COMMONWEALTH of VIRGINIA
Department of Game and Inland Fisheries
Route 6, Box 484-A
Staunton, VA 24401

(703) 332-9210

January 8, 1993

Mr. Chuck Burgdorf, Superintendent
Goshen Scout Camps
Route 1, Box 86
Staunton, Virginia 24439

Dear Chuck,

Thank you for the letter expressing your concerns about the Rockbridge Daily Press article. I have had the opportunity to talk to both Paul Bugas and the State Water Control Board investigators about the situation. I understand your concern for the Boy Scout's image in the community and it is certainly not our intention to unfairly cause you any public relation problems. However, we have always maintained a policy of being truthful and open to the public, including the press. The comments concerning dirty water at Rockbridge Bath and at Lexington appear to be valid. Measurable deposition of silt was found on the substrate at Rockbridge Baths and the water was impacted at Lexington to the point where the water treatment plant had to increase treatment levels. These findings are documented by the Water Control Board. As far as the use of the word "garbage" to describe the silt is concerned, I agree that this word suggests more than sediment and should not be used to describe your discharge. Paul is uncertain whether he used this word or if it was inserted by the reporter. His interview was by telephone and the reporter was dealing with a crying baby while trying to question Paul. If he was correctly quoted, we apologize.

Even without the use of the word "garbage", however, this newspaper article could have been far more damaging to the Boy Scout's image with a few more questions and a little bit more in depth reporting. No mention was made of the fish kill or the fact that your discharge was a violation of both state and federal law. The investigation of this incident is a serious matter and the silt deposits that have accumulated downstream represent much more than a little dirty water. The agencies involved in this investigation have a public obligation to see that water quality laws are adhered to and I am certain each agency will be discussing any appropriate

actions with their respective enforcement personnel. In the case of the Department, violations of our codes are criminal. Our goal in this type of violation is not necessarily prosecution, but taking the action necessary to correct the problem and minimize the possibility of a recurrence. In that light, I suggest that you review your operating procedures for the dam. Although you may not routinely have a complete drawdown, your annual partial drawdown may result in another violation if the water is drawn off of the lake bottom.

I want to emphasize that this is a serious matter and that the public and agencies have become much more active in enforcing water quality laws. If I can be of any assistance to you as far as a new management plan for the lake is concerned or if you wish to discuss the water laws which we enforce, please feel free to contact me.

Sincerely,

Larry O. Mohn
Regional Fisheries Manager

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

REPLY TO
ATTENTION OF:

January 15, 1993

Western Virginia Regulatory Section
93-8001-75 (Little Calfpasture River)

Mr. Chuck Burgdorf
Property Superintendent
National Capitol Area Council
Boy Scouts of America
Goshen Scout Camp
Route 1, Box 86
Goshen, Virginia 24439-9538

Dear Mr. Burgdorf:

Recent information submitted by individuals of the Virginia State Water Control Board, the Virginia Department of Game & Inland Fisheries, and the Virginia Division of Soil & Water Conservation has revealed that you have discharged excessive amounts of lake sediment through a low level dam control gate into the Little Calfpasture and Maury Rivers. It has been determined that the discharge of the lake sediment has severely impacted stream benthics and bottom habitat critical to the fisheries of the river's ecology several miles downstream of the dam. In addition, the unauthorized discharge has resulted in a fish kill immediately downstream of the dam, resulted in high levels of siltation to the Maury River (a Virginia stocked trout stream), and may have resulted in an increased sediment load as far as Lexington, approximately 10 miles downstream of the site.

The discharge of sediment from the lake into the Little Calfpasture River may have directly impacted a state and federally listed endangered species, the James Spinymussel (Pleurobema collina).

Your unauthorized discharge of material is in direct violation of Section 404 of the Clean Water Act. This letter constitutes formal notice to you to cease and desist any and all unauthorized activities in the waters or wetlands of the Little Calfpasture River.

You are advised that work performed in violation of the Clean Water Act (33 U.S.C. 1344) carries penalties of up to $25,000 per day the violation occurs and/or up to one year in jail (33 U.S.C. 1319 (d)).

To facilitate my investigation of your activities, you are requested to provide in writing your reasons for performing these activities, the contractor who performed the unauthorized discharge, the dates of discharge and reasons why the work was performed without Department of the Army authorization. Your written response to these questions should be sent to this office within fifteen days from receipt of this letter.

In addition, you should prepare and forward a restoration plan which will address restoring the downstream impacts to their pre-discharge character within 60 days from receipt of this letter.

As soon as my investigation has been completed, you will be notified in writing as to any further action that will be required. In the interim, should you have any questions, please contact Mr. James E. Brogdon, Lynchburg Field Office, 7605 Timberlake Road, Lynchburg, Virginia 24502 at (804) 237-2145.

Sincerely,

J. Robert Hume III,
Chief, Western Virginia
Regulatory Section

Copies Furnished:

Virginia Marine Resources Commission, Newport News
Virginia State Water Control Board, Richmond
Virginia Department of Game & Inland Fisheries, Staunton
Virginia Department of Conservation & Recreation
U.S. Fish and Wildlife Service, White Marsh
Environmental Protection Agency, Philadelphia
National Marine Fisheries Service, Oxford
Division of Soil & Water Conservation, Dublin
National Capitol Area Council, Boy Scouts of America, Maryland
Mr. Chuck Hurt, J. K. Timmons, Associates, Richmond

MEMORANDUM

VIRGINIA WATER CONTROL BOARD

Valley Regional Office

116 North Main St. - P.O. Box 268 Bridgewater, VA 22812

SUBJECT: Little Calfpasture River - Benthic Survey - QL 93-001

TO: R. F. Tesh

FROM: Ralph Bolgiano RWB

DATE: February 23, 1993

COPIES: R. B. Chewning, J. A. Preston, S. Bambacus-OE, L. Seivard-OERS, WRD-VRO, L. Gardner-OWRM, P. Bugas-DGIF, J. A. Hopper-BSA

On February 4, 1993 in the company of Paul Bugas of the Department of Game and Inland Fisheries (DGIF), I visited the Little Calfpasture River in order to determine whether water and sediments released from Lake Merriweather last December had impacted the benthic macroinvertebrate communities in the Little Calfpasture and/or Maury Rivers.

The benthic survey consists of five stations. One on the Little Calfpasture upstream of the lake, two on the Little Calfpasture downstream of the dam, one in the Calfpasture River above the confluence with the Little Calfpasture, and one below the mixing zone of the two rivers in the Maury River. The survey is a slight modification of the Rapid Bioassessment Protocol II (U.S. EPA, Plafkin, J. L. et al May 1989). The modification consisted of the use of field collected and preserved samples of the organisms for identification and counting in the laboratory. A Bristoline 20 power dissecting scope was used to observe the organisms.

