

Wayne. Because of my trial and traveling schedule, we Will need to move the date for our meeting. Can you please call me 804-887-0778

Dale G. Mullen

McGuireWoods LLP

Gateway Plaza

800 East Canal Street

Richmond VA 23219-3916

804.775.4710 (Direct Line)

804.698.2098 (Direct FAX)

[dmullen@mcguirewoods.com](mailto:dmullen@mcguirewoods.com)

<http://www.mcguirewoods.com>

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## Fw: Scott's Mill Hydropower Project - Proposed Joint Meeting on Draft License Application (FERC Project No. P-14867)

----- Forwarded Message -----

**From:** Luke Graham <scottsmillhydro@yahoo.com>

**To:** julie.crocker@noaa.gov <julie.crocker@noaa.gov>; jeddings@achp.gov <jeddings@achp.gov>; slchristian@countyofamherst.com <slchristian@countyofamherst.com>; cindy\_schulz@fws.gov <cindy\_schulz@fws.gov>; rdushane@estoo.net <rdushane@estoo.net>; kim.jumper@shawnee-tribe.com <kim.jumper@shawnee-tribe.com>; sbanks@blm.gov <sbanks@blm.gov>; david\_sutherland@fws.gov <david\_sutherland@fws.gov>; john.smith@ferc.gov <john.smith@ferc.gov>; marc.holma@dhv.virginia.gov <marc.holma@dhv.virginia.gov>; roger.kirchen@dhv.virginia.gov <roger.kirchen@dhv.virginia.gov>; timothy.mitchell@lynchburgva.gov <timothy.mitchell@lynchburgva.gov>; jthomas-blate@americanrivers.org <jthomas-blate@americanrivers.org>; kevin@americanwhitewater.org <kevin@americanwhitewater.org>; robbie.rhur@dcv.virginia.gov <robbie.rhur@dcv.virginia.gov>; lynn.crump@dcv.virginia.gov <lynn.crump@dcv.virginia.gov>; jennifer.wampler@dcv.virginia.gov <jennifer.wampler@dcv.virginia.gov>; julie.langan@dhv.virginia.gov <julie.langan@dhv.virginia.gov>; corwin.d.chamberlain@dom.com <corwin.d.chamberlain@dom.com>; jody.callihan@ferc.gov <jody.callihan@ferc.gov>; brian.mcgruk@deq.virginia.gov <brian.mcgruk@deq.virginia.gov>; justin.stauder@lynchburgva.gov <justin.stauder@lynchburgva.gov>; gregory.poff@lynchburgva.gov <gregory.poff@lynchburgva.gov>; george.palmer@dgif.virginia.gov <george.palmer@dgif.virginia.gov>; scott.smith@dgif.virginia.gov <scott.smith@dgif.virginia.gov>; lumber1948@comcast.net <lumber1948@comcast.net>; rml@handp.com <rml@handp.com>; pat@vcnva.org <pat@vcnva.org>; bl@handp.com <bl@handp.com>; eric@natelenergy.com <eric@natelenergy.com>; lukegraham\_5@yahoo.com <lukegraham\_5@yahoo.com>; dyok@prodigy.net <dyok@prodigy.net>; mfendig@aisva.net <mfendig@aisva.net>; jeanne.c.richardson@usace.army.mil <jeanne.c.richardson@usace.army.mil>; mike.johnson@mrc.virginia.gov <mike.johnson@mrc.virginia.gov>; bob.gates@eaglecreekre.com <bob.gates@eaglecreekre.com>; dan.parker@eaglecreekre.com <dan.parker@eaglecreekre.com>; jlfalwell@gmail.com <jlfalwell@gmail.com>; jwagner@bedfordva.gov <jwagner@bedfordva.gov>; rwandrei@verizon.net <rwandrei@verizon.net>; lisa.pappas@tnc.org <lisa.pappas@tnc.org>; Dmullen@mcguirewoods.com <dmullen@mcguirewoods.com>; 2educ8rs@gmail.com <2educ8rs@gmail.com>; Darryl.glover@dcv.virginia.gov <darryl.glover@dcv.virginia.gov>; kelly@hydroreform.org <kelly@hydroreform.org>; benjamin.hermerding@governor.virginia.gov <benjamin.hermerding@governor.virginia.gov>; Mnation538@aol.com <mnation538@aol.com>; johnna.blackhair@bia.gov <johnna.blackhair@bia.gov>; davis.ginny@epa.gov <davis.ginny@epa.gov>; Rudnick.Barbara@epa.gov <rudnick.barbara@epa.gov>; Delgrosso.Karen@epa.gov <delgrosso.karen@epa.gov>; Magerr.Kevin@epa.gov <magerr.kevin@epa.gov>; kpenrod@delawarenation.com <kpenrod@delawarenation.com>; dbcrawford@cox.net <dbcrawford@cox.net>; pamunkeytribe@pamunkey.org <pamunkeytribe@pamunkey.org>; Robert.Gray@pamunkey.org <robert.gray@pamunkey.org>; Jeremy Bryant <jsbryant@countyofamherst.com>; anthony.cario@deq.virginia.gov <anthony.cario@deq.virginia.gov>; tim.green@deq.virginia.gov <tim.green@deq.virginia.gov>

**Sent:** Sunday, May 6, 2018, 8:10:43 AM PDT

**Subject:** Re: Scott's Mill Hydropower Project - Proposed Joint Meeting on Draft License Application (FERC Project No. P-14867)

On Monday, April 16, 2018 3:15 PM, Luke Graham <[scottsmillhydro@yahoo.com](mailto:scottsmillhydro@yahoo.com)> wrote:

Dear Interested Party

On December 11, 2017, Scott's Mill Hydro, LLC filed and distributed to agencies, Indian tribes, and interested parties, a draft license application for the Scott's Mill Hydropower Project on the James River. Scott's Mill requested comments by March 12, 2018. On February 8, 2018, Scott's Mill refiled the draft license application with FERC per FERC's directive under a new docket number P-14867.

Several comments were received by the March 12, 2018 due date. However, because of the confusion of converting to a new docket number, and at the request of interested parties, Scott's Mill extended the comment period an additional month.

In reviewing the comments, it is apparent that there are substantive disagreements with a few comments, most notably the flow rate to be passed around the hydroelectric plant for downstream fish passage. (There is general agreement on upstream fish passage.) Pursuant to FERC's regulations at 18 CFR 4.38 (c)(6), an applicant will hold a Joint Meeting with the disagreeing resource agency or Indian tribe and other agencies with similar or related areas of interest not later than 60 days from the date of the written comments of the disagreeing agency or Indian tribe. Accordingly, Scott's Mill corresponded with the resource agencies and based on those contacts, Scott's Mill proposes to hold the Joint Meeting in Lynchburg, Virginia on May 8th starting at 10 am. We anticipate that the meeting will be at the office of Hurt and Proffitt at 2524 Langhorne Road, Lynchburg, Virginia 24501. This will be finalized in a separate email along with the meeting agenda.

The Virginia Department of Historic Resources will not attend the meeting in person, but plans to call in to the meeting during the afternoon to discuss use of the Water Works Canal as a nature-like fishway.

All interested participants are invited to attend the meeting. In order to efficiently plan for the meeting, we would appreciate if anyone wishing to attend would respond to this email or contact Wayne Dyok at 916 719-7022.

Although the deadline has passed for providing comments, Scott's Mill welcomes additional comments up to the Joint Meeting date. For your convenience participant comments can be reviewed on the Scott's Mill web site at [Scottsmillhydro.com](http://Scottsmillhydro.com).

Please respond to this email if you wish to be removed from the distribution list. Thank you.

Regards.  
Wayne Dyok  
(for Scott's Mill Hydro, LLC)



Joint Meeting Agenda 2018-05-08.docx

14.9kB



FERC Joint Meeting Agenda Trans Letter 2018-04-22.docx

190.4kB



Re: SMD site visit

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From: Wayne Dyok (dyok@prodigy.net)

To: Scott.Smith@dgif.virginia.gov

Cc: Alan.Weaver@dgif.virginia.gov; David\_Sutherland@fws.gov; jessica\_pica@fws.gov;  
mfendig@aisva.net; brett\_towler@fws.gov; lukegraham\_5@yahoo.com

Date: Monday, April 23, 2018, 09:59 PM PDT

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Hi Scott, David, Alan, Brett and Jessica. Attached please find the downstream fish passage report that was prepared for the T.S. Sullivan Project on the Willamette River in Oregon. I was fortunate to have been the lead consultant for the project when it was licensed in 2005. One of the two really great concepts that we came up with the agencies and successfully implemented was the North Fish Bypass (NFB). The bypass uses the louver concept that we are proposing for Scott's Mill. The Fish Guidance Efficiency (FGE) realized is better than we imagined. I plan to present the key aspects of the NFB and apply the concepts to Scott's Mill during the meeting, but basically it requires non-turbulent flow, a powerhouse orientation that is parallel to the flow, and specific velocities. Portland General Electric is going to provide me with a sketch of the final arrangement, but that is not until next week. I appreciate that the species of interest are steelhead and salmon and that we do not have these species on the James River, but lamprey are also effectively passed downstream and that is a species of interest for us. I do think this concept will work for other species too, including American shad when they are passed. The big issue that we will need to resolve is the amount of flow to be bypassed. The Willamette has an average flow of 30,000 cfs versus 3,000 cfs for the James. The capacity of the Sullivan plant is 6,000 cfs versus 4,500 for Scott's Mill. The bypass flow works very effectively at flows of 250 cfs and 400 cfs. Rather than have a specific flow requirement, we propose including a range for the license and verify through actual measurements.

I really do think that we could be on the cutting edge of safe, timely, and effective downstream fish passage, such that the downstream migrants avoid going through the units, negating the need for further turbine mortality mitigation. At T.S. Sullivan there is virtually no entrainment for units 1 through 12. The last unit, unit 13 does have some, but that is a low percentage. Anyway, I hope you can find at least a half hour to skim the report before our meeting. I think you will find it interesting.

Luke, can you add this to our Scott's Mill web site?

Regards,  
Wayne

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On Monday, November 6, 2017 1:31 PM, "Smith, Scott (DGIF)" <Scott.Smith@dgif.virginia.gov> wrote:

Fine by me. We can do whatever time works best for folks. I'll be here all day....

