process began. Our goals are to ensure the rights of all stakeholders in the project are properly and EQUALLY considered. Our primary concern is that issues identified by the studies performed WITHIN the Project boundaries are adequately addressed in the license articles incorporated into the future license to operate the Project. We would like to offer the following comments on behalf of our entire membership.

### **The Past**

Alcoa Aluminum was given the right nearly 80 years ago to use the Natural Resources belonging to the citizens of North Carolina in exchange for the positive economic benefits to the surrounding communities resulting from the employment of hundreds of North Carolinians. The High Rock dam created the largest man made impoundment in North Carolina when it was completed in 1928. The power generated by Project 2197 was used to offset the huge demand for electricity of the aluminum smelting operation. Unfortunately the project was never capable of supplying the total power demands of the smelter and river flows are not sufficient to allow for continuous generation. Therefore the local public utilities had to build the infrastructure to supply the needs of the smelter on a 24/7 basis. Alcoa Aluminum then contracted with these utility companies to sell their generating capacity back to them during the peak periods of the day. This allowed Alcoa to receive the maximum value for the power they could generate and gave the local utilities additional load following capabilities when necessary.

In 1968 the High Rock Operating Guide Curve developed by Alcoa appropriately included staged cut backs in generation as lake levels fell and proclaimed this to be a huge benefit to the river system and recreation at High Rock Lake. Unfortunately only Alcoa knew the defined cut backs would be completely inadequate to protect the aquatic environment at High Rock Lake when they coupled it with the undisclosed changes they made to the Headwater Benefits Agreement with Carolina Power and Light. This practice also compounds the sediment problems at High Rock by capturing sediment laden water and allowing the suspended sediments to settle out of the water instead of flowing through the dam and carrying the nutrient rich water downstream. These drawdowns also promoted increased erosion and the re-suspension of

lakebed sediments when subsequent high inflow events occurred, further contributing to water quality problems within the reservoir.

APGI graphically demonstrated during the drought of 2002 that they will not voluntarily "Do the Right Thing" and that corporate profits are their first priority. While they cited the Headwater Benefits Agreement with Carolina Power and Light (Attachment A) as the cause, section III (Page 3) and section VIII (Page 8) of the agreement actually includes clauses that allow them to modify the terms by simple agreement between the two companies and recognizes "Dry Weather" as a valid reason to suspend enforcement of the agreement.

Badin (Narrows) reservoir and High Rock Lake are both designated as "Store and Release" facilities but APGI always kept Badin (Narrows) near full pond while routinely fluctuating High Rock as much as 15 feet. Alcoa has always claimed that it was necessary to maintain Badin (Narrows) reservoir near full pond due to the large drop in generation efficiency as lake levels decreased but stated that a similar drop in efficiency did not occur at High Rock Lake. Based on the head versus capacity curves (Attachment B) submitted to FERC on 10/13/06 this is not true. The curves indicate a loss of capacity at Badin (Narrows) at a rate of .66 mw per foot versus a loss of .6 mw per foot at High Rock Lake. This amounts to a miniscule differential of only .06 mw per foot between the two reservoirs and would be effectively irrelevant. Since High Rock Lake is effectively three times larger than Badin (Narrows) it would be more productive to maintain the larger reserves at High Rock which would allow longer generation periods on a per foot basis while maintaining three times as much water reserve to protect the remainder of the river system.

## The Present

The Yadkin River is now commonly referred to as the "Worst Managed" watershed in North Carolina. Since APGI's current license was issued, the Congress of the United States has passed two significant pieces of legislation that Alcoa has been "Grandfathered" from and has not been required to honor. These Acts are the direct result of mismanagement of our natural resources by many companies for the sake of corporate profits. APGI is no longer exempt from the terms of the Environmental Policy Act and the Electric Consumers Protection Act of 1986. It is the direct responsibility of the FERC to see that any new license terms strictly conform to the INTENT of these Acts.