Both stations on the Little Calfpasture River downstream of the lake contained benthic communities indicative of impact by anoxic water and sediments and possibly toxic levels of ammonia and/or sulfides associated with sediments from the lake. The presence of large quantities of sand and silt imbedding the gravel, cobbles, and boulders on the stream bed of the Little Calfpasture will undoubtedly have a negative impact on the future benthic community even in the absence of further releases from the lake.

Significant impact on the Maury River downstream of the confluence with the Little Calfpasture was not proven.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
MID-COUNTY CENTER, U.S. ROUTE 17
P.O. BOX 480
WHITE MARSH, VIRGINIA 23183

TAKE PRIDE IN AMERICA

April 28, 1993

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Chuck Burgdorf
Boy Scouts of America
Goshen Scout Camp
Route 1, Box 86
Goshen, Virginia 24439-9538

Re: Permit Application No. 93-8001-75, Boy Scouts of America, Rockbridge County, Virginia

Dear Mr. Burgdorf:

The U.S. Fish and Wildlife Service (Service) has been notified by the U.S. Army Corps of Engineers (Corps) that the Boy Scouts of America were responsible for the discharge of excessive amounts of sediment from Lake Merriweather into the Little Calfpasture and Maury Rivers in Rockbridge County, Virginia. This action was taken without a Department of the Army (DOA) permit. This release likely resulted in adverse impacts to the stream and aquatic life. A fish kill occurred below the dam and an increase in sediment load was observed as far downstream as Lexington, Virginia.

Our records, as well as those of the Virginia Department of Game and Inland Fisheries (VDGIF) and the Virginia Department of Conservation and Recreation's Division of Natural Heritage, indicate that the James spinymussel (Pleurobema collina), a Federally listed endangered species, has been documented in the Calfpasture and Maury Rivers. However, this particular area has not been recently surveyed for the James spinymussel.

The VDGIF has informed us that release of sediments from Lake Merriweather has occurred nine times in the past twenty-four years, eight of these occurrences within the last twenty years. Based on past and present actions, it appears that the buildup of lake sediment is an on-going problem. If a Corps permit had been applied for before this activity took place, the Service would have recommended that a survey for the James spinymussel and an assessment of impacts to the mussel be conducted prior to the issuance of a Corps permit.

The Service would like the Boy Scouts of America to be aware that Section 9 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) makes it illegal for any person subject to the jurisdiction of the United

States to "take" any Federally endangered or threatened species of fish or wildlife without a special exemption. "Person" is defined under the Act to include local, State, and Federal agencies. Under this Act, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Harm has been further defined to consist of acts that may include significant habitat modification or degradation that results in the killing or injury of individuals by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Since it is possible that this species was impacted by the most recent sediment release, the Service requests that the Boy Scouts of America conduct a survey for the James spinymussel. The results of this survey will not be used as a means of taking any legal action against your organization regarding your past activities. This survey will be used in determining Service recommendations on future permits for discharge of sediments from Lake Merriweather. In addition, if the survey determines that the spinymussel is found in this area, it will provide a good opportunity for the scouts at this camp to learn more about wildlife conservation and the plight of endangered freshwater mussels in Virginia. If you choose to take this opportunity to increase environmental awareness, we would be glad to provide your organization with information on the James spinymussel and other freshwater mussels in Virginia that are facing extinction.

The Service would like to work with the Boy Scouts of America to insure that your organization conducts future actions in compliance with the Endangered Species Act. Please contact Cindy Schulz of this office at (804) 693-6694 to discuss the details of conducting a survey for the spinymussel and other ways we may work together for endangered species conservation.

Sincerely,

Karen L. Mayne

Karen L. Mayne
Supervisor
Virginia Field Office

cc: FWS, Division of Law Enforcement, Richmond, VA
Corps of Engineers, Lynchburg, VA

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

REPLY TO
ATTENTION OF:

September 3, 1993

Western Virginia Regulatory Section
93-8001-75 (Little Calfpasture River)

Mr. Chuck Burgdorf
Property Superintendent
National Capitol Area Council
Boy Scouts of America
Goshen Scout Camp
Route 1, Box 86
Goshen, Virginia 24439-9538

Dear Mr. Burgdorf:

Reference is made to a letter from this office dated January 15, 1993, concerning the unauthorized discharged of excessive amounts of lake sediment through a low level dam control gate into the Little Calfpasture and Maury Rivers. The discharge of the lake sediment severely impacted stream benthics and bottom habitat critical to the fisheries of the river's ecology downstream of the dam. In addition, the unauthorized discharge caused a fish kill immediately downstream of the dam, resulted in high levels of siltation in the Maury River (a Virginia stocked trout stream), and may have resulted in an increased sediment load as far as Lexington, approximately 10 miles downstream of the site.

Initially, the Corps identified two areas of concern associated with this violation; the immediate and long-term environmental impacts, and the need to upgrade maintenance procedures which would greatly reduce or eliminate sediment loading of the Little Calfpasture. Since several agencies were involved with this violation, the Corps chose to address the environmental impacts while your office worked out upgrading dam maintenance with the Virginia Department of Environmental Quality (formerly the Virginia State Water Control Board).

On May 26, 1993, Mr. James Brogdon of my Lynchburg Field Office and Mr. Paul Bugas with the Virginia Department of Game & Inland Fisheries made a site inspection of the Little Calfpasture River from just below the dam to its confluence with the Calfpasture River. The purpose of this inspection was to assess the environmental condition of the river, and to determine what remedial measures, if any, could be taken to enhance the river's ecosystem. They found that the accumulated sediment in the Little Calfpasture was being flushed out, and the river would in all probability return to pre-existing conditions provided no additional significant sediment loading occurred. They also

National Capital Area Council
Boy Scouts of America
9190 Wisconsin Avenue, Bethesda, Maryland 20814-3897 • 301 530-9360

September 27, 1993

Mr. Ray Tesh
Valley Regional Office
116 N. Main Street
Bridgewater, VA 22812

Dear Mr. Tesh,

Appendix A of the Special Order Issued by the State Water Control Board on April 30, 1993 to the National Capital Area Council, Boy Scouts of America calls for NCAC to submit to the Valley Regional Office a plan and schedule for alternate methods of maintenance and/or repair of the dam at Lake Merriweather, Goshen Scout Camps, Goshen Virginia; or a plan and schedule to construct a cofer dam to provide a settling basin in cases when the lake needs to be drained via the subsurface discharge valve. Please find below our draft proposal for your review.