Scott M. Smith  
Region 2 Fisheries Manager  
Virginia Dept. of Game and Inland Fisheries  
1132 Thomas Jefferson Rd.  
Forest, VA 24551  
434/525-7522 (ext. 106)  
scott.smith@dgif.virginia.gov

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From: Wayne Dyok [mailto:dyok@prodigy.net]

Sent: Monday, November 06, 2017 4:24 PM



TW Sullivan Powerhouse Performance Report.pdf  
4.1MB

## Fw: Scott's Mill Hydropower Project - Proposed Joint Meeting on Draft License Application (FERC Project No. P-14867)

----- Forwarded Message -----

**From:** Luke Graham <scottsmillhydro@yahoo.com>

**To:** julie.crocker@noaa.gov <julie.crocker@noaa.gov>; jeddings@achp.gov <jeddings@achp.gov>; slchristian@countyofamherst.com <slchristian@countyofamherst.com>; glen.besa@sierraclub.org <glen.besa@sierraclub.org>; robert.bennet@dc.virginia.gov <robert.bennet@dc.virginia.gov>; cindy\_schulz@fws.gov <cindy\_schulz@fws.gov>; rdushane@estoo.net <rdushane@estoo.net>; kim.jumper@shawnee-tribe.com <kim.jumper@shawnee-tribe.com>; craab@americancanoe.org <craab@americancanoe.org>; sbanks@blm.gov <sbanks@blm.gov>; david\_sutherland@fws.gov <david\_sutherland@fws.gov>; john.smith@ferc.gov <john.smith@ferc.gov>; marc.holma@dhr.virginia.gov <marc.holma@dhr.virginia.gov>; roger.kirchen@dhr.virginia.gov <roger.kirchen@dhr.virginia.gov>; timothy.mitchell@lynchburgva.gov <timothy.mitchell@lynchburgva.gov>; jthomas-blate@americanrivers.org <jthomas-blate@americanrivers.org>; kevin@americanwhitewater.org <kevin@americanwhitewater.org>; amanda.grey@deq.virginia.gov <amanda.grey@deq.virginia.gov>; robbie.rhur@dc.virginia.gov <robbie.rhur@dc.virginia.gov>; lynn.crump@dc.virginia.gov <lynn.crump@dc.virginia.gov>; jennifer.wampler@dc.virginia.gov <jennifer.wampler@dc.virginia.gov>; julie.langan@dhr.virginia.gov <julie.langan@dhr.virginia.gov>; corwin.d.chamberlain@dom.com <corwin.d.chamberlain@dom.com>; jody.callihan@ferc.gov <jody.callihan@ferc.gov>; brian.mcgurk@deq.virginia.gov <brian.mcgurk@deq.virginia.gov>; justin.stauder@lynchburgva.gov <justin.stauder@lynchburgva.gov>; gregory.poff@lynchburgva.gov <gregory.poff@lynchburgva.gov>; george.palmer@dgif.virginia.gov <george.palmer@dgif.virginia.gov>; scott.smith@dgif.virginia.gov <scott.smith@dgif.virginia.gov>; lumber1948@comcast.net <lumber1948@comcast.net>; rml@handp.com <rml@handp.com>; campbell@jrava.org <campbell@jrava.org>; pat@vcnva.org <pat@vcnva.org>; bll@handp.com <bll@handp.com>; eric@natelenergy.com <eric@natelenergy.com>; lukegraham\_5@yahoo.com <lukegraham\_5@yahoo.com>; dyok@prodigy.net <dyok@prodigy.net>; mfendig@aisva.net <mfendig@aisva.net>; jeanne.c.richardson@usace.army.mil <jeanne.c.richardson@usace.army.mil>; mike.johnson@mrc.virginia.gov <mike.johnson@mrc.virginia.gov>; bob.gates@eaglecreekre.com <bob.gates@eaglecreekre.com>; dan.parker@eaglecreekre.com <dan.parker@eaglecreekre.com>; jlfalwell@gmail.com <jlfalwell@gmail.com>; jwagner@bedfordva.gov <jwagner@bedfordva.gov>; rwandrei@verizon.net <rwandrei@verizon.net>; lisa.pappas@tnc.org <lisa.pappas@tnc.org>; Dmullen@mcguirewoods.com <Dmullen@mcguirewoods.com>; 2educ8rs@gmail.com <2educ8rs@gmail.com>; Darryl.glover@dc.virginia.gov <Darryl.glover@dc.virginia.gov>; kelly@hydroreform.org <kelly@hydroreform.org>; benjamin.hermerding@governor.virginia.gov <benjamin.hermerding@governor.virginia.gov>; Mnation538@aol.com <Mnation538@aol.com>; johnna.blackhair@bia.gov <johnna.blackhair@bia.gov>; davis.ginny@epa.gov <davis.ginny@epa.gov>; Rudnick.Barbara@epa.gov <Rudnick.Barbara@epa.gov>; Delgrosso.Karen@epa.gov <Delgrosso.Karen@epa.gov>; Magerr.Kevin@epa.gov <Magerr.Kevin@epa.gov>; kpenrod@delawarenation.com <kpenrod@delawarenation.com>; dbcrawford@cox.net <dbcrawford@cox.net>; pamunkeytribe@pamunkey.org <pamunkeytribe@pamunkey.org>; Robert.Gray@pamunkey.org <Robert.Gray@pamunkey.org>; Jeremy Bryant <jsbryant@countyofamherst.com>

**Sent:** Monday, April 23, 2018, 9:20:48 PM PDT

**Subject:** Re: Scott's Mill Hydropower Project - Proposed Joint Meeting on Draft License Application (FERC Project No. P-14867)



Dear Interested Party;

Attached is the agenda for the Joint Meeting to resolve issues relating to the draft license application for the Scott's Mill Hydropower Project. We have also attached the associated letter that was filed with the Federal Energy Regulatory Commission today.

The meeting will be held at the office of Hurt and Proffitt, 2524 Langhorne Road, Lynchburg Virginia. It will start at 10 am. We anticipate that the meeting should be completed no later than 3 pm.

We will be sending a report to the resource agencies that was prepared for the T.S. Sullivan Project on the Willamette River to provide for safe, timely, and effective downstream fish passage. Scott's Mill Hydro, LLC believes that the concepts for downstream passage at the T.S. Sullivan Project are applicable to the Scott's Mill Project. We did not wish to unnecessarily clutter participant inboxes with this lengthy report. However, we will include it on our web site at Scottsmillhydro.com in the next few days. If you are interested in getting the report directly (or sooner), please respond to this email or to me at dyok@prodigy.net and I will send you the report.

We received conflicting comments on the use of the Waterworks canal for a nature-like fishway. The Virginia Department of Historic Resources will not be attending the meeting in person, but will be on the phone when this issue is discussed.

Additionally, although there is general agreement on recreation, we plan to update participants on the recreation plan at the end of the meeting.

If you have any additional questions, feel free to contact me via email at this address or call me at 916 719-7022.

Kindest regards,  
Wayne Dyok for  
Scott's Mill Hydro, LLC



Joint Meeting Agenda 2018-05-08.docx  
14.9kB



FERC Joint Meeting Agenda Trans Letter 2018-04-22.docx  
190.4kB



**SCOTT'S MILL HYDROPOWER PROJECT (FERC No. P-14867)**  
**JOINT MEETING AGENDA**  
**Hurt and Proffitt Office**  
**2524 Langhorne Road, Lynchburg VA**  
**10:00 am May 8, 2018**

1. Effects of proposed project on upstream wetlands
2. Potential for nature-like fishway using Waterworks Canal (with State Historic Preservation Office)
3. Control of water levels in Scott's Mill headpond
4. Safe, timely, and effective downstream fish passage (louver system, trashrack spacing, velocities, minimum bypass flow)
5. Turbine survival
6. Upstream fish passage
7. Use of historic flow record
8. Use of adjustable spillway gates versus concrete cap
9. Project effects on shoreline erosion
10. Water quality effects

## FERC Receipt of Filing in P-14867-000

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From: [efiling@ferc.gov](mailto:efiling@ferc.gov)

To: [dyok@prodigy.net](mailto:dyok@prodigy.net); [efilingacceptance@ferc.gov](mailto:efilingacceptance@ferc.gov)

Date: Monday, April 23, 2018, 7:44 PM AKDT

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### Confirmation of Receipt

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This is to confirm receipt by the FERC Office of the Secretary of the following electronic submission:

- Submission ID: 869330
- Docket(s) No.: P-14867-000
- Filed By: Scott's Mill Hydro, LLC
- Signed By: wayne dyok
- Filing Desc: Supplemental Information / Request of Scott's Mill Hydro, LLC under P-14867-000. Transmittal of agenda for May 8, 2018. Joint Meeting.
- Submission Date/Time: 4/23/2018 11:42:00 PM
- Projected Filed Date/Time: 4/24/2018 8:30:00 AM (Subject to Change based on OPM/FERC Closure)

Additional detail about your filing is available via the following link:

<https://ferconline.ferc.gov/SubmissionStatus.aspx?hashcode=PfOW3ygwssWAL0ErstZLw>

Thank you for participating in the FERC Electronic Filing System. If you have any questions, or if you detect errors in your submission or the FERC-generated PDF, please contact FERC at:

E-Mail: [ferconlinesupport@ferc.gov](mailto:ferconlinesupport@ferc.gov) <mailto:ferconlinesupport@ferc.gov> (do not send filings to this address)  
Voice Mail: 866-208-3676.



April 23, 2018

The Honorable Kimberly Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**RE: SCOTT'S MILL HYDROELECTRIC PROJECT  
FERC PROJECT NO. 14867  
TRANSMITTAL OF AGENDA FOR JOINT MEETING**

Dear Secretary Bose:

Included herein pursuant to the Commission's regulations at 18 CFR §4.38 (c)(6)(iii) is the agenda for the Joint Meeting for the proposed Scott's Mill Hydropower Project. The meeting will be held at the offices of Hurt and Proffitt in Lynchburg, Virginia starting at 10 am on May 8, 2018. Scott's Mill Hydro, LLC (Scott's Mill) coordinated with resource agencies and interested parties on the meeting date. Scott's Mill welcomes Commission staff to attend the meeting.

While resource agencies and Scott's Mill are in general agreement with upstream fish passage, there are a few issues that Scott's Mill would like to resolve during the Joint Meeting. The primary issues needing resolution are safe, timely, and effective downstream fish passage and the use of spillway gates versus the proposed concrete cap.

At the request of Virginia Department of Game and Inland Fisheries, we are including their comments on the draft license application. These comments were timely received by Scott's Mill on March 7, 2018.

If you have any questions, feel free to contact me at (540) 320-6762 or Wayne Dyok at (916) 719-7022.