Alcoa Aluminum has closed their smelting operations at Badin NC. APGI employs only a handful of people in NC now. Project 2197 directly contributes virtually NOTHING to the economies of the surrounding communities. Since the continuous power requirements of the smelting plant were actually being supplied by the local utility companies, the power generated by APGI's hydroelectric facilities is now simply excess capacity no longer needed to supply the electrical demands of the communities in North Carolina surrounding the Project. These Public Utilities (Duke Energy and Progress Energy) operate large networks of fossil fuel, nuclear and hydroelectric power generating facilities as well as constructing and maintaining extensive high availability power distribution systems in the interest of the citizens of North Carolina. They provide direct high value employment to thousands of North Carolinians across the state as well as tens of thousands more indirectly through contract and supplier services. They provide these services economically to the public while operating under the terms and conditions of the NC Utilities Commission. One of the most significant restrictions placed on these companies is the

12.5% rate cap that limits their profits and protects the citizens of NC from opportunistic price gouging. This also encourages them to provide the necessary stable base load capabilities from their fossil fuel and nuclear facilities while using their hydroelectric facilities to provide load following (peaking) capacity. Since hydroelectric facilities can be brought online in only a few minutes and shut down just as quickly, this is the most prudent use of hydroelectric generation. This operating scenario is what allowed Progress Energy to keep Lake Tillery nearly full while High Rock Lake was being drained in 2002. It also allowed Duke Energy to manage the Catawba Chain of lakes in a manner that kept them reasonably full and resulted in FERC commending them on their management of the system during the worst drought ever experienced in North Carolina. Since APGI has no other source of electricity to sell and their profits (averaging well over 200% per year) are not regulated by the NC Utilities Commission they are seeking new license terms that will allow them to operate their hydroelectric facilities at the highest possible capacity for the longest periods possible instead of in the more suitable load following manner. This may be good for corporate profits (which are all sent to the parent company out of state) but is certainly not in the best interest of the river system or the citizens of North Carolina. With the closing of the Badin smelter the only tangible value of the APGI Yadkin Project to the citizens of the communities surrounding it is in the recreation and tourism provided by the reservoirs.

The High Rock Operating Guide proposed in the Agreement in Principal and the subsequent Relicensing Settlement Agreement extends the "Recreation Season" (as defined by APGI). It is being promoted by APGI as a huge improvement over the past with significant improvements for fish, wildlife, environment, water quality and recreation. The new guide does away with all of the hocus pocus curves and generation restrictions as lake levels fall and simply sets a lower limit on lake levels for each month. This is the same story Alcoa told in 1968 when they developed the current Guide Curve with its maze of lines and corresponding rules that virtually no one outside of the Hydroelectric power industry could understand. Only THEY knew the restrictions were basically "smoke and mirrors" and it would be almost impossible for them to be found in violation of the rules. If you examine the comparison of the NEW Operating Guide to the Historical High Rock Lake levels in Attachment C, it is obvious the new proposal is little more than a request to continue operating High Rock Lake almost exactly as it has always been operated. The difference now is there are absolutely NO restrictions on generation/discharges as lake levels fall to the defined minimums and nothing to regulate the maximum allowable fluctuations daily, weekly or even monthly as found at many hydroelectric developments. They have also cleverly buried provisions in the RSA allowing APGI to discharge 25% more from High Rock Lake than is necessary to meet downstream minimum flow requirements when High Rock Lake is below its normal minimum elevation. This is then combined with a variance allowing a minimum discharge from the project of 5 % BELOW the license requirements to be considered compliant. Finally, there is confusing verbiage that attempts to quantify "Daily Discharge" requirements from the Project as compliant if satisfied on a "Weekly Average" basis. What they have simplified in one section by defining lake levels to be the measurement of compliance they have again attempted to cloud with more "smoke and mirrors" variances to ensure it is nearly impossible to be found in violation of their license articles. There is an adage used in business management training that states:

**If you always do what you have always done  
You will always get what you have always gotten**

For most businesses this is a bad thing and is used to emphasize that if your business doesn't change and adapt to the times, it will not grow. However in the hydropower generation business nothing is more desirable than to be able to continue operating in the same fashion as you have for more than half a century. If they are allowed to do what they have always done, we already know what we will get!! We have seen it for the last 45 years. The new guide includes an allowable winter drawdown of approximately 62% of the average depth of High Rock Lake even though there was NOT A SINGLE STUDY that supported the need for a winter drawdown other than APCI's desire to continue the practice. It adversely alters the natural flow of the river, promotes longer retention periods for the water captured and the fallout of suspended sediment in an already sediment overloaded lakebed. This compounds the nutrient loading problems already present at High Rock Lake. We have been unable to identify any other hydroelectric development that includes an operating guide RECOMMENDING drawdowns anywhere near 50% of the average depth of the reservoir. Alcoa's practice of extreme winter drawdowns at High Rock Lake has prevented the establishment of beneficial aquatic vegetation such as water willow. This type of vegetation is prolific at the other project lakes and would be a significant factor in improving the water quality at High Rock. APCI proudly contends that this regime does not **KILL** beneficial aquatic vegetation at High Rock Lake; it simply **PREVENTS** the vegetation from ever being established. This is a claim that only a lawyer could ever be proud to make. You would certainly never find anyone concerned about the environment proudly making this statement. **After almost 40 years of operating under this scenario the net result is High Rock Lake has been designated as "impaired" by the State of North Carolina.**

High Rock is unique in several ways that require special consideration. Overall it is a very large but relatively shallow impoundment. The unregulated water flowing into High Rock is very nutrient rich and sediment laden. These four factors combined contribute greatly to its impaired status. Dingy, shallow and slow moving water warms up much more rapidly than clear or rapidly moving water, therefore High Rock Lake reaches critically high temperatures earlier in the year than any other place in the river system. It maintains those higher temperatures for a longer period of time. Warm nutrient rich waters promote higher levels of algal growth which cause dissolved oxygen problems causing stress on the fish population and ultimately resulting in fish kills. APCI contends most of the water quality problems at High Rock Lake are the result of discharges above the project and are out of their control. While they have no control over these upstream discharges, they DO have total control over how they deal with these issues. All of the impoundments below High Rock Lake are comprised almost entirely of water from High Rock Lake but do not experience the problems found at High Rock. The only major difference is the retention time of the water at High Rock Lake is more than 4 times longer than any of the other impoundments. Lacking definitive remediation measures it is only prudent for the Commission to make changes that will err on the side of caution instead of allowing APCI to do the exact same thing for another 30 to 50 years. Interestingly enough, it appears the most beneficial operating scenario is NOT to treat High Rock Lake special, but to manage it exactly the same as the other reservoirs in the watershed and keep it reasonably close to full. This encourages sediment laden waters to pass through more quickly with less fallout and pushes nutrient rich waters out of the lake more quickly. Maintaining all lakes in the project within 3 foot of full pond on a year round basis provides the closest mimic of natural river flow throughout the watershed. Higher head elevations provide higher total power output from the generators. It would allow beneficial aquatic vegetation to be established in High Rock Lake while producing the shortest water retention period. Both of which are beneficial to improving water quality directly in the lake.

High Rock Lake is no longer a remote collection of weekend get-aways and fishing shacks as it was in the 1950s. It is less than an hour away from no less than four of North Carolina's largest cities and dozens of smaller cities such as Lexington, Salisbury, Asheboro and Thomasville. It is a highly valued tourism destination and has become the equivalent of a bedroom community for thousands living around High Rock and commuting to these cities on a daily basis. These waterfront homes and lakeside communities represent the most highly valued property in Davidson and Rowan counties contributing millions to the counties tax base. Annual recreational use of High Rock Lake was documented by the Recreational Use Study at approximately 1.48 million recreation days. Approximately 1.4 million of these Recreation Days were attributed to use via approximately 2800 privately permitted and commercially licensed facilities belonging to High Rock Residents, businesses, organizations and lakeside communities. The remaining 80,000 recreation days of usage were attributed to the 13 public access areas. At the proposed 10 foot winter drawdown only 3 of the public access areas remain usable and nearly all of the private and commercial facilities are either unusable or dangerous. Due to the single style of pier approved by APGI at High Rock Lake the ramp to the floating section of the pier results in a slope of 7.5 inches per foot at a 10 foot drawdown. This is a much greater slope than even the most agile person can safely traverse. The highlighted map of High Rock Lake (Attachment D) graphically depicts the adverse effects of a 10 foot drawdown. The RED portions of the lake (0 to 10 feet) are completely dry at a 10 foot drawdown and the YELLOW portions (from 10 to 15) feet are too shallow for safe boating. Even if you don't run aground or hit a rock or stump, the prop wash from most boats and the scouring effects of subsequent high flow events would disturb the bottom sediments and further contribute to water quality problems already present at High Rock Lake.