NCAC, BSA has implemented changes in our dam maintenance and repair procedures and has plans for future capital improvements to reduce the possibly of sediment being released downstream when the lower discharge valve is opened. They fall in three areas; maintenance, capital improvements and capital campaign.

1. Maintenance. With the help and cooperation of the State Water Control Board and the Fish and Game Service we implemented a procedure to drain the lake below the level needed to preform maintenance work and repairs on the spillway gates of the Lake Merriweather dam. This procedure was successfully used during the spring of 1993 to complete such work. Under the procedure as outlined in Appendix A of the Special Order (copy attached) when the water level reaches 9 feet 6 inches we begin testing and monitoring the discharged water for dissolved oxygen and settleable solids.

We have also strengthened the spillway gate guard to better protect the gates. The repairs conducted in 1993 were a result of damage to the gates sustained during the April, 1992 flood.

2. Capital Improvements. Two major capital projects are planned.

First, to dredge the accumulated silt from the base of the dam by 1998. This project to be done with the involvement of appropriate state authorities and with all needed permits.

Second, to construct an emergency spillway as part of the Lake Merriweather dam. This spillway to supplement the spillway gates that are now part of the dam and to provide an existing means of lowering the water level during heavy rains and flood conditions. Such a spillway will reduce our dependence on the spillway gates as the only means to lower the water level and allow us to preform maintenance and repairs in better planned method.

3. Capital Campaign. Our early planning estimates as to the cost of the capital projects in item #2 are $400,000 to $600,000. As a practical matter for a relatively small private, non profit, charitable organization our the securing of funds needed to complete the above projects has to be considered as part of the total package. We have begun the early planning steps to conduct such a capital campaign in the 1994 - 1998 time frame.

Please contact me for any additional information or material that may be needed. We remain committed to operating the dam at Goshen Scout Camps in a safe manner while also meeting the letter and intent of the regulations governing water quality.

Thank you again for the cooperation, help and guidance provided to us by the Department of Environmental Quality.

Sincerely yours,

J. Alexander Hopper
Director of Support Services

cc: Gerard Barnett, VP/Physical Resources
Bob Bennett, Camping Committee Chairman
David Brickley, Executive Board member
Chuck Burgdorf, Property Superintendent
Rick Callahan, Camping/Program Director
Ron Carroll, Scout Executive
Bill Evans, V/P Program
Steve Montgomery, Associate Scout Executive

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

116 North Main St. - P.O. Box 268 Bridgewater, VA 22812

SUBJECT: Little Calfpasture River - Benthic Survey - QL 93-005

TO: R. F. Tesh

FROM: Ralph Bolgiano RWB

DATE: November 29, 1993

COPIES: J. A. Preston, S. Bambacus-OE, L. Seivard-OERS, WRD-VRO
S. Hetrick-OECA

On October 13, 1993 W. G. Maddox and I visited the Little Calfpasture River in order to determine the extent of the recovery of the benthic community from the releases of water and sediments from Lake Merriweather last December. We arrived at the site specific control station at approximately 9:00 AM. The weather was cloudy, rainy and quite cold for the date. We conducted the macroinvertebrate collection and counting at this site and noted that the water turbidity was zero on a scale of 0 to 3.

We proceeded to the affected site downstream of the dam after announcing our presence to the BSA staff. We observed that most of the surface gates of the dam were in the lowered position and that the lake was in the process of being drained to this level. The volume of water being discharged from the lake was several times greater than the volume observed upstream. The water leaving the lake was very turbid, rating a three on the scale previously explained. Large areas of the lake bottom were exposed. The lake was approaching the lowest surface level attainable with the surface gates opened all the way.

The benthic survey consists of three stations. The reference station on the Bullpasture River, the site specific control on the Little Calfpasture upstream of the lake, and the affected station on the Little Calfpasture downstream of the dam. The survey follows the procedures of the Rapid Bioassessment Protocol II (U.S. EPA, Plafkin, J. L. et al May 1989).

The station on the Little Calfpasture River downstream of the lake exhibited a benthic community indicative of very poor water quality. This affected station was judged to be severely impaired.

The site specific control was judged to be moderately impaired as compared to the reference stream.

In the absence of continuing discharge(s) of sediment laden water from the lake, some recovery of this system would be expected to have occurred since last February (although the exact rate cannot be known). It is difficult to conclude what level of impact is due to residual effects from the discharge(s) which occurred last December and February, and/or what part may be due to subsequent discharge(s) similar to the one observed on the date of this survey. It is most likely that the degraded benthic community has been stressed by both factors and has not been allowed to recover.

I recommend that the facility Manager be queried as to the date(s) on which the lake water level has been lowered since last February when discharge monitoring under the Special Order was in effect. As a general practice, a record of all lake water level changes should kept.

I am concerned that the use of the lower discharge gate and the arbitrary lake level of 9.6 feet (my memo of April 15, 1993) have somehow become prerequisites for discharge monitoring (and the presumption of adverse impact on State Waters). I believe that significant degradation can occur when the lake level is lowered, both above the 9.6 foot level, and irrespective of whether the lower gate is opened.

The condition of the substrate available to the benthic community immediately downstream of the dam has improved significantly since last February. The sand and silt previously observed to be coating the stream bottom have largely been flushed downstream into the Maury River. This survey did not address whether this has impacted the Maury River. Past experience suggests that the Rapid Bioassessment Protocol II is not sufficiently sensitive to measure such effects, if they exist.

The biological differences observed between the site specific control and the affected station downstream of the dam are judged to be water quality related, rather than habitat caused. This is supported by the fact that the stream is better protected from some of the land uses which cause the most significant habitat losses upstream.

These results show no significant improvement in the biological integrity of the Little Calfpasture downstream of the lake since the survey of last February (QL 93-001).

Division of Soil & Water Conservation, P. O. Box 1506, Dublin 24084
Mr. Allen Hopper, National Capitol Area Council, Boy Scouts of America,9190 Wisconsin Avenue, Bethesda, MD 20814-3897
Mr. Chuck Hurt, J. K. Timmons, Associates, 711 North Courhouse Road, Richmond 23236-4099

COMMONWEALTH of VIRGINIA

Department of Game and Inland Fisheries

4725 LEE HIGHWAY
P.O. BOX 996
VERONA, VA 24482-0996
(703) 248-9360 FAX (703) 248-9399

December 15, 1993

Mr. Lance Gardner
Department of Environmental Quality
4900 Cox Road
Glen Allen, VA 23060

Dear Lance:

I was having lunch at the swinging bridge above Goshen Pass this past Monday, and happened to notice a plume of silty water coming downstream from the confluence of Calfpasture River and Little Calfpasture River. I hiked up to the Little Calfpasture and found it to be sediment laden (secchi disk <6 inches). I then went up to Lake Merriweather and found it to be pulled down approximately 9 feet and water conditions were turbid. The main gates that control the water level were down and a veil of 3 inches of water was passing over the dam. The bottom release portal was closed. In short, it appeared as if the dam was being operated according to the way we asked the Boy Scouts to do so. The problem is that there are many acres of exposed mud flats around the lake that appear to keep it muddy even after a modest precipitation event.