Sincerely,

 for

Mark Fendig, Managing Member

## Fw: Scott's Mill Hydropower Project - Proposed Joint Meeting on Draft License Application (FERC Project No. P-14867)

----- Forwarded Message -----

**From:** Luke Graham <scottsmillhydro@yahoo.com>

**To:** julie.crocker@noaa.gov <julie.crocker@noaa.gov>; jeddings@achp.gov <jeddings@achp.gov>; slchristian@countyofamherst.com <slchristian@countyofamherst.com>; cindy\_schulz@fws.gov <cindy\_schulz@fws.gov>; rdushane@estoo.net <rdushane@estoo.net>; kim.jumper@shawnee-tribe.com <kim.jumper@shawnee-tribe.com>; sbanks@blm.gov <sbanks@blm.gov>; david\_sutherland@fws.gov <david\_sutherland@fws.gov>; john.smith@ferc.gov <john.smith@ferc.gov>; marc.holma@dhr.virginia.gov <marc.holma@dhr.virginia.gov>; roger.kirchen@dhr.virginia.gov <roger.kirchen@dhr.virginia.gov>; timothy.mitchell@lynchburgva.gov <timothy.mitchell@lynchburgva.gov>; jthomas-blate@americanrivers.org <jthomas-blate@americanrivers.org>; kevin@americanwhitewater.org <kevin@americanwhitewater.org>; robbie.rhur@dcr.virginia.gov <robbie.rhur@dcr.virginia.gov>; lynn.crump@dcr.virginia.gov <lynn.crump@dcr.virginia.gov>; jennifer.wampler@dcr.virginia.gov <jennifer.wampler@dcr.virginia.gov>; julie.langan@dhr.virginia.gov <julie.langan@dhr.virginia.gov>; corwin.d.chamberlain@dom.com <corwin.d.chamberlain@dom.com>; jody.callihan@ferc.gov <jody.callihan@ferc.gov>; brian.mcgurk@deq.virginia.gov <brian.mcgurk@deq.virginia.gov>; justin.stauder@lynchburgva.gov <justin.stauder@lynchburgva.gov>; gregory.poff@lynchburgva.gov <gregory.poff@lynchburgva.gov>; george.palmer@dgif.virginia.gov <george.palmer@dgif.virginia.gov>; scott.smith@dgif.virginia.gov <scott.smith@dgif.virginia.gov>; lumber1948@comcast.net <lumber1948@comcast.net>; rml@handp.com <rml@handp.com>; pat@vcnva.org <pat@vcnva.org>; bll@handp.com <bll@handp.com>; eric@natelenergy.com <eric@natelenergy.com>; lukegraham\_5@yahoo.com <lukegraham\_5@yahoo.com>; dyok@prodigy.net <dyok@prodigy.net>; mfendig@aisva.net <mfendig@aisva.net>; jeanne.c.richardson@usace.army.mil <jeanne.c.richardson@usace.army.mil>; mike.johnson@mrc.virginia.gov <mike.johnson@mrc.virginia.gov>; bob.gates@eaglecreekre.com <bob.gates@eaglecreekre.com>; dan.parker@eaglecreekre.com <dan.parker@eaglecreekre.com>; jlfalwell@gmail.com <jlfalwell@gmail.com>; jwagner@bedfordva.gov <jwagner@bedfordva.gov>; rwandrei@verizon.net <rwandrei@verizon.net>; lisa.pappas@tnc.org <lisa.pappas@tnc.org>; Dmullen@mcguirewoods.com <Dmullen@mcguirewoods.com>; 2educ8rs@gmail.com <2educ8rs@gmail.com>; Darryl.glover@dcr.virginia.gov <Darryl.glover@dcr.virginia.gov>; kelly@hydroreform.org <kelly@hydroreform.org>; benjamin.hermerding@governor.virginia.gov <benjamin.hermerding@governor.virginia.gov>; Mnation538@aol.com <Mnation538@aol.com>; johnna.blackhair@bia.gov <johnna.blackhair@bia.gov>; davis.ginny@epa.gov <davis.ginny@epa.gov>; Rudnick.Barbara@epa.gov <Rudnick.Barbara@epa.gov>; Delgrosso.Karen@epa.gov <Delgrosso.Karen@epa.gov>; Magerr.Kevin@epa.gov <Magerr.Kevin@epa.gov>; kpenrod@delawarenation.com <kpenrod@delawarenation.com>; dbcrawford@cox.net <dbcrawford@cox.net>; pamunkeytribe@pamunkey.org <pamunkeytribe@pamunkey.org>; Robert.Gray@pamunkey.org <Robert.Gray@pamunkey.org>; Jeremy Bryant <jsbryant@countyofamherst.com>; anthony.cario@deq.virginia.gov <anthony.cario@deq.virginia.gov>; tim.green@deq.virginia.gov <tim.green@deq.virginia.gov>

**Sent:** Sunday, May 6, 2018, 8:10:43 AM PDT

**Subject:** Re: Scott's Mill Hydropower Project - Proposed Joint Meeting on Draft License Application (FERC Project No. P-14867)

Good Sunday morning.





We have been asked by several participants to provide a call in number for our Scott's Mill Hydropower Project meeting on Tuesday. Hurt and Proffitt will make available their conference line for the call. The call in number is: (800) 704-9804. The pass code is 86578455#.

If you have trouble calling in please contact me at 916 719-7022.

The Virginia Department of Historic Resources will be calling in. We intend to address their issues at the beginning of the meeting. Accordingly, we will slightly rearrange the meeting agenda to address upstream and downstream fish passage at the start of the meeting.

It appears that most of the upstream dam owners will either be attending the meeting or calling in. Therefore we also want to discuss upstream and downstream passage on a large scale basis.

Regards,  
Wayne



Joint Meeting Agenda 2018-05-08.docx

14.9kB



FERC Joint Meeting Agenda Trans Letter 2018-04-22.docx

190.4kB

## **Record of Telephone Conversation on 5/2/18 from 2PM until 2:50PM**

Participants: Wayne Dyok (WD), Mark Fendig (MF), Randy Lichtenberger (RL), Marc Holma (MH) and Roger Kirchen (RK)

- WD initiates meeting. Considering ideas to save part of existing arch dam associated with the Water Works Dam and Canal
- RK reminds group that DHR has not made recommendations on effect yet, but has cautioned that partial removal of the dam could be considered an adverse effect. WD and client should take DHR's feedback and provide their own assessment of the project's effect, how much of the dam would need to be removed and what steps could be taken to minimize impacts to it
- WD provides update of conversations with USFWS and other "fish services" – originally planned to remove top section of arch – now considering rotating the powerhouse to remove less of the arch dam – looking to get the right balance between rotating to save fish and having greater downstream effects – talking with design engineer – would need sketches – maybe would be able to save half of arch(?)
- RK asks "will you take out all of other half?"
- WD maybe more than half of the other half but depends on flow – will discuss with engineers
- MH why are you turning the powerhouse?
- WD to minimize the number of fish going through the units
- MH preferable to DHR, from a preservation perspective, to lower the arch a little all the way across rather than take half of it out
- WD that's helpful to know – will look into it with the engineer
- RK how do engineering options relate to impacts on the water works canal?
- WD trying to avoid the canal – will hopefully only need temporary construction access over it – was some preference by fish agencies for using the canal for natural fish passage
- RK so fish people would like to re-water the canal?
- WD yes, but there are other ways to get fish through – DHR, DGIF and USFWS should discuss the water works canal and potential modifications to it
- RK DHR is not necessarily opposed to canal modifications but would depend on how it's done
- WD another method to move fish rather than a fish ladder involves a device that "throws" them up to the pond
- RK may need additional study of the canal to know its historic characteristics (original fabric and configuration) before it could be modified
- WD understand the potential need for this work down the road but would like to do it later when there are fewer unknowns

- RL points out that canal is buried and goes under pipe plant buildings further downstream from its gate near the arch dam
- WD affirms belief that it would be difficult to reuse the canal and would include extensive work to do so
- RL asks if DHR is satisfied that no archaeological survey (underwater and at the Scott's Mill Ruin) is required
- RK doesn't see the need to work at the mill ruins – leave as is for now, but could change depending on impacts later on – to WD's point, if interested in obtaining the FERC license now and conducting studies and effect determinations later, will require a Programmatic Agreement (PA) be executed before the license is issued
- WD wants Randy, himself, Mark and DHR to work on the PA
- RK can FERC provide input on what they would like to see in the PA?
- WD will confer with FERC
- MF ask Roger if he can clarify a point in his letter regarding the water works canal's contribution to the James River and Kanawha Canal (JR&KC) Sites in Lynchburg? The water works canal is not part of the JR&KC.
- RK (and MH) the water works canal is eligible for its association with early river use, in this case as a pre-JR&KC water supply for the City of Lynchburg and for its engineering
- RK can be available for conference call to the Tuesday, May 8<sup>th</sup> meeting
- WD recommends he call in at or near 10AM start time when the group will be discussing fish passage – will have a rough sketch available (as requested by RK) – has already sent DHR a copy of the agenda but will re-send
- RL to provide WD with H&P conference call information and notes on current conference call
- adjourn



## Scott's Mill Dam Soild sample data

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**From:** Cario, Anthony (anthony.cario@deq.virginia.gov)

**To:** dyok@prodigy.net

**Date:** Wednesday, May 9, 2018, 12:47 PM AKDT

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Wayne,

I shared the Appendix F soil sampling data with out water quality/TMDL staff and they asked for an electronic file of the data to review the dataset. Could you send me the soil sampling data as a.csv file?

It was nice seeing you yesterday and getting an update on the project.