APGI likes to portray those who live in the communities around High Rock Lake or use it for recreational purposes as a "single interest" group interested only in water levels. They purport the regulatory agencies to be the representatives of the "big picture". In reality, the opposite is actually the case. NC Dept. of Environment and Natural Resources has participants from the Water Resources, Water Quality and Wildlife Resources Departments. Each of these areas has a very specific interest they are there to represent. The US Fish and Wildlife, EPA and National Parks Service representatives also have a very specific interest they are there to protect. The NC Land Trust, SC Coastal Conservation League and American Rivers again have a specific interest they are representing. While each of these groups do consider other issues, when the time came to stand up and be counted, their primary goal was in protecting their single interest. Most of these Agency representatives participating to protect OUR rights live nowhere close to High Rock and some had never even been to High Rock Lake before this process started. Many of them are unlikely to ever return. Every agency representative in the relicensing negotiations refused to sign the Agreement in Principle until APGI included the possibility of the sale of land holdings OUTSIDE the project boundaries. This single addition magically transformed a proposal that was inadequate at protecting the environment, the aquatic habitat and protecting recreational opportunities WITHIN THE PROJECT BOUNDARIES into an agreement they were willing to sign. The expansion of Morrow Mountain State Park in no way addresses ANY of the issues identified by the studies at High Rock Lake and should NEVER be allowed to reduce the requirement of directly addressing the issues inside the watershed itself. On the other hand, community residents and recreational users of High Rock Lake ARE more interested in the "big picture" of correcting the problems INSIDE the project boundaries. They are NOT willing to compromise on the PM&E measures necessary to addressing these issues. They certainly do NOT want to live around or play in a dry, unsafe, ugly or polluted lake.

They ARE the stakeholders who:

- Use High Rock Lake for nearly a million and a half recreation days each year.
- Pay for the private recreation permits and facilities that provide the access for the documented 1.4 million "recreation days" per year.
- Have children and grandchildren that swim and play in High Rock Lake.
- Have the greatest in interest improving the water quality IN High Rock Lake.
- Want the fish we catch and eat to be disease/contaminant free and for them to have a protected healthy environment in which to live and reproduce.
- Expect the "High Quality" fish habitat identified by the scientific studies at High Rock Lake (top 6 feet) to remain underwater and be accessible to the fish.
- ARE directly exposed to the unknown boating hazards created by a 10 foot drawdown.
- Organize and participate in the annual "Big Sweep" programs to clean up our waterways.
- Endured the stench of dying fish and mussels and rescued the wildlife trapped in the muck in 2002.
- Are MOST directly affected by the community economic impacts of the project.
- Pay the highest property taxes in the counties we live in.
- ARE riparian rights holders.
- ARE directly impacted by the daily operation of the project
- ARE supposed to be protected by the regulations of the NC Utilities Commission, the Environmental Policy Act and the Electric Consumers Protection Act of 1986.
- Expect our State and Federal Agency representatives to "Do the RIGHT Thing" and exercise their statutory authority to provide the MOST protection for the aquatic environment in the lakes and rivers in the Yadkin-Pee Dee watershed, NOT the absolute bare minimum.
- Recognize the fact that higher more stable water levels address the broadest range of identified issues and are willing to continue our quest for our State and Federal Agencies with statutory authority to "Do the Right Thing" instead of compromising to enhance an unrelated interest!!
- WILL be the ones who ultimately suffer from the consequences of trade offs made by our regulatory agencies for the sake of personal interests or the political gains of a few affluent and/or powerful people and corporate profits that ultimately provide NO economic contribution to the millions of North Carolinians most directly affected by these trade offs.