I have not seen the dam operation plan that was submitted to DEQ for Lake Merriweather, so I'm not sure if keeping the lake at full pool during the winter is addressed. If it is not, I think that we need to look at raising the water level of the lake during the winter months in order to keep those mud flats under water. A possible alternative would be to revegetate the flats in order to minimize excessive sediment runoff into the lake. If this problem is not addressed, the Maury River will continue to receive that plume of muddy water during the winter under normal precipitation events.

Please let me know how you think we can proceed on this.

Sincerely,

Paul

Paul E. Bugas, Jr.
Fisheries Biologist Supervisor

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Richard N. Burton
Director
P. O. Box 10009
Richmond, Virginia 23240-0009
(804) 762-4000
TDD (804) 762-4021

FEB. 03 1994

Mr. Donald Reinhardt
National Capital Area Council
Boy Scouts of America
9190 Wisconsin Avenue
Bethesda, Maryland 20814-3897

Re: Consent Special Order
Lake Merriweather

Dear Mr. Reinhardt:

As per our conversation, I am writing to confirm our meeting which is scheduled for Thursday, March 3, 1994 at 10:00 at the Innsbrook Office Complex, 4900 Cox Road, Richmond, Virginia. Directions for your assistance are enclosed.

The purpose of this meeting is to discuss the terms of the April 30, 1993, Consent Special Order issued to the Boy Scouts by the State Water Control Board and to clarify a course of corrective action. This Order settled the matter of a fish kill caused by sedimentation in the Little Calfpasture River. The sedimentation was a result of the dewatering of Lake Merriweather in order to repair the dam gates. The Order addresses both interim and long term resolutions to the sedimentation problems below the dam.

Our inspectors have verified that the sedimentation problem has not been alleviated and the benthic community is severely impaired. Citizen complaints regarding the sedimentation are continuing. Therefore, the Department of Environmental Quality (DEQ) staff are requesting this meeting with you and representatives from the Department of Conservation and Recreation's Office of Dam Safety and the Department of Game and Inland Fisheries. Mr. Duncan McGregor from the Dublin, Virginia Office of Dam Safety and Mr. Joe Haugh from the Richmond, Virginia Office of Dam Safety are slated to attend the meeting. Mr. Ray Tesh of the DEQ Harrisonburg Regional Office, Mr. Lance Gardner from the DEQ Office of Water Resource Management will be present also. Mr. Larry Mohn will be representing the Department of Game and Inland Fisheries.

For your convenience, I have enclosed a copy of the Consent Special Order, Mr. Al Hopper's submittal pursuant to the Consent Order and Mr. Tesh's December 17, 1993 response to the submittal. If I can be of any further assistance, please contact me at (804) 762-4282 or at the Department of Environmental Quality, Water Division, Office of Enforcement, P. O. Box 10009, Richmond, Virginia 23240-0009. I look forward to meeting with you on the 3rd.

Sincerely,

Suzanne E. Bambacus
Office of Enforcement and
Compliance Auditing

cc: J. Haugh, Dept. of Conservation and Recreation
D. McGregor, Dept. of Conservation and Recreation
L. Mohn, Dept. of Game and Inland Fisheries
R. Tesh, DEQ
L. Gardner, DEQ
OECA

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Richard N. Burton
Director

P. O. Box 10009
Richmond, Virginia 23240-0009
(804) 762-4000
TDD # (804) 762-4021

MAR 29 1994

Mr. Donald Reinhardt
National Capital Area Council
Boy Scouts of America
9190 Wisconsin Avenue
Bethesda, Maryland 20814-3897

Re: Consent Special Order
Lake Merriweather

Dear Mr. Reinhardt:

As per our conversation, I am writing to confirm our meeting which is scheduled for Tuesday, April 12, 1994, at 1:00 p.m. at the Innsbrook Office Complex, 4900 Cox Road, Glen Allen, Virginia. Directions for your assistance are enclosed.

As I wrote to you previously, the purpose of this meeting is to discuss the terms of the April 30, 1993, Consent Special Order issued to the Boy Scouts by the State Water Control Board and to clarify a course of corrective action. This Order settled the matter of a fish kill caused by sedimentation in the Little Calfpasture River. The sedimentation was a result of the dewatering of Lake Merriweather in order to repair the dam gates. The Order addresses both interim and long term resolutions to the sedimentation problems below the dam.

Our inspectors have verified that the sedimentation problem has not been alleviated and the benthic community is severely impaired. Citizen complaints regarding the sedimentation are continuing. Therefore, the Department of Environmental Quality (DEQ) staff are requesting this meeting with you and representatives from the Department of Conservation and Recreation's Office of Dam Safety and the Department of Game and Inland Fisheries. Mr. Duncan McGregor from the Dublin, Virginia Office of Dam Safety is slated to attend the meeting. Mr. Ray Tesh of the DEQ Harrisonburg Regional Office, Mr. Lance Gardner from the DEQ Office of Water Resource Management will be present also. A representative from the Department of Game and Inland Fisheries will be coming since Mr. Larry Mohn will be unable to attend the meeting.

If I can be of any further assistance, please contact me at (804) 762-4282 or at the Department of Environmental Quality, Water Division, Office of Enforcement, P. O. Box 10009, Richmond, Virginia 23240-0009. I look forward to meeting with you on the 12th.

Sincerely,

Suzanne E. Bambacus
Office of Enforcement and
Compliance Auditing

cc: J. Haugh, Dept. of Conservation and Recreation
D. McGregor, Dept. of Conservation and Recreation
L. Mohn, Dept. of Game and Inland Fisheries
R. Tesh, DEQ
L. Gardner, DEQ
OECA

MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENFORCEMENT & COMPLIANCE AUDITING
WATER DIVISION

629 East Main Street
Richmond, Virginia 23219

Post Office Box 10009
Richmond, Virginia 23240-0009

APR. 1 9 1994

Memo to File

Re: Meeting with the Boy Scouts re: the Consent Special Order

On Tuesday, April 12, 1994, staff from the Dam Safety Section of the Department of Conservation and Recreation, the Department of Game and Inland Fisheries, and the Department of Environmental Quality met with representatives of the Boy Scouts to discuss the Consent Special Order requirements and the ongoing siltation of State waters from the draining of Lake Merriweather. Attached is an attendance list for the meeting.