Thanks

--

***Tony Cario***

Environmental Specialist  
Office of Water Supply  
Department of Environmental Quality  
P.O. Box 1105, Richmond, VA 23218  
804-698-4089  
[anthony.cario@deq.virginia.gov](mailto:anthony.cario@deq.virginia.gov)  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

## Scott's Mill Hydropower Project Progress Update and Transmittal of Joint Meeting Minutes

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**From:** Luke Graham (scottsmillhydro@yahoo.com)

**To:** julie.crocker@noaa.gov; jeddings@achp.gov; slchristian@countyofamherst.com; glen.besa@sierraclub.org; robert.bennet@dc.virginia.gov; cindy\_schulz@fws.gov; rdushane@estoo.net; kim.jumper@shawnee-tribe.com; craab@americancanoe.org; sbanks@blm.gov; david\_sutherland@fws.gov; john.smith@ferc.gov; marc.holma@dc.virginia.gov; roger.kirchen@dc.virginia.gov; timothy.mitchell@lynchburgva.gov; jthomas-plate@americanrivers.org; kevin@americanwhitewater.org; amanda.grey@deq.virginia.gov; robbie.rhur@dc.virginia.gov; lynn.crump@dc.virginia.gov; jennifer.wampler@dc.virginia.gov; julie.langan@dc.virginia.gov; corwin.d.chamberlain@dom.com; jody.callihan@ferc.gov; brian.mcgurk@deq.virginia.gov; justin.stauder@lynchburgva.gov; gregory.poff@lynchburgva.gov; george.palmer@dgif.virginia.gov; scott.smith@dgif.virginia.gov; lumber1948@comcast.net; rml@handp.com; campbell@java.org; pat@vcnva.org; bll@handp.com; lukegraham\_5@yahoo.com; dyok@prodigy.net; mfendig@aisva.net; jeanne.c.richardson@usace.army.mil; mike.johnson@mrc.virginia.gov; bob.gates@eaglecreekre.com; dan.parker@eaglecreekre.com; jwagner@bedfordva.gov; rwandrei@verizon.net; lisa.pappas@tnc.org; Dmullen@mcguirewoods.com; 2educ8rs@gmail.com; Darryl.glover@dc.virginia.gov; kelly@hydroreform.org; lbstull@fs.fed.us; davidwhitmore@fs.fed.us; benjamin.hermerding@governor.virginia.gov; Mnation538@aol.com; johnna.blackhair@bia.gov; davis.ginny@epa.gov; Rudnick.Barbara@epa.gov; Delgrosso.Karen@epa.gov; Magerr.Kevin@epa.gov; kpenrod@delawarenation.com; dbcrawford@cox.net; pamunkeytribe@pamunkey.org; Robert.Gray@pamunkey.org; jsbryant@countyofamherst.com; dcrodgers@countyofamherst.com; alan.weaver@dgif.virginia.gov; anthony.cario@deq.virginia.gov; michael.scarzello@eaglecreekre.com

**Date:** Friday, October 12, 2018, 9:56 AM AKDT

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Dear Interested Party

Over the past several months, progress has continued on the Scott's Mill Hydropower Project redesign to reflect the discussions held on May 8, 2018. The updated design is now complete. Because the design is considered Critical Energy Infrastructure Information, our plan is to only send it to government agencies at this time. We will send that information out on Monday. After the agencies have had an opportunity to review, we plan to discuss the design with them and as appropriate move forward with transmitting the license application to FERC and interested parties. We will also put the application on our website at [www.scottsmillhydro.com](http://www.scottsmillhydro.com).

If you would like to review the design and are not a government entity, please respond to this email. If there is sufficient interest, Scott's Mill Hydro will contact FERC to determine the requirements for transmitting the drawings to you. You will be required to sign a confidentiality agreement.

Attached to this email are the final notes from our May 8th Joint Meeting. Thank you to those that provided comments on the draft notes.

We also want you to be aware of two other items. First, earlier this week congress passed the America's Water Infrastructure Act of 2018 which contains provisions for proposed projects at

existing non-powered dams like Scott's Mill. Secondly, Amherst County is moving forward with the whitewater study mentioned at the May 8th meeting. Scott's Mill Hydro intends to cooperate with Amherst County on this effort. Depending upon the outcome, the whitewater study could affect the project's design.

Kindest regards,  
Wayne



Joint Meeting Final Notes on DLA 2018-05-08.docx

36.6kB



**SCOTT'S MILL HYDROPOWER PROJECT (FERC NO. 14867)**

**NOTES OF JOINT MEETING**

**HELD AT HURT & PROFFITT**

**2524 LANGHORNE ROAD, LYNCHBURG VIRGINIA**

**MAY 8, 2018**

**Attendees**

John Wagner, Town of Bedford  
Dean Rodgers, Amherst County  
Jerry Bryant, Amherst County  
Sara Lu Christian, Amherst County  
Greg Poff, Lynchburg Water Resources  
Alan Weaver, Virginia Department of Game and Inland Fisheries (VDGIF)  
Scott Smith, Virginia Department of Game and Inland Fisheries  
David Sutherland, U.S. Fish and Wildlife Service (USFWS)  
Rob Campbell, James River Association  
Tony Cario, Virginia Department of Environmental Quality (VDEQ)  
Scott Lyng, Lyng and Son Lumber  
Rob Campbell, James River Association  
Amanda Dodge, Hurt and Proffitt  
Mark Fendig, Scott's Mill Hydro LLC  
Wayne Dyok, H2O Ecopower

**Via Telephone**

Pat Calvert, Virginia Conservation Network  
Randy Lichtenberger, Hurt & Proffitt  
Roger Kirchen, Virginia Department of Historic Resources (VDHR or SHPO)  
Mike Scarzello, Eagle Creek Renewable Energy  
Dan Parker, Eagle Creek Renewable Energy  
Greg Allen, Alden Research Laboratory  
Steve Amaral, Alden Research Laboratory  
David Duquette, Littoral Power Systems  
Kathie Leighton, Littoral Power Systems  
Nicholas Funk, Louis Berger



## **Meeting Agenda**

1. Effects of proposed project on upstream wetlands
2. Potential for nature-like fishway using Waterworks Canal (with State Historic Preservation Office)
3. Control of water levels in Scott's Mill headpond
4. Safe, timely, and effective downstream fish passage (louver system, trashrack spacing, velocities, minimum bypass flow)
5. Turbine survival
6. Upstream fish passage
7. Use of historic flow record
8. Use of adjustable spillway gates versus concrete cap
9. Project effects on shoreline erosion
10. Water quality effects

## **Discussion**

After the participants introduced themselves, they agreed to a slightly modified agenda to accommodate the participation of the State Historic Preservation Office who could only attend a portion of the meeting by telephone. (For ease of readability, the notes are generally presented by topic area as the discussions oftentimes included multiple topic items.)

### **1. Potential for Nature-Like Fishway Using Water Works Canal**

Randy Lichtenberger (H&P) summarized the history of the Water Works canal. It's 1820's construction predated the James River Canal. The canal was constructed to provide water for the City of Lynchburg. The arch dam portion of the Scott's Mill Dam was constructed as part of the Water Works canal. The Water Works canal is relatively intact, but there are large sections of the canal underneath buildings and parking lots, including the outlet. The intake and gears are intact and therefore considered eligible for the National Register of Historic Places (NRHP).

Roger Kirchen (SHPO) concurred with Randy on eligibility. The finding is hampered somewhat by the lack of what remains of the canal, silting of the canal etc. Roger continued that the SHPO did not object to using the canal for a nature-like fishway. The SHPO goal is to preserve as much of the historic fabric of the canal as possible. Thus, the SHPO would prefer to see archeological testing of what the original configuration was. In this way, the reuse of the canal could be designed to avoid impacts to the canal to the extent possible.

Randy commented that the nature-like fishway would require a new out take. He offered that there would be an opportunity for public interpretation.

Roger commented that the breach in the canal would result in an adverse effects determination. There is already some degree of adverse effects for the arch dam section. However, the Federal process allows for some degree of adverse impact, but the adverse impact needs to be mitigated.

Resource agency personnel (David Sutherland [USFWS] and VDGIF) attending the meeting stated they preferred the nature-like fishway over fish passage alternatives such as a vertical slot fishway.

Wayne Dyok commented that a goal of the joint meeting was to explore various options for moving fish upstream and downstream of Scott's Mill Dam both immediately and for a longer term.

Alan Weaver (VDGIF) asked if the power would be sold to U.S. Pipe and if so how might U.S. Pipe feel about using the canal. Wayne responded that the intent is to sell power to U.S. Pipe, and in doing so Scott's Mill would need to work closely with U.S. Pipe to minimize any effects to their pipe operations. Wayne felt that U.S. Pipe or any manufacturer would not want their operations to be affected.

Should a nature-like fishway be constructed, it could be used by all fish species including American shad.

There was some discussion on the use of the nature-like fishway for canoeists. Dean Rodgers, Amherst County, noted that the County would like to see canoe passage if the nature-like fishway is installed. Alternatively, the County would like to see canoe passage irrespective of whether the nature-like fishway is installed. Rob Campbell, James River Association, spoke about examples of both fish and recreation users capitalizing on the nature-like fishways.

Rob thought that a joint fishway and canoe passage could work if the walls were concrete. Wayne commented that a canoe passage would necessitate putting a nature-like fishway on the left side of the river because of security concerns at U.S. Pipe would likely prohibit one on river right.. Even though the longer-term solution may not be finalized by the time Scott's Mill is licensed, Wayne suggested that consideration be given to siting an upstream fish passage entrance in the current design for the powerhouse and American Eel/Sea Lamprey passage. This would be for the nature-like fishway or any other upstream passage facility.

Wayne said that from Scott's Mill's perspective, the nature-like fishway was a longer-term solution that would require the participation of other dam owners upstream from Scott's Mill. He added that it was premature to state what the flow in the nature-like fishway should be (or what the flows in a vertical slot fishway should be), although he acknowledged that the agencies have developed guidelines. It was agreed that a nature-



like fishway could take care of fish passage, and a trapping facility could be located on it. Trapped fish could be hauled further upstream if that is deemed as the solution.

Wayne said there was no cost estimate for a nature-like fishway using the Water Works Canal. Alan referenced a nature-like fishway in Stafford County<sup>1</sup>. He thought that fishway cost \$450,000 and was about 3 ½ feet deep. For the Water Works Canal, Wayne thought that they had a 16-foot width to work with. Alan postulated that a fishway with a 5 percent slope and 8-foot width might work. (That would require about a 320 foot-long fishway at Scott's Mill given the 16 foot drop.)

## **2. Upstream Fish Passage**

Wayne and Greg Allen, Alden Research Laboratory, described Scott's Mills plan for upstream fish passage. Wayne said that the Scott's Mill upstream passage is designed to pass both American Eel and Sea Lamprey on both sides of the river. Passage on the left side of the river is more straightforward. The right side is more challenging because of the turbine flows. The eel/lamprey passage on the right side of the river may need to be modified based on the use of a nature-like fishway or alternative powerhouse orientation.

David Sutherland asked if eels would be protected from debris as they moved upstream. Wayne responded that debris would flow downstream much as it does today over the main spillway, minimizing debris effects on eel.

Alan asked if the eelway and lamprey passage were in the same fishway channel. Wayne responded affirmatively and referenced the Alden report that the agencies had received. David added that the eel/lamprey passage way would require maintenance and replacement costs.

Wayne mentioned that American shad had been stocked on the James River for a number of years and asked Alan Weaver to update the attendees on the status of the American shad restoration program. Alan confirmed that shad stocking has temporarily been halted because stocks have not grown. He added that is not an immediate need to move American shad upstream now, but American shad passage could be needed in 10 to 20 years. Passage through a nature-like fishway or alternative fishway might facilitate American shad recovery. He added that unlike for the Great Lakes, passage of Sea Lamprey would be beneficial. Sea Lamprey are not great swimmers and would benefit from a nature-like passage way. Further aquatic connectivity and passage of resident species like redhorse, suckers and bass is also important. David Sutherland noted that a long-term perspective be taken because a license is issued for 30 to 50 years. Participants

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<sup>1</sup> Per Alan Weaver, the nature-like fishway in Stafford County on Clairborne Run overcomes a 3.5 foot drop at the abandoned road crossing culvert over approximately 90 feet of nature-like fishway. There are 7 constructed nature-like weirs that create pools that vary in depth (about 1 to 2 feet on average). Site coordinates are: 38.11437/-77.447166.



should not neglect what might happen in a few years. He also noted fish passage would benefit freshwater mussels.