## Our Future

We respectfully request the Commission to seriously consider the following modifications to the Relicensing Settlement Agreement being submitted by APGI:

### **1. The license term be limited to no more than 30 years.**

Section 5.5 of the Recreational Use Survey offered the following future recreational use projections:

“The population of the Project region is projected to increase by 44 percent by 2030. This population increase primarily affects the number of “visitors” to the Project who use the public access recreation areas. Since over 63 percent of the visitors to the Project come

from this 5-county region we would expect an approximately proportional increase in visitor recreational use.”

“In terms of changes in waterfront and non-waterfront resident use, we estimate the following increases in resident population at each reservoir by 2030:”

- High Rock Reservoir 20% waterfront 20% non-waterfront
- Tuckertown Reservoir 0% waterfront 0% non-waterfront
- Narrows Reservoir 10% waterfront 20% non-waterfront
- Falls Reservoir 0% waterfront 0% non-waterfront

These projections of major population increases in less than 25 years clearly indicate the need to reevaluate the impact of the operation of the project much sooner than the year 2058.

**2. APCI be REQUIRED to improve the Safety Signage at High Rock Lake as recommended in the *Safety Signage at Hydropower Projects* on the hydropower page of the Commission's internet site and provide lighted hazard buoys at all bridges as well as anywhere a marked hazard exists more than 200 ft. from the nearest shoreline.**

The very low bridges spanning sections of High Rock Lake clearly need improved warnings as noted in Section IV. Due to significant boating activities at night on High Rock Lake we also request APCI be required to install and maintain “lighted” hazard buoys at all bridges as well as anywhere a marked hazard exists more than 200 feet from the nearest shoreline. As depicted in the highlighted map in Attachment D, the shallow nature of High Rock Lake and continuous sediment deposition clearly demonstrates the need for improved navigational aids as noted in the section on **Uniform State Waterway Marking System**.

**3. The operating guide for High Rock Lake be modified to effectively limit drawdowns to no more than six feet below full pond during the period from Nov. 1<sup>st</sup> to Mar. 1<sup>st</sup> and remove the provisions that allow withdrawals from High Rock at a rate as high as 30% above the project discharges.**

As noted earlier and graphically shown in Appendix D, the proposed operating guide for High Rock Lake is nothing more than a request to operate High Rock Lake almost exactly as it has been operated since 1968. There is NO scientific study data generated as part of the relicensing process to document the need or benefit of a 10 foot winter drawdown. It is not beneficial to recreation, the wetlands or the aquatic environment at High Rock Lake.

With an average depth of only sixteen feet at High Rock Lake, drawdowns in excess of six feet present significant hazards to recreational boating and effectively make ALL of the nearly 2800 permitted private piers unusable and dangerous. A 10 Ft. drawdown reduces the number of usable Public Access Points at High Rock Lake from nearly 2800 down to only 3. The photos in Appendix E were taken on Feb. 11, 2007 with High Rock Lake down exactly 6 feet. They clearly demonstrate that piers built to APCI's standards are either marginally usable or completely unusable even at this level. Further drawdown

would make the ramp section of piers that might still in the water too steep to be used without risk of serious injury.

The modeling runs performed as part of the relicensing negotiations documented that operating High Rock Lake under a 3 ft./6 ft. scenario instead of the proposed 4 ft./10 ft. regime would result in only minor generation losses. The most significant financial impact would be the result of a shift of generation from On Peak to Off Peak and documented the loss at approximately \$375,000 per year. This is less than one percent of their projected profits from the project. When put in proper perspective, it is an insignificant amount and is the approximate equivalent of ONE Alcoa management employee with benefits. From a recreation enhancement standpoint it amounts to about twenty five cents per recreation day documented in the Recreation Use Study. **There is absolutely no other PM&E measure that would provide a comparable level of benefits to recreation, fish and wildlife habitat or the aquatic environment at High Rock Lake at such a minor cost.**