The Consent Order with the Boy Scouts settled the matter of a fish kill which was the result of sedimentation of the Little Calfpasture River from the draining of Lake Merriweather via the subsurface discharge gate of the dam. The Consent Order required the submittal of either a plan and schedule to eliminate the use of the subsurface discharge gate or a plan and schedule for the construction of a coffer dam for use as a settling basin if the subsurface discharge gate was to be used to drain the lake. The plan and schedule submitted by the Boy Scouts in September 1993 was inadequate. In addition, staff discovered that the siltation problem was continuing even while the subsurface discharge gate was not being used. This was caused by the erosion of the exposed lake bottom when the pool level was lowered for the winter. This meeting was called in order to help resolve this situation.

As a result of discussion at the meeting, Duncan McGregor of Dam Safety indicated that while the Boy Scouts' practice of draining the lake every fall and keeping it at a low level was a part of the Operations and Maintenance (O&M) Manual for the dam, it was not a requirement of his agency. The determination of the safety of the dam is based on the gates being closed during a flood event. He said that the Boy Scouts could amend the O&M Manual by letter and they could keep the dam gates closed and the lake at a full level. He said that they would have to propose a plan for routine or emergency inspections of the dam. By keeping the dam gates closed and the lake full, the siltation of the Little Calfpasture River from the draining of the dam would be greatly reduced or eliminated. If the dam needed repair or if an inspection could not be performed without lowering the lake level, the lake could be drained in accordance with the protocol contained in the Consent Order.

The possible installation of a coffer dam was discussed. The Boy Scouts indicated that there was no money available for that kind of construction. They asked if we were aware of any money that was available for that kind of project. It was suggested that they check with EPA and the Corps of Engineers for funding such a project. However, once they realized that by discontinuing their practice of annually draining the lake they could resolve the water quality problems without having to construct anything, it appeared that they might not pursue the construction project at all.

The possible installation of an emergency spillway was also discussed. Mr. McGregor, when asked by the Boy Scouts, indicated that he thought that the spillway would be redundant and unnecessary.

As a result of this meeting, the Boy Scouts said that they would discuss this matter at their meeting at the end of April and that they would have a proposed plan to me within sixty days if possible. They also requested that all future correspondence should be sent to Mr. Don Reinhardt at the Wisconsin Avenue address.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

116 North Main St. - P.O. Box 268 Bridgewater, VA 22812

SUBJECT: Little Calfpasture River - Benthic Survey - QL 95-001

TO: R. F. Tesh

FROM: Ralph Bolgiano RWB

DATE: May 19, 1995

COPIES: L. Simmons-RS, S. Bambacus-OE, L. Seivard-OERS, WRD-VRO
S. Hetrick-OECA

On May 10, 1995 W. G. Maddox and I visited the Little Calfpasture River in order to assess the extent of the recovery of the benthic community from the past releases of water and sediments from Lake Merriweather.

We proceeded to the affected site downstream of the dam after announcing our presence to the BSA staff. We observed that most of the surface gates of the dam were in the raised position and that the lake was in the process of filling to its highest level. The volume of water being discharged from the lake was very small, estimated to be less than five cubic feet per second. the river downstream of the dam was nearly dewatered, only a fraction of the normal stream bed being covered by water. The water leaving the lake was moderately turbid, rating a two on a scale of 0 to 3. The majority of the water flowing from the dam came from a port on the right side of the dam. This port discharges water from subsurface gates.

We arrived at the site specific control station upstream of the lake at approximately 13:30. We conducted the macroinvertebrate collection and counting at this site and noted that the water turbidity was slight, a one on the scale previously explained. Flow was estimated to be normal or very slightly up from recent rains.

The benthic survey consists of three stations. The reference station on the Stony Creek in Shenandoah County, the site specific control on the Little Calfpasture upstream of the lake, and the affected station on the Little Calfpasture downstream of the dam. The survey follows the procedures of the Rapid Bioassessment Protocol II (U.S. EPA, Plafkin, J. L. et al May 1989).

The site specific control was judged to be slightly to moderately impaired as compared to the reference stream. The station on the Little Calfpasture River downstream of the lake exhibited a benthic community indicative of a severely impaired assemblage of organisms.

Previous surveys have debated the relative impacts of the discharge event that caused the fish kill in December 1992, and the chronic on-going effects of turbid discharges that occur during those months when the lake level is lowered. In the absence of continuing discharge(s) of sediment laden water from the lake, recovery of this system would be expected to have occurred during the almost two and a half years since the initial complaint. The record of results of benthic monitoring in the spring and fall of each year since 1992 suggests that no recovery of the Little Calfpasture River will occur as long as the current practice of lowering the lake each winter is continued.

The condition of the substrate available to the benthic community immediately downstream of the lake had been greatly improved during the last survey in the fall of 1994, undoubtedly due to several months of "normal" surface water discharge over the dam from the full lake. This condition had been reversed by this spring; the substrate at this site is now in a much poorer condition. Specifically, the stream bottom is coated with a layer of black fine grained sediment. I conclude that when the lake is in the lowered position, chronic discharge of resuspended fines from the lake bottom occurs. After several months under these conditions, the benthic community responds by assuming the structure seen in this benthic survey.

These results show no improvement in the biological integrity of the Little Calfpasture downstream of the lake since the last survey (fall 1994).

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

116 North Main St. - P.O. Box 268 Bridgewater, VA 22812

SUBJECT: Little Calfpasture River - Benthic Data Summary

TO: R. F. Tesh

FROM: Ralph Bolgiano RWB

DATE: June 18, 1996

COPIES: L. Simmons-RS, E. Scott-VRO Enforcement, S. Hetrick

On June 6, 1996, W. G. Maddox and I visited the Little Calfpasture River in order to assess the extent of the recovery of the benthic community from the past releases of water and sediments from Lake Merriweather.

We proceeded to the affected site downstream of the dam. We observed that most of the surface gates of the dam were either in the lowered position or if raised, were leaking severely around their edges. The lake was discharging moderately turbid water. The volume of water being discharged from the lake was above normal, estimated to be approximately fifty cubic feet per second. The river banks showed evidence of the recent floods, and possibly channelization by heavy equipment.

The benthic survey consists of only two stations. The site specific control on the Little Calfpasture upstream of the lake, and the affected station on the Little Calfpasture downstream of the dam. The survey follows the procedures of the Rapid Bioassessment Protocol II (U.S. EPA, Plafkin, J. L. et al May 1989).

The site specific control was designated as Non-Impaired. The station on the Little Calfpasture River downstream of the lake exhibited a benthic community indicative of a severely impaired assemblage of organisms.

Previous surveys have discussed the relative impacts of the discharge event that caused the fish kill in December 1992, and the chronic on-going effects of turbid discharges that occur during those months when the lake level is lowered. In the absence of continuing discharge(s) of sediment laden water from the lake, recovery of this system would certainly be expected to have occurred during the almost three and a half years since the initial incident. The record of results of benthic monitoring in the spring and fall of each year since 1992 suggests that no recovery of the Little Calfpasture River will occur as long as the current practice of lowering the lake each winter is continued.

Extremely high flows have occurred several times in the past year. These scouring events would normally cause a short term destruction of some benthic organisms, but in the long term would result in beneficial scouring away of fines deposited in the substrate of the stream bottom. In the case of the Little Calfpasture downstream of the lake, substrate structure remains impaired. The chronic discharge of sediment (punctuated by episodes of even heavier loadings of fines during resuspension by storms) is maintaining a reach of stream that is inhospitable to normal benthic assemblages.

This summary of results documents the fact that there has been no improvement in the biological integrity of the Little Calfpasture River downstream of the lake over the period of study (1993 through spring of 1996).

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION
P. O. BOX 10009
RICHMOND, VIRGINIA 23240-0009

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

NOTICE OF VIOLATION

NOTICE OF VIOLATION NO. 96-09-VRO-059 PERMIT / PC / OTHER ID NO. NONE

FACILITY/COMPANY NAME BOY SCOUTS OF AMERICA - LAKE MERRIWEATHER DAM

RESPONSIBLE OFFICIAL MR. ALAN F. LAMBERT TEL. NO.

MAILING ADDRESS 9190 WISCONSIN AVE., BETHESDA, MARYLAND 20814-3897

This Notice of Violation is not a Case Decision under Sec. 9-6.14:1, et seq, of the Code of Virginia, nor an adjudication, but advises the named facility that available evidence indicates that violations of the Code and/or Regulations have occurred, and that the Board may consider taking civil action under Secs. 62.1-44.15(8), 62.1-44.23, 62.1-44.32(a), 62.1-44.34:20, or other pertinant section of the Code of Virginia.

VIOLATION	DATE	EVIDENCE
VIOLATIONS OF LAWS AND REGULATIONS	THRU	DEQ REGIONAL FILES: 6/6/96
9 VAC 25-260-20 - GENERAL STANDARDS -	SEPT.1996	BENTHIC SURVEY INDICATING
ALL STATE WATERS SHALL BE MAINTAINED		THE LITTLE CALFPASTURE
AT SUCH QUALITY AS WILL...SUPPORT THE		RIVER BELOW THE DAM REMAINS
PROPOGATION AND GROWTH OF ALL AQUATIC		SEVERELY IMPAIRED
LIFE...		
		STREAM BEING IMPACTED BY
		SEDIMENT RELEASE FROM THE DAM

Please advise the Office below within 10 days if this information is incorrect, or if there is other information that the Board should consider. Each listed violation may constitute a separate offense for which penalties or other enforcement action could be sought. State Law requires, and it is in your interest, that you abate any violations as promptly as possible.

Valley Regional Office
116 North Main Street
P.O. Box 268
Bridgewater, VA 22812

Phone: (540) 828-2595
Fax: (540) 828-4016

RB

[XXX] **ENFORCEMENT REFERRAL** This Notice of Violation has been referred to the Office of Enforcement and Compliance Auditing, Enforcement Section, to consider enforcement action because of the severity or continuing pattern of violations.

[ ] **PREVIOUSLY REFERRED**

Signature of Person Served — Printed Name and Title

Compliance Officer — 9/30/96 Date — Compliance Inspector/Region — Date — Time

DEQ Form ENF - 1 (5/94)

OWNER

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

George Allen
Governor

Becky Norton Dunlop
Secretary of Natural Resources

Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 10009, Richmond, Virginia 23240
Fax (804) 698-4500 TDD (804) 698-4021
http://www.deq.state.va.us

Thomas L. Hopkins
Director

(804) 698-4000
1-800-592-5482

October 25, 1996

VIA FEDERAL EXPRESS

Mr. Alan F. Lambert
Boy Scouts of America - National Capital Area Council
9190 Wisconsin Avenue
Bethesda, Maryland 20814-3897

RE: Boy Scouts of America - National Capital Area Council
Lake Merriweather, NOV #96-06-VRO-068

Dear Mr. Lambert:

Enclosed is a Notice of Violation (NOV), issued under the Virginia State Water Control Law and the federal Clean Water Act to the Boy Scouts of America - National Capital Area Council (BSA-NCAC), for its actions at Lake Merriweather in Goshen Scout Camp in Rockbridge County, Virginia. The NOV has been issued in response to the ongoing, chronic impact to aquatic life in the Little Calfpasture River, caused by discharge of sediment from the Lake Merriweather dam[1]. Factually, it is my understanding that when the Boy Scouts lower the water level in Lake Merriweather each fall to protect their dam from flood damage during the winter and spring seasons, the result is that sediment on the lake banks is exposed and erodes into the lake and eventually into the Little Calfpasture River during rain/snow events, damaging the river and its aquatic life. No doubt, you will agree that this environmental damage cannot be permitted to continue.

[1] As background, in 1993, this same Boy Scout dam and lake received a related Notice of Violation, issued by the Virginia State Water Control Board (the predecessor to the Department of Environmental Quality) pursuant to the Virginia State Water Control Law and the federal Clean Water Act, for a fish kill that occurred on December 17, 1992. That DEQ enforcement matter was resolved through the attached Consent Order.

Nationally, I am familiar with the Boy Scouts' commitment to environmental stewardship through best environmental management practices and sound dam management practices. In addition, I am confident that BSA-NCAC is eager to alleviate these adverse impacts from Lake Merriweather and maintain water quality in the Commonwealth of Virginia, pursuant to state and federal law. DEQ's Valley Regional Office (DEQ-VRO) staff indicate that they have discussed several potential remedies with BSA-NCAC, including upgrading the current dam gates and constructing an emergency spillway. These changes should allow BSA-NCAC to maintain Lake Merriweather at "full-pool" year-round -- as it indicated to DEQ that it wished to do -- and to simultaneously operate its dam safely in case of a recurrence of the serious flooding that occurred in this area over the last few years. In the alternative, DEQ-VRO staff inform me that leaving the lake at a lowered level throughout the year and seeding the exposed lake banks with grass to remove the major source of sediment will reduce the environmental damage impacts to the Little Calfpasture River and provide BSA-NCAC with time to explore and implement a permanent remedy to this unfortunate situation.

To be candid, I am concerned that the Boy Scouts might not appreciate the gravity of this matter since they have compiled a record with DEQ-VRO that suggests a perplexing resistance to cooperating with DEQ to resolve these critical issues, notwithstanding DEQ-VRO efforts to address this with alternative options. DEQ-VRO staff report that they have provided BSA-NCAC with all information necessary to demonstrate the severity of the ongoing environmental impacts.

I am confident that we can work together to expeditiously remedy this problem. We wish to present a negotiated solution to the Virginia State Water Control Board at its next meeting in December. Please call me (804/698-4037) at your earliest convenience to set up a meeting to resolve this matter.

Sincerely,

Harry H. Kelso
Director
Enforcement and Policy

enclosures

cc: Jere B. Ratcliffe, Chief Scout Executive
David Park, General Counsel
1325 West Walnut Hill
P.O. Box 152079
Irving, Texas 75015-2079
972/580-2000
972/580-7878 fax

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

George Allen
Governor

Becky Norton Dunlop
Secretary of Natural Resources

Street address: 629 East Main Street, Richmond, Virginia 23219
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http://www.deq.state.va.us

Thomas L. Hopkins
Director

(804) 698-4000
1-800-592-5482

STATE WATER CONTROL BOARD ENFORCEMENT ACTION

AN AMENDMENT TO A SPECIAL ORDER

ISSUED TO

BOY SCOUTS OF AMERICA - NATIONAL CAPITAL AREA COUNCIL
Goshen Dam - Lake Merriweather

This is an amendment ("the Amendment") to the Consent Special Order ("the Order") issued on April 30, 1993, by the State Water Control Board ("the Board") under the authority of Virginia Code §§ 10.1-1185 and 62.1-44.15(8a) to the Boy Scouts of America - National Capital Area Council ("BSA-NCAC").

The BSA-NCAC owns Goshen Scout Camps in Rockbridge County, Virginia, and operates Goshen Dam at that location. On June 6, 1996, the Department of Environmental Quality ("DEQ"), Valley Regional Office ("VRO"), conducted a benthic survey which observed that the segment of the Little Calfpasture River immediately downstream from the Goshen Dam was impaired by sedimentation. Based on the benthic survey, DEQ issued Notice of Violation ("NOV") No. 96-09-VRO-059 on September 30, 1996. The NOV alleged that the benthic survey showed a violation of 9 VAC 25-260-20, which is a general water quality standard requiring all state waters to be maintained at such quality as will support aquatic life.

In order to control sedimentation of the Little Calfpasture River immediately downstream from the Goshen Dam, in a manner consistent with dam safety concerns of the Department of Conservation and Recreation ("DCR"), the Board orders BSA-NCAC and BSA-NCAC voluntarily agrees, to comply with Appendix A of this Amendment, which supersedes Appendix A of the Order. The Board and BSA-NCAC understand and agree that this Amendment does not alter, modify or amend any other provision of the Order.

The BSA-NCAC waives its rights to a hearing on, to judicial review of, and service of this Amendment. The BSA-NCAC also waives its right to written findings of fact and conclusions of law to support this Amendment. The Board may cancel the Order and its Amendment in its sole discretion for good cause upon thirty (30) days written notice; otherwise, the Order and its Amendment may be modified only with the BSA-NCAC's agreement or after due notice and opportunity for a hearing.

Nothing herein shall be construed by DEQ or any other governmental agency or person as an admission that the State Water Control Law and regulations have been violated, or any other law or regulation has been violated, nor construed as a determination by DEQ that there has been a violation of any such law or regulation.

This Amendment shall become effective upon the date of its execution by the Director of the Department of Environmental Quality or his designee.

And it is SO ORDERED this 6th day of April, ~~1997~~ 1998.

R. Bradley Chewning

Thomas L. Hopkins, Director
Department of Environmental Quality

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

4411 Early Road - P.O. Box 1129 Harrisonburg, VA

SUBJECT: Little Calfpasture and Maury Rivers Benthic Survey - Lake Merriweather BSA (QL99-003)

TO: D. Kain

FROM: William J. Van Wart

DATE: January 19, 1999

COPIES: E. Liggett, D. Kain, L. Seivard - OWQS, VRO File - Raw data attached

On October 29, 1998, I sampled Little Calfpasture River, Calfpasture River and Maury River to determine the influence Lake Merriweather was having on the downstream biota. Little Calfpasture River continues to be severely impaired below the dam. The impairment is diminished further downstream, but it is evident into the Maury River.

Attached is the report for this special study. Included are a summary of results and a map of the sites.

REPORT ON DISSOLVED OXYGEN IN THE LITTLE CALFPASTURE RIVER UNDER LOW FLOW CONDITIONS

1.1. EXECUTIVE SUMMARY

In March, 2007, VADEQ prepared a Stressor Identification Analysis Report for the aquatic life (benthic) impairment in the Little Calfpasture River. This analysis concluded that low dissolved oxygen, among other factors, was a contributor to the benthic impairment in the Little Calfpasture River (VADEQ, 2007). To confirm this low oxygen situation, to determine the cause, and to develop a solution, VADEQ conducted lake and stream monitoring in the late summer of 2007. This report summarizes that monitoring and provides recommendations for dam operation that will maintain sufficient dissolved oxygen conditions for aquatic life downstream.

Diurnal dissolved oxygen monitoring downstream of Lake Merriweather during August, 2007 confirmed that dissolved oxygen conditions do periodically violate water quality standards. The daily average water quality criterion of 5 mg/L was violated on each of the 3 days of monitoring in August, 2007, as it was in August, 2006.

Lake monitoring showed that the lake thermally stratifies in the summer, producing low dissolved oxygen conditions below a depth of approximately 10 feet. The upper cold water discharge is located at the 10-11 foot depth, so depending on slight fluctuations in the thermocline (the depth of transition from the upper well-oxygenated water to the lower poorly-oxygenated water), this intake can discharge water with very low dissolved oxygen. During the late summer when flows are low, there is insufficient flow of well-oxygenated water over the top of the dam to mix with the low dissolved oxygen water from the cold water discharge. This produces low dissolved oxygen conditions downstream.

To remedy this condition, it is recommended that flow over the top of the dam be slightly increased when low dissolved oxygen conditions are likely to be encountered. This

from the well-oxygenated epilimnion to the poorly-oxygenated hypolimnion. With very slight fluctuations in the lake's thermocline (less than 1ft), the upper cold water release can also discharge very low oxygen water from the hypolimnion. During the late summer when conditions are dry and flows are low, there may not be sufficient flow over the top of the dam to dilute the low dissolved oxygen water from the cold water discharge. This causes low dissolved oxygen conditions downstream of the lake. During the night, when oxygen-consuming respiration continues, but oxygen-producing photosynthesis ceases, dissolved oxygen conditions are at their critical values.

This explanation for low dissolved oxygen conditions in the Little Calfpasture River is also supported by anecdotal information provided by the dam tender. According to the dam tender, there was no flow of water over the top of the dam for about 2 weeks prior to VADEQ's visit on 8/22/07. As this period progressed the water below the dam became foul smelling. This odor is an indication of low oxygen conditions and means that the upper cold water release was discharging low oxygen water from the hypolimnion of the lake. The dam tender remedied the foul smell by also opening the lower cold water release. This action likely caused a hydraulic forcing of the thermocline to a lower depth in the immediate vicinity of the intake, in turn, causing the upper cold water release to be positioned in the epilimnion and discharging oxygenated water. The mixture of the now more oxygenated upper cold water release and the consistently poorly-oxygenated lower cold water release created an overall increase in the dissolved oxygen of the discharge.

1.6. RECOMMENDATIONS

The conditions producing low dissolved oxygen in the Little Calfpasture River downstream from Lake Merriweather are relatively easy to correct. The solution is to increase the flow of water over the top of the dam and decrease the flow of water through the cold water discharge during times of lake stratification and low flow. Assuming a flow of 5.68 cfs from the cold water discharge (as measured on 8/22/07) and a dissolved oxygen content of 0.3 mg/L, mixing calculations show that a minimum flow of 11.1 cfs at 7.4 mg/L would be needed over the top of the dam to produce a downstream dissolved oxygen concentration of at least 5 mg/L. This flow would equate to an overflow depth of

1.25 inches averaged over the entire length of the 10 gates. Of course, if water is only flowing over half of the gates, this depth would be 2.5 inches.

Based on this information, the following recommendations are made to maintain sufficient dissolved oxygen downstream of Lake Merriweather:

- Keep the lower cold water discharge closed, unless lake levels are dropped to below the 16 ft mark. The lower cold water discharge will always contain low dissolved oxygen during months of stratification (June-September). In addition, this discharge contains very high sediment concentrations and increases sedimentation downstream.

- When overflow depths approach 1-2 inches (averaged over all gates) during months of stratification (June – September), increase the flow over the top of the dam by lowering a single gate 3-6 inches. If the lake is being used for recreational activities, and there is a fear of dropping lake levels, the cold water discharge can be closed to compensate for the increase in overflow from the lake. Gate and valve positions can be returned to normal when overflow depths reach 3 inches (averaged over all gates) or surface water temperatures decrease to 65°F.

Because these recommendations involve reducing the flow of water from the cold water release, VADEQ staff discussed these options with the Virginia Department of Game and Inland Fisheries (VADGIF). The cold water releases were originally incorporated into the design of the dam to decrease downstream temperatures and improve fish habitat. Based on the depth profile of temperature and dissolved oxygen in Lake Merriweather during summer stratification, it is apparent that these cold water releases provide only a small improvement in temperature conditions but a very large degradation in dissolved oxygen conditions. At the depth of the upper cold water release, temperatures were still relatively warm (25°C) and were within 2°C of surface temperatures. Dissolved oxygen at this depth, however, was significantly suppressed (less than 2 mg/L). The very small decrease in temperature is of no benefit to downstream aquatic life if it is accompanied by low dissolved oxygen levels. VADGIF agreed with this assessment and supported the recommendations proposed above (Paul Bugas, personal communication, 10/19/07).

From: "Kain,Donald" <dgkain@deq.state.va.us>
To: "Paul Bugas" <BugasP@dgif.state.va.us>
Date: 2/5/04 2:20PM
Subject: RE: Goshen Pass

Thanks, Paul. We got a similar call to Larry Carpenter (probably the same person). I spoke with Ed Liggett to see if there is anything in the Scouts' Consent Order prohibiting this type of operation. Apparently there is not. It is an accepted "pre-storm" type practice. While not required (by us, anyway), it would be helpful if the scouts notified downstream users when sudden rises in water levels are expected. Seems they could be liable if someone gets stranded in mid-river or swept downstream. I'm not really sure how to proceed, but will share with Ed and recommend we pass the advice on to the Scouts.

Don Kain
Water Monitoring and Compliance Manager
DEQ Valley Regional Office
P.O. Box 3000
Harrisonburg, VA 22801
540-574-7815

-----Original Message-----
From: Paul Bugas [SMTP:BugasP@dgif.state.va.us]
Sent: Thursday, February 05, 2004 2:13 PM
To: Kain,Donald
Cc: Larry Mohn
Subject: Goshen Pass

Don: I am not sure who to pass this info onto at DEQ, so feel free to zip it to the appropriate party.

Once again, we got another complaint from a constituent that was fishing today in Goshen Pass. He said the water level rose fast this morning and there was a lot of "debris" associated with the rise. He suspected it came from the Little Calfpasture, because he went upstream and saw clear water. The sudden rise alarmed him and he wondered if there was any way to alert the public downstream. His name is Fred Benson.

I am assuming the slug came from Lake Merriweather. I am assuming that they are quickly dropping the lake level to make room for the upcoming storm. Paul

CC: "Edward Liggett" <ealiggett@deq.state.va.us>, "Larry Carpenter" <lmcarpenter@deq.state.va.us>

caller: Fred Benson - Craigsville 540-997-5115

Author: Larry Mohn at DGIF_Verona
Date: 8/24/1999 9:45 AM
Priority: Normal
TO: steven shires at Game_and_Inland_Fisheries
Subject: Re: Maury River (heads up only)
---------- Message Contents ----------

Thanks for the info. I talked with DEQ on Friday and they had been down for an inspection of the BSA lake. Apparently there is no water going over the dam due to the drought and the only water being discharged is from a lower valve. This water is very poor in color and has a lot of iron (causing the orange precipitate). According to BSA, this is the first time this has ever occurred!?

---------- Reply Separator ----------
Subject: Maury River (heads up only)
Author: steven shires at Game_and_Inland_Fisheries
Date: 8/24/1999 8:47 AM

Jay Gilliam (540) 377-6179 called and left a msg. concerning the Maury River. He said that the Maury has a Blue/Gray tone and an orange scum near the swinging bridge. I am just coming off vacation but will try and swing by there today and see whats up.

Steve Shires