Wayne added that participants should look down the road and incorporate passage plans for future passage of American shad. Both upstream and downstream passage should be considered. Wayne also suggested that specific flows for passage not be prescribed, but rather worked out on the basis of science. Flexibility to adjust conditions is important to Scott's Mill. David commented that the USFWS is willing to work out things, but at this time insufficient data exists to nail things down. Wayne concurred.

Wayne stated that he had been in touch with Whooshh Innovations about moving American shad upstream. The Whooshh system causes less stress on fish than a traditional fish ladder. Wayne cited a study on the Columbia River showing that fish that had been passed by a Whoosh system made it upstream faster than via traditional fish ladders. Wayne continued that he specifically discussed movement of shad with Whooshh because they are more sensitive than other species. Whooshh had told Wayne that their system was effective in moving American shad.

Wayne suggested that the longer-term solution for passage of American shad could include a Whooshh system to get the shad into the headpond and then into Harris Creek where they could potentially spawn. A well-designed trapping facility could also be used for a trap and haul program for the 6 dams upstream of Scott's Mill to enable American shad and other species to access the James River upstream of Cushaw dam.

Alan Weaver added that safe downstream passage would also be necessary. Participants concurred. Wayne reiterated that it makes sense to look at trap and haul as a long-term solution to move fish upstream. All upstream dam owners would need to enter into an agreement to make this happen.

Scott Smith, VDGI, said that approach makes sense considering there are 7 dams in close proximity on the James River. It would be challenging for a spawning fish to navigate all seven dams. A trap and haul program would enable upstream passage of all fish.

Alan expressed concern that he would not want to bypass all the habitat that is between the dams. Scott commented that fish could be selectively dropped off in the various dam pools so as to utilize habitats between dams, as well as the habitat upstream of Cushaw Dam.

Rob asked about the frequency and timing of a trap and haul program. That would need to be worked out among the agencies and dam owners to both contain costs and ensure necessary and sufficient passage.

Alan emphasized the importance of immediate passage of resident fish including quillback, redhorse and suckers. Aquatic connectivity for resident species is important and is independent of anadromous species such as American shad. He expressed concern that American shad restoration will not lead to resident and other anadromous fish passage in the near future. Wayne suggested that the participants look at American eel and Sea Lamprey as the immediate goal. Dam owners between Cushaw and Scott's Mill, resource agencies and other participants should focus on other anadromous and resident fish species as a longer-term goal, since a couple of upstream projects (Bedford and Reusens) are coming up for relicensing within the next year or so. He reiterated a vertical slot fishway or nature-like fishway could accommodate a trap and haul program and minimize costs for dam owners.

**Action Item.** It was agreed that the agencies would be further consulted on the conceptual design.

### **3. Safe, Timely, and Effective Downstream Fish Passage and Turbine Survival**

Discussions next focused on downstream fish passage. Wayne described Scott's Mills ideas for safely passing fish downstream. Scott's Mill recognizes agency concerns about fish survival through the turbines, especially those rotating at a high rate of speed. Accordingly, Scott's Mill is considering a passage plan modeled after downstream passage for steelhead and salmon at the Willamette Falls Project in Oregon. On that project, flow is generally parallel to the orientation of the powerplant. Essentially, flow needs to turn at right angles from the intake channel flows to enter the turbines. The intake channel is reduced in cross sectional area as water is diverted through the turbines, maintaining a velocity of about 2 feet per second in the intake channel. The fish tend to follow the flow in the channel and not make the 90-degree bend to enter the turbines. There is a bypass at the end of the intake channel to safely pass the fish downstream. Scott's Mill is proposing to rotate the powerplant 30 to 90 degrees from the orientation shown in the draft license application. Scott's Mill Hydro is also trying to preserve as much of the bottom portion of the arch dam as possible. Roger Kirchen added that it is more important to save the base of the dam rather than a slice of it.

The downside of this approach is that it requires a retaining wall and passing of flow downstream. The wall leads to increased cost and the bypass flows result in energy (revenue) losses. Scott's Mill is considering this approach since it avoids or minimizes fish entrainment through the turbines. Scott's Mill is looking at various designs for the retaining wall and bypass flow levels. Scott's Mill recognizes that computational fluid dynamics modeling may be required to get the flows right. However, based on the experience at Willamette Falls, Scott's Mill believes that this approach will work. Willamette Falls is designed for a flow of 450 cfs in the bypass, but flows of 200 cfs seem to work equally well. Willamette Falls exceeds the agency goal of 98 percent survival.

Scott's Mill Hydro is proposing to install 9 turbines in the powerplant, each about 500 kW. David and Dean asked if the canal was wide enough to serve as the intake channel.



Wayne responded that it was not. Because of the relatively small cross sectional area, the intake velocities would be too large.

Scott Smith, VDGIF, asked about the percentage of fish going through the turbines and through the bypass. Wayne responded that all most all fish use the bypass, but it would be possible to confirm the percentages using each pathway with Portland General Electric.

Wayne clarified that the upstream passage would be different from the downstream bypass facility being considered for the powerhouse to avoid entrainment. (Note Scott's Mill has further considered this and added the downstream bypass as an option for upstream passage in addition to the nature-like fishway using the Water Works Canal and a vertical slot fishway at the old fishway location. A Whooshh system potentially could also be constructed here.)

#### **4. Water Quality Effects**

Scott's Mill is proposing to maintain a ½-inch to 1-inch veil over the Scott's Mill Dam for (1) oxygenating the water downstream as necessary, (2) visual purposes (i.e., approximately 20 to 40 cfs), and (3) to manage turbine operations. At this time, there is no problem with the river's oxygen level downstream of Scott's Mill Dam. That may not be the case in the future. Scott's Mill Hydro proposes to monitor the dissolved oxygen levels for the first few years during hot, low flow conditions to determine if more water needs to be released over the dam for reaeration. Tony Cario, VDEQ, agreed to assist in working through this issue with Scott's Mill.

Rob asked is there was a potential problem with the turbines heating the water as it passes through them. Wayne responded that the heating was insignificant based on his experience.

#### **5. Recreation**

Participants had a brief discussion on recreation access in the Scott's Mill headpond. It was acknowledged that Red Dots previously provided access to the headpond, but access is now limited. Wayne stated that Scott's Mill is looking at potential locations for recreational access on the River Road side of the river.

Dean Rodgers noted that Amherst County is looking at putting in whitewater features downstream of the Scott's Mill Dam. He said that the river needs to drop 3 feet from the base of the dam to the confluence with Blackwater Creek. Currently the drop is 5 feet. The whitewater features would capitalize on the riffles adjacent to Riveredge Park. The City of Lynchburg does not have the necessary access on its side of the river because of the railroad.



In response to a question from Wayne about the required flows for whitewater, Dean responded that the County is working on that, but there is no feasibility study yet. Dean also stated that recreational passage needs to be on the Amherst side of the river. Rob Campbell added that both fish passage and paddler passage is possible even in narrow passage ways. Wayne expressed concern that there simply was not enough room on the bank for natural passage because of the limited width from the road to the dam and the fact that space must be left for passage of American Eel and Sea Lamprey. Recreational paddler passage in a nature-like fishway would need to use a portion of the spillway. That is doable, but not in Scott's Mill's plans at this time. Wayne also said that there was sufficient room to add a portage around the dam on the River Road side, but it would be tight.

Dean suggested that a partnership with Amherst County and Lynchburg might be a prudent approach for Scott's Mill to follow because there are two or three types of grants that could be obtained. With a grant, costs for all parties would be less.

#### **6. Use of Historic Flow Record**

Wayne explained to the group that Scott's Mill had analyzed the flow record at the Holcomb Rock gage for both the 97-year record as presented in the draft application and the last 30 years, which is the record that the USFWS had recommended Scott's Mill use. The USFWS concern was that climate change has affected the historic record. Wayne stated that the analysis indicated there was an insignificant change in the monthly and annual flow duration curves and the key statistics like average monthly flow. Alan asked if Hurricane Camille and Hurricane Agnes, which both occurred more than 30 years ago had much of an effect. Wayne responded no. Accordingly, Scott's Mill proposed using the longer period of record for energy calculations and flow duration curves.

#### **7. Control of Water Levels in Scott's Mill Headpond and Project Effects on Shoreline**

Wayne talked about controlling water levels in Scott's Mill headpond. As noted above, Scott's Mill is proposing a ½ to 1 inch veil of water over the dam when flows are less than the hydraulic capacity of the powerplant. This will result in an upstream water level slightly higher than the existing water level during average flow conditions. During higher flow conditions, with the 2-foot high concrete cap the upstream water level would be slightly higher than under existing conditions.

During the highest floods, downstream water levels would remain unchanged and the upstream water level would be insignificantly higher because the Scott's Mill Dam is no longer a control point. However, at intermediate floods the upstream water level would be about a half foot higher.

Jerry Bryant, Amherst County, asked if discussions have been held regarding changes to the floodplain. Wayne responded no. **Action Item.** Scott's Mill will look into whether

the slightly higher water levels would present a problem during intermediate flood conditions. Scott's Mill will be looking at whether the slightly higher water levels would affect properties adjacent to the river in the headpond.

Alan questioned if adjacent properties would be affected if the plant is shut down. Mark Fendig replied that Scott's Mill will have a bypass gate to minimize any upstream water level effects. In response to a question from Rob Campbell, Wayne said that the portion of the arch dam that is left intact would also need to have a 2-foot high concrete cap. The overall goal is to mimic existing water levels to the extent possible, recognizing that under very low flows water levels would be up to a foot higher than under existing conditions. Wayne thought that the more stable water levels would be considered a benefit by adjacent land owners and recreation users on the headpond. Wayne proposed to further address the water level change in the final license application.

Wayne stated that the maximum flow through the turbines would be 4,500 cfs. Scott's Mill plans to orient some of the turbine discharge to the Amherst County side of the river. The should be easily accommodated once the powerhouse axis is rotated. Wayne reiterated that just because the concrete cap is added does not mean that the upstream water levels will rise. From very low flows (i.e., less than 500 cfs) to the maximum hydraulic capacity of the turbines (4,500 cfs), Scott's Mill will hold the reservoir level constant. **Action Item.** Wayne agreed to send the PowerPoint slides to the participants when the draft meeting notes are circulated.

Wayne further stated that it is the intent of Scott's Mill Hydro to protect the emergency water supply for the City of Lynchburg.

Concern was expressed that the higher water levels might accelerate shoreline erosion. Wayne responded that the banks are steep along most of the shoreline and that with the slightly higher water levels, the average flow velocity would be slightly less. However, if there is boat traffic on the reservoir, the boat waves could affect shoreline erosion. This would be more likely if the new recreational access resulted in a greater number of water craft on the headpond. **Action Item.** Wayne proposed to expand on the shoreline erosion issue in the final license application. H&P will look at the potential for erosion along the shorelines of the islands.

In response to a question regarding using adjustable spillway gates to control upstream water levels, Wayne said that Scott's Mill did not plan to use them because of their high cost. To some extent, water levels can be controlled by the powerhouse up to the maximum hydraulic capacity of the plant and if the powerhouse is not operating, the module to pass flows around the powerhouse can be used.

## **8. Effects of Proposed Project on Upstream Wetlands**

David Sutherland asked about the effects of the project on wetlands. The USFWS and Scott's Mill Hydro had different perspectives on the area of wetlands potentially affected. To clarify this issue, Scott's Mill will include a wetlands map in the final license



application. In particular, Scott's Mill will show the wetlands on Daniel's Island and the potential effects of construction on these wetlands, including the acreage as requested by David Sutherland. Wayne added that if the opening between Daniel's Island and the arch section of the dam is opened up to provide more flow from the main channel to the turbines, for every 10 feet of width the associated area would be about 1000 square feet. Even a 100 foot-wide dredged channel would only be 10,000 square feet, which is much less than an acre.

There was also some discussion that the slightly higher water levels would affect wetlands along the shoreline. Wayne stated that the shorelines are steep and not likely classified as wetlands. **Action Item.** Wayne said he would ask the H&P wetlands expert to further address this in the final license application.



Regards,

Wayne

On Monday, November 19, 2018 4:34 PM, Rebecca Hutchinson  
<[rhutchinson@merrick.com](mailto:rhutchinson@merrick.com)> wrote:

Hello Wayne,

In your email below, you mentioned you could get us a FEMA certified hydraulic model and cross sections, as well as base maps that include the bathymetric info, which would be very helpful!

Is that something you're still able to pull up and send our way? Just the cross sections for now would be beneficial.

Thanks,

**Rebecca Hutchinson, E.I.**|Engineer In Training | Merrick & Company  
1001 Morehead Square Dr., Suite 530 | Charlotte, NC 28203  
T: 704-817-0008 C: 281-451-2794 |[www.merrick.com](http://www.merrick.com)  
ext: 5612

<image002.jpg>

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**From:** John Anderson <[j.anderson126@verizon.net](mailto:j.anderson126@verizon.net)>  
**Sent:** Tuesday, November 13, 2018 10:30 AM  
**To:** Rick McLaughlin <[rick.mclaughlin@merrick.com](mailto:rick.mclaughlin@merrick.com)>; Rebecca Hutchinson <[rhutchinson@merrick.com](mailto:rhutchinson@merrick.com)>  
**Cc:** Jonathan Crowder <[jonathan.crowder@merrick.com](mailto:jonathan.crowder@merrick.com)>  
**Subject:** FW: Scott's Mill Hydro - Whitewater Recreation Study

This came from the dam owner's consultant.

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**From:** Wayne Dyok <[dyok@prodigy.net](mailto:dyok@prodigy.net)>  
**Sent:** Tuesday, November 13, 2018 1:49 AM  
**To:** [j.anderson126@verizon.net](mailto:j.anderson126@verizon.net)  
**Cc:** Mark Fendig <[mfendig@aisva.net](mailto:mfendig@aisva.net)>; Luke Graham <[lukegraham\\_5@yahoo.com](mailto:lukegraham_5@yahoo.com)>; [dcrodgers@countyofamherst.com](mailto:dcrodgers@countyofamherst.com)  
**Subject:** Re: Scott's Mill Hydro - Whitewater Recreation Study

John - Attached is the FEMA flood study for the James River near Lynchburg.

Wayne

On Monday, November 12, 2018 8:52 AM, Wayne Dyok <[dyok@prodigy.net](mailto:dyok@prodigy.net)> wrote:

Hi John. It was a pleasure talking with you on Friday. Based on that call, it is my understanding that you are trying to complete the whitewater study by the end of the year, but that schedule could change depending the County's review. We would appreciate an email copy of the scope of work in order for us to accurately describe the alternatives being evaluated in our license application. Our understanding is that there are a couple of alternatives that involve Scott's Mill dam. One is removal and the others may include a whitewater course on both the left and right sides of the river. If my understanding of the discussion is correct, you could use different grades (slopes) for the whitewater course. At this time you are considering about a one percent grade (i.e., whitewater class 2 or 3), but the grade could be as much as three percent. Flow would typically be in the 400 to 600 cfs range, but would not be needed all day or every day. Please correct any misunderstandings I may have. Thanks.

Also as we discussed, Scott's Mill Hydro LLC is investigating the feasibility of including a boat ramp upstream of Scott's Mill Dam on the left bank. Mark is working with Liberty University which owns a parcel on the left bank downstream from Reusens Dam to see if we can use that parcel.

Would it be possible to obtain a copy of the slides you showed Mark?

As to your request of Mark, please see my responses below.

Mark

Many thanks for your valuable input on your FERC license application and dam property. You indicated that you and your consultant team have mapping and the FEMA model for your project area and are willing to share this information with us. Kindly ask your team if they can provide us with:

1. Point file for the bathymetric survey and depth to bedrock borings. **Either I or Luke Graham, my assistant, will try to get you a usable bathymetric survey map file. At Scott's Mill Dam, the dam is pretty much founded on bedrock. There are borings for the bridge that crosses the James River downstream of the dam. I believe that Hurt and Proffitt or VA DOT can provide those to you.**
2. Compiled base map that includes both the bathymetric work and the overbanks. **If there is a geo-referenced aerial photograph, provide that too. I will see what I can do here. It may take me a day or two to provide that info to you.**
3. Certified FEMA hydraulic model and cross sections. **Provide your existing effective model and proposed effective model (if different). I will send that to you later today. I have to leave now for an appointment that will take most of the day.**

Thanks in advance,

Regards,  
Wayne

Please consider the environment before printing this email.

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## Re: Scotts Mill agreement

From: Wayne Dyok (dyok@prodigy.net)

To: scott.smith@dgif.virginia.gov

Date: Wednesday, January 2, 2019, 5:14 PM AKST

Scott. Thanks for getting back to me. Let's follow up once the shutdown is over.

Sent from my iPhone

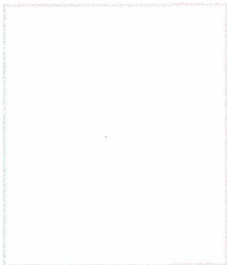
On Jan 2, 2019, at 12:37 PM, Smith, Scott <[scott.smith@dgif.virginia.gov](mailto:scott.smith@dgif.virginia.gov)> wrote:

Wayne,

I went through the draft settlement agreement. No major issues, but do need to discuss with Alan and the USFWS. Unfortunately, that can't happen until the Feds start working again, whenever that might be. So, for the time being, it looks like we're in a holding pattern.

Scott

--



**Scott M. Smith**

*Regional Fisheries Manager*

**P** 434.525.7522 / **M** 434.907.2793

**Virginia Department of Game & Inland Fisheries**

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# **RECORD OF TELEPHONE CONVERSATION**

Person Called- Bettina Rayfield

Affiliation- Virginia Department of Environmental Quality

Phone Number- (804) 698-4204

Call Originator- Luke Graham

Date- January 2, 2019

## **Summary of Discussion**

I contacted Bettina Rayfield of Virginia Department of Environmental Quality regarding the Scott's Mill Dam Hydropower Project and its certification of consistency with the Virginia Coastal Zone Management Program. I informed Bettina that the Scott's Mill Dam Project is a proposed major hydropower project with a capacity of less than 5 MW and will be located at the existing Scott's Mill Dam. Bettina stated that since the project falls outside the Coastal Management Zone and will be built upon an existing dam, the project is unlikely to have reasonably foreseeable effects on Virginia's coastal uses or resources and, therefore, no further action is necessary for the project.

Prepared by

Luke Graham

## Scott's Mill Fish Passage Settlement Agreement

---

From: Wayne Dyok (dyok@prodigy.net)

To: scott.smith@dgif.virginia.gov; david\_sutherland@fws.gov

Cc: mfendig@aisva.net; runnerjim@gmail.com; john.smith@ferc.gov

Date: Tuesday, April 2, 2019, 05:26 AM PDT

---

Scott and David, attached is a signed copy of the Scott's Mill settlement agreement with all your changes accepted and per your request, a sentence added to indicate that appropriate flows will be released on the left bank for attraction flows for eel and sea lamprey upstream passage. We would appreciate having your respective agencies sign the settlement agreement at your earliest convenience so that we may move forward with filing the license application this month. Thank you. We look forward to continuing the cooperative effort.

Regards,  
Wayne



Scotts Mill Hydro Settlement Agreement (1).pdf  
175.8kB

## Re: Scott's Mill Fish Passage Settlement Agreement

**From:** Smith, Scott (scott.smith@dgif.virginia.gov)

**To:** dyok@prodigy.net

**Cc:** david\_sutherland@fws.gov; runnerjim@gmail.com; john.smith@ferc.gov; mfendig@aisva.net

**Date:** Tuesday, April 2, 2019, 4:33 AM AKDT

David,  
I'll get it signed on our end and then forward to you.

On Tue, Apr 2, 2019 at 8:27 AM Wayne Dyok <dyok@prodigy.net> wrote:

Scott and David, attached is a signed copy of the Scott's Mill settlement agreement with all your changes accepted and per your request, a sentence added to indicate that appropriate flows will be released on the left bank for attraction flows for eel and sea lamprey upstream passage. We would appreciate having your respective agencies sign the settlement agreement at your earliest convenience so that we may move forward with filing the license application this month. Thank you. We look forward to continuing the cooperative effort.

Regards,  
Wayne

### Scott M. Smith

*Regional Fisheries Manager*

P 434.525.7522 / M 434.907.2793

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image001.png

18.9kB



## Re: Scott's Mill Framework for an Agreement

From: Wayne Dyok (dyok@prodigy.net)

To: runnerjim@gmail.com; david\_sutherland@fws.gov

Cc: jessica\_pica@fws.gov; scott.smith@dgif.virginia.gov; alan.weaver@dgif.virginia.gov; mfendig@aisva.net

Date: Saturday, May 4, 2019, 10:00 AM PDT

Dear David,

We are deeply disappointed that after a full year of discussions since the Joint meeting when we extensively talked about fish passage and Scott's Mill Hydro LLC's commitment to provide needed fish passage, we seem to have made little progress - at least as far as the US Fish and Wildlife Service (Service) is concerned. As we have discussed numerous times, Scott's Mill Hydro is committed to providing fish passage as part of the project and we would like to do this sooner than later. We have a mutual goal to have fish passage. Let's try to achieve that goal.

We agree that there is more work to be done to develop details needed for successful fish passage implementation. At the licensing stage, we should be looking at conceptual designs and a path forward to make this happen. We strongly believe that the design proposed will work based on experience at Willamette Falls and other hydro sites. The key here is can we work together after the license is issued to ensure that the fish benefit and that the project remains economically viable? What we can say for sure is that the fish will be better off with the Scott's Mill Project in place than without.

We accepted EVERY Service comment on the draft framework in anticipation that we would develop a partnership that would be mutually beneficial for the resident and catadromous fish and would keep the project viable. We are not sure why we cannot just call this a framework settlement agreement and move on. FERC can certainly craft a license article that embodies the framework agreement and allows us to move forward cooperatively. Once we get the CFD modeling, advance the design and have a Power Purchase Agreement, we can consummate a more detailed fish passage agreement that fully addresses the Service's concerns.

Based on the efforts thus far, we have a good handle on the fish passage capital costs and we are willing to move forward on that basis. What we lack are details on what power purchasers are willing to pay. Today's PJM market rates are in the \$30 to \$50 per megawatt hour. These values will simply not support the project's costs. Therefore we must find a buyer like U.S. Pipe that can save money based on their retail costs which are substantially higher than the wholesale cost and also afford to pay more than the PJM wholesale costs.

Scott's Mill Hydro cannot afford to spend significant additional money without a better understanding with potential customers on what they may be willing to pay. Although we are in discussions with potential power purchasers, until a license is issued and we are comfortable with cost caps, parties will not sign a power purchase agreement.

If we spend an additional \$100,000 to \$400,000 to advance CFD modeling and detailed design before license issuance, we will put ourselves in a position of negotiating weakness because we will have so much invested that it will be difficult to get a fair deal because the alternative is no deal. We simply cannot do that. Surely you can understand that.

At this point, Scott's Mill must consider its options for moving the project forward. We can address a number of your comments in an updated framework settlement agreement, but we cannot undertake the CFD modeling nor provide final dimensions until detail design takes place. We can include the FERC license exhibit design drawings as part of the framework settlement agreement and we can address a number of other issues you raise, but the CFD modeling and final design cannot be done. We share the same goal to

protect and enhance the resident and catadromous fishery. We just have an added goal to have a viable project. Without a viable project, we all lose. Is that what the Service wants?

Please let us know if you are willing to sign a framework settlement agreement or if we should merely file the application with FERC without one that includes the Service. If we do go that route, we may revisit our fish passage plan because any fish passage that we add will be a benefit to the fish. We recognize that the Service has Section 18 prescription authority, but the law allows us to provide alternatives and we may elect to take that route.

As far as the settlement document goes, here are our thoughts on your comments.

Page 1

Comment 1 - We can expand what each partner would do and how operational standards would be met.

Comment 2 - We concur CDF modeling is needed but our plan would be to undertake that after license issuance as part of the detailed design.

Comment 3 - We agree that CFD modeling will be critical and it will need to be done right in conjunction with the detailed design.

Page 2

Comment 1 - We will provide the Exhibit drawings as part of the agreement.

Comment 2 - Dimensions will be provided but they may need to be modified during final design. Depending upon the level of change, it is possible that some type of license amendment may be required.

Comment 3 - The current draft of the document does provide some information on monitoring but this can be expanded upon. We plan to work closely with VDGIF on the monitoring program until we can confirm fish passage effectiveness.

Comment 4 - The veil will be constantly monitored using an accurate water level gauge that will be tied to the plant. We will also know the flow coming in to the headpond. Based on the water level and whether the level is increasing or decreasing, the flow through one turbine will be adjusted to maintain a constant water level within the tolerances permitted. We can elaborate on that in the document as well, but that information will also be included in the license application.

Comment 5 - We will meet VDEQ water quality standards.

Page 3

Comment 1 - CFD modeling will be used to help confirm the eel passage design.

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Comment 3 - The entire fish passage program is an adaptive management approach. Of course, limits will need to be established based on fish passage needs and project economics.

Comment 4 - We concur with the monitoring approach.

Comment 5 - The information requested is in the final application, but we can also include in the framework agreement.

Regards,  
Wayne and Mark

On Monday, April 29, 2019 12:54:03 PM PDT, Sutherland, David <david\_sutherland@fws.gov> wrote:

Wayne and Jim, the U.S. Fish and Wildlife Service (Service) feels the discussion is just starting regarding project equipment, design, operations and maintenance at the new Scott's Mill Dam Project. Unlike established projects that have a project history, the new project does not provide any testing and detailed descriptions for a settlement agreement. While our limited edits were accepted on a first draft framework, none of the significant comments were addressed. Please see our attached comments below on the framework document as a starting point for our next discussion. We should have a conference call at a minimum to discuss the path to a settlement agreement. This will also likely require additional meetings if a settlement agreement is going to be part of the license application. The Service would support an extension of time for your license application to allow time

for you to model and describe future expected project and water conditions as part of a settlement agreement.

--

David W. Sutherland  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
410-573-4535 Office



## Re: [EXTERNAL] Re: Scott's Mill Framework for an Agreement

From: Sutherland, David (david\_sutherland@fws.gov)

To: dyok@prodigy.net

Cc: runnerjim@gmail.com; jessica\_pica@fws.gov; scott.smith@dgif.virginia.gov;  
alan.weaver@dgif.virginia.gov; mfendig@aisva.net

Date: Tuesday, May 7, 2019, 01:08 PM PDT

Wayne and Mark,

We are reviewing your comments and want to complete the framework document to complement your license application. Following calls with the VDGIF and with FERC, we propose the FWS, VADGIF and you have a conference call to ask any additional questions. We then propose to edit the next version of the framework document and send it back promptly to you. When we have edited a mutually agreeable document, I will request a review from our Solicitor, in preparation for a signature from our Field Office Supervisor. The FERC suggested we call this document an agreement in principal, and I believe our Solicitor's Office also prefers this naming convention, as I have seen it used before on projects.

Hope to talk to you soon,  
David

On Sat, May 4, 2019 at 1:01 PM Wayne Dyok <[dyok@prodigy.net](mailto:dyok@prodigy.net)> wrote:

Dear David,

We are deeply disappointed that after a full year of discussions since the Joint meeting when we extensively talked about fish passage and Scott's Mill Hydro LLC's commitment to provide needed fish passage, we seem to have made little progress - at least as far as the US Fish and Wildlife Service (Service) is concerned. As we have discussed numerous times, Scott's Mill Hydro is committed to providing fish passage as part of the project and we would like to do this sooner than later. We have a mutual goal to have fish passage. Let's try to achieve that goal.

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Regards,  
Wayne and Mark

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--

David W. Sutherland  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
410-573-4535 Office

--

David W. Sutherland  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
410-573-4535 Office



## Scotts Mill Agreement

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From: Smith, Scott (scott.smith@dgif.virginia.gov)

To: dyok@prodigy.net; runnerjim@gmail.com

Cc: david\_sutherland@fws.gov; jessica\_pica@fws.gov; alan.weaver@dgif.virginia.gov

Date: Wednesday, June 12, 2019, 12:11 PM PDT

---

Wayne & Jim,

Just to update y'all, we are in the very last throes of getting a draft of the Agreement in Principal finished. We should have something to send your way for review in the next day or two. I'll forward the draft as soon as we've gotten input from everyone on our end. Sorry this has taken a bit longer than expected, but it's a busy time of year for all the folks who work with anadromous fish. At any rate, I think we'll be able to send this to you by the end of this week.

Scott

--

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**Scott M. Smith**

*Regional Fisheries Manager*

**P** 434.525.7522 / **M** 434.907.2793

**Virginia Department of Game & Inland Fisheries**

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image001.png  
18.9kB

## Scotts Mill Draft Agreement

From: Smith, Scott (scott.smith@dgif.virginia.gov)

To: dyok@prodigy.net; runnerjim@gmail.com

Cc: david\_sutherland@fws.gov; jessica\_pica@fws.gov; alan.weaver@dgif.virginia.gov;  
dan\_murphy@fws.gov

Date: Friday, June 14, 2019, 01:42 PM PDT

Wayne and Jim,

Attached is a draft of an Agreement in Principal for the Scotts Mill Project. We are more than willing to work with you on any parts of it that you like, so if you see something that causes concern, just let us know. We have made a good-faith effort to keep everyone's perspective in mind in putting this together, but that doesn't mean we've gotten everything 100% correct. So, if there are items that warrant further discussion, then we're very open to that. Also, if there are any questions, please let us know, and we'll be happy to answer them.

Have a good weekend, and we look forward to your comments on this agreement.

Best,

Scott

--



cid:image001.png@01D34CA6.5920A4B0

**Scott M. Smith**

*Regional Fisheries Manager*

**P** 434.525.7522 / **M** 434.907.2793

**Virginia Department of Game & Inland Fisheries**

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Scotts Mill.Draft AIP6.14.19\_Final\_Revision.docx

32.7kB



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# **RECORD OF TELEPHONE CONVERSATION**

## **Scott's Mill Hydroelectric Project**

Persons Called – Scott Smith, Virginia Department of Game and Inland Fisheries (VDGIF) and Alan Weaver VDGIF  
Phone Numbers – 434 525-7522 Ext 106 and 804 305-4284  
Call Originator - Wayne Dyok (H2O EcoPower)  
Date – October 9, 2019

### **Summary of Discussion**

Scott, Alan and Wayne reviewed the Agreement in Principle (Agreement). Although the U.S. Fish and Wildlife was to be on the call, they were unable to participate.

Wayne made a general statement that Scott's Mill can generally live with the Agreement. He said he had a few questions and a couple of minor suggested edits and clarifications.

### **Upstream Fish Passage**

Regarding upstream passage of American Shad, Wayne thought there was ambiguity in the trigger point if juvenile shad are found in samples at Scottsville, VA which is about 110 km downstream from Scott's Mill. Scott explained that because of the large numbers of Gizzard Shad at Scott's Mill dam relative to juvenile shad, it might be difficult to discern American Shad. Thus, if juvenile shad are captured at Scottsville, this location would be a better indicator that American Shad are present in the area.

Although there is no specific number of juvenile shad to trigger upstream fish passage, Wayne suggested that common sense should dictate when passage is required. For example, if one juvenile shad is found, should that trigger immediate construction of upstream fish passage<sup>i</sup>? Scott's Mill agreed that Scottsville was a reasonable location for identifying the presence of American shad. Despite Wayne's comment, the parties agreed to leave the language as is for upstream passage of American Shad.

Alan explained that VDGIF is still trying to restore American Shad on the James River. Questions remain as to why the fry stocking program did not result in a rebounding population, particularly since American Shad restoration efforts on nearby river systems have had more positive results. At this time there are no plans for restarting a stocking program. VDGIF plans to engage with several other partners to take a broader view to formulate a plan that has the best chance of leading to a recovering James River American Shad population.

### **Downstream Fish Passage**

**Computational Fluid Dynamics Modeling** Wayne stated that under a U.S. Department of Energy grant, Alden Labs will be running a computational fluid dynamics model for a generic design similar to what is proposed for Scott's Mill. The results should provide



insights to the applicant on how successful the current Scott's Mill design will be at avoiding fish entrainment through the powerhouse and safely passing downstream migrating fish. The expected entrainment rate is equal or less than 5%.

#### Clarification of Operations During Downstream Fish Passage

Wayne explained that at 4500 cfs, the flow velocities in the forebay will be maintained at about 2 feet per second (fps). As water is drawn off into the upstream powerhouse units, the forebay cross section is reduced in a downstream direction. The net result is that there is less flow in the downstream portion of the forebay and a lesser cross sectional area. Hence the forebay flow velocity stays approximately constant at about 2 fps. When flows are less than 4500 cfs, the units will generally be operated from downstream to upstream. For example, if the flow is 1200 cfs, 500 cfs would be released through the furthest two downstream units and 200 cfs would flow over the fishway. Upstream of the two most downstream units, the velocities would necessarily be less than 2 fps because the headpond water level would remain constant (and the cross sectional area) at flows less than 4500 cfs, and based on the continuity equation with flows less than 4500 cfs the headpond velocities upstream of the operating units would be proportional to the 4500 cfs. In the case of the most upstream unit, the velocity would be  $2 \text{ fps} \times 1200/4500$  or about 0.5 fps. However, as the water flows downstream in the headpond, it would increase in velocity because the cross sectional area is decreasing since no water is being withdrawn into the power house. By the time the flow reaches unit 8, the velocity in that part of the forebay will be about 2 fps and remain there as fish continue downstream over the fishway. Because of this, Wayne said he would edit the Agreement to clarify the headpond flow velocities.

#### Minimum Flow Requirements

The applicant did not object to the section on Minimum Flow Requirements and, in particular, conducting a wetted perimeter study. Wayne commented that with most of the flow going through the powerhouse units when flows are less than 5,000 cfs, for a short section of stream reach immediately downstream of the Scott's Mill spillway, the velocity will be close to zero since the majority of flow is discharged through the powerhouse. This will differ from current conditions wherein most of the flow at 5,000 cfs goes over the main portion of the spillway. To provide velocity in this section and to maintain water quality, Scott's Mill has proposed discharging upstream units directly into reach immediately downstream of the spillway.

#### Water Quality Standard

Scott's Mill has no proposed changes to this section. Wayne commented that Scott's Mill will meet state water quality standards, but given that aeration occurs when water flows over the spillway, there may be less aeration when the majority of flow is diverted through the turbines. Accordingly, under select conditions it may be difficult to maintain the dissolved oxygen levels to within 0.5 ppm immediately downstream of the dam. By the time the flow from the tailrace mixes with the flow over the dam, the  $<0.5$  ppm goal should be met.

### **Recreation Enhancements**

Wayne noted that Scott's Mill is still trying to obtain rights to land in the upstream end of the headpond on River Road to construct a boat ramp. The license application will include a boat ramp and requirements for the use of that land.

### **Other Discussion Points**

Scott's Mill is willing to install fish passage, but the project must remain economic. Wayne commented that it is a mutual goal of Scott's Mill management and the resource agencies to include fish passage in the project.

Discussions on a Power Purchase Agreement (PPA) are ongoing. The biggest challenge in reaching agreement is the structure of the utility rate base. There is a significant emphasis on electrical demand charges. Because hydropower generation is variable, if a customer's highest electrical usage occurs when flows are lower and consequently generation is less than the capacity of the plant, the customer savings from a hydropower project may be less.

### **Action Items.**

1. Wayne agreed to provide the scope of work for the Alden CFD modeling when it becomes available.
2. Wayne will edit the Agreement in Principle and distribute it to the USFWS and VDGIF.

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<sup>i</sup> In a follow up communication with VDGIF and the USFWS, it was agreed that one juvenile would not trigger fish passage, but it may trigger additional sampling. However, all parties will consult on the need for and timing of upstream passage. If 12 or more juveniles (either in one year or in smaller numbers over 3-4 years), or adults are observed, then that should trigger fish passage.



## Re: Scotts Mill Notes

From: Wayne Dyok (dyok@prodigy.net)

To: scott.smith@dgif.virginia.gov

Cc: alan.weaver@dgif.virginia.gov; david\_sutherland@fws.gov; jessica\_pica@fws.gov; mfendig@aisva.net; runnerjim@gmail.com; lukegraham\_5@yahoo.com

Date: Friday, November 22, 2019, 11:26 AM PST

Good afternoon Scott, David, Alan, and Jessica. Attached are the (hopefully final) versions of the Agreement in Principle and the October 9th conference call. I tried to clarify the document based on your comments. I added a footnote that goes to the heart of when American Shad fish passage will be triggered. I essentially extracted Alan's comment and put it in a footnote. I then added a paragraph describing that and included it in the AIP. I hope you will find this satisfactory. If so let us know and Mark will sign the document and return it to you for your signature.

Jessica, in response to your concern about not doing the site specific CFD modeling, Alden would certainly do that for us if the DOE CFD modeling is not site specific. Alden is still working on the scope of work with the prime contractor. It may be very close to our current design.

Happy Thanksgiving everyone.

Kindest regards,  
Wayne

On Friday, November 15, 2019, 12:50:10 PM PST, Smith, Scott <scott.smith@dgif.virginia.gov> wrote:

Wayne,

We've all discussed/edited these, so sending back your way. If, after reviewing these comments, you want to send us a final draft of the AIP for one more look, we should be able to turn it around quickly. We included comments in these notes so you'd get a better idea of what we were thinking. Let us know if you've got any questions or need anything clarified. Have a good weekend.

Scott

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**Scott M. Smith**

*Regional Fisheries Manager*

**P 434.525.7522 / M 434.907.2793**

**Virginia Department of Game & Inland Fisheries**

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**A 1132 Thomas Jefferson Rd., Forest, VA 24551**

**[www.dgif.virginia.gov](http://www.dgif.virginia.gov)**



## Scotts Mill AIP update

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From: Smith, Scott (scott.smith@dgif.virginia.gov)

To: dyok@prodigy.net

Cc: alan.weaver@dgif.virginia.gov; david\_sutherland@fws.gov; jessica\_pica@fws.gov

Date: Tuesday, December 3, 2019, 12:36 PM PST

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Hey Wayne,

Hope you had a good Thanksgiving. Just wanted to update you on where we were with the AIP. We've been through a round of minor edits, and had a conference call today to discuss them. Nothing really significant, just some clarifications and wordsmithing. Based upon our call, we decided to do one more round of minor editing, and then send the draft to our administrative folks. Figured that would likely be the slowest part of the process, and wanted to get their take before going further. We're not really anticipating any issues, but figured it was a good time to loop them in to the process. Once we get the draft back from them, we'll send it back your way. If you're good with it, then it should be ready for signing. If you want to make changes, then we'll just review those and proceed from there. We should be really close on this, and we don't really expect there will any substantial modifications from our end going forward. Let us know if you've got any questions, and we'll keep you updated on progress.

Scott

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**Scott M. Smith**

*Regional Fisheries Manager*

**P** 434.525.7522 / **M** 434.907.2793

**Virginia Department of Game & Inland Fisheries**

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## RE: Scotts Mill AIP

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From: Alan Weaver (alan.weaver@dgif.virginia.gov)  
To: dyok@prodigy.net; runnerjim@gmail.com  
Cc: david\_sutherland@fws.gov; jessica\_pica@fws.gov; scott.smith@dgif.virginia.gov  
Date: Thursday, January 30, 2020, 02:10 PM PST

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Wayne and Jim,

Attached is the "final draft" from VDGIF and USFWS. This is the version to which Scott referred. We look forward to further cooperation on this project.

Thanks,

Alan

---

**From:** Smith, Scott <[scott.smith@dgif.virginia.gov](mailto:scott.smith@dgif.virginia.gov)>  
**Sent:** Thursday, January 30, 2020 4:08 PM  
**To:** Wayne Dyok <[dyok@prodigy.net](mailto:dyok@prodigy.net)>; Jim Thornton <[runnerjim@gmail.com](mailto:runnerjim@gmail.com)>  
**Cc:** david\_sutherland@fws.gov; Jessica Pica <[jessica\\_pica@fws.gov](mailto:jessica_pica@fws.gov)>; Weaver Lawless  
ure27863 <[alan.weaver@dgif.virginia.gov](mailto:alan.weaver@dgif.virginia.gov)>  
**Subject:** Scotts Mill AIP

Wayne and Jim,

We've heard back from our administrative folks. They are good with the most recent draft of the AIP for this project. I believe that Alan has the final version, and he can forward it to y'all. Also, it's my understanding (and Dave and Jessica please chime in here) that USFWS is also good with this draft. Unfortunately, we added one sentence to the version I have, so I can't send you the ultimate version. That will have to come from Alan. Nothing substantial has really changed from any of the earlier versions, we've just cleaned up some language here and there, and added some verbiage that this would ultimately lead us all towards a settlement agreement at some point down the road. So, Alan will send you the most recent draft at his earliest convenience, barring any objections from Dave and Jessica.

Scott

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## **Scott M. Smith**

*Regional Fisheries Manager*

**P 434.525.7522 / M 434.907.2793**

**Virginia Department of Game & Inland Fisheries**

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**[www.dgif.virginia.gov](http://www.dgif.virginia.gov)**



Scotts Mill Draft AIP 1.27.20.docx  
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# **SCOTT'S MILL HYDROPOWER PROJECT**

## **AGREEMENT in PRINCIPLE**

### **1.0 Introduction**

1.1. Scott's Mill Hydro, LLC (Applicant) proposes to construct a hydropower facility at the Scott's Mill Dam site on the James River in Lynchburg, Virginia. The Applicant agrees to conditions and structures at the new hydropower facility consistent with this Agreement in Principle (AIP) with the Virginia Department of Game and Inland Fisheries (VDGIF) and the U.S. Fish and Wildlife Service (USFWS) (Collectively, "