The Project contributes ABSOLUTELY NOTHING economically to the communities surrounding it. APGI employs only a handful of people in NC. They pay the lowest property taxes of anyone in the counties where they are own property. The power generated by the Project is NOT part of the generating capacity used by the local Public Utilities such as Duke Energy and Progress Energy. Unlike Duke and Progress who operate under a 12.5% rate cap imposed by the NC Public Utilities Commission for the good of all North Carolinians, APGI operates in an opportunistic predatory generating environment and all of the profits from the sale of electricity are sent to the parent company in Pennsylvania. The tourism and recreation provided by the reservoirs is the only contribution of the Project to the economy of the surrounding communities.

We feel these are reasonable requests and would not significantly impact the generation capacity of the project or the value of the power produced by it. APGI has publicly stated they generally intend to maintain the water levels about 1 to 2 feet above the lower limits to allow them to “Chase Peaks” when possible. If they truly operate the project in this fashion, setting the limits at 4 ft./7 ft would result in generally maintaining High Rock Lake at 3 ft./6 ft. levels. This would reduce the costs differential between their proposal and our request considerably and still maintain the benefits of higher, more stable water levels at High Rock Lake. This operating scenario would also protect the interests of Duke Energy at their Buck Steam Plant and provide adequate protection of the generating facilities that DO supply power to the communities surrounding the project.

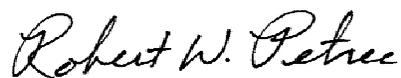
As evidenced by the comments submitted by our State Agency Representatives in the Agency Scoping Meeting held in Albemarle, NC and their subsequent written submissions, the tens of thousands of North Carolinians concerned about the past abuse and future protection of one of North Carolinas largest lakes had little or no representation by any agency with statutory authority. The Agency comments range from riverine habitat enhancement and protection to downstream flow regimes to conservation lands. Not once do they mention protection of the aquatic environment in the reservoirs themselves or the protection of recreational opportunities as mandated by the Electric Consumers Protection Act of 1986. We now request the Commission to ensure High Rock Lake NOT be treated “special” as is being proposed in the RSA. It is not appropriate for High Rock Lake to be designated as the “sacrificial lamb” to protect and enhance conditions downstream in exchange for conservation lands OUTSIDE of the

Project boundaries. We simply ask that High Rock Lake be treated EQUAL to the other lakes within the boundaries of Project 2197 and Project 2206. That it be maintained at levels suitable to protect the aquatic environment and provide safe recreational opportunities on a year round basis.

As the Commission reviews the terms being proposed by the parties involved we ask you to inject a component that is often missing from these proceedings, common sense. Common sense dictates that the greatest protection of the entire river basin is afforded by holding the largest water reserves at the highest point in the system. Once the water is gone from the largest, most upstream storage facility, there is nothing left to protect the rest of the basin if needed. Common sense tells us that moving water is less likely to experience nutrient loading, dissolved oxygen problems or algae blooms as is common at High Rock Lake as the shallow and dingy water heats up during the spring and summer months. Keeping High Rock Lake relatively full will result in more natural downstream flow regimes, shorter water retention periods and provide a beneficial “flushing” effect not only at High Rock Lake but throughout the entire river basin on a more frequent basis.

In conclusion we simply ask the Commission to “Do the RIGHT Thing” and truly give EQUAL consideration to the environment, fish and wildlife, recreation and power generation throughout the entire river basin. Consider how you would base your decisions if YOU lived at or near High Rock Lake and went there to enjoy water based recreation. What if the decisions were going to affect your life on a daily basis for the next 30 to 50 years? What if they would affect your livelihood, the value of your home or the economy of your community? What if they exposed you and your children or grandchildren to an “impaired” reservoir on a daily basis? Could you in good conscious recommend the sacrifice of the quantity or quality of the natural resources where you live for the benefit of “Corporate Profits” of a company located more than 500 miles away that provides NO employment or economic benefit to your state or community?

Respectfully submitted on behalf of more than 8000 members of SaveHighRockLake.org.



Robert W. Petree  
Chairman of the Board  
SaveHighRockLake.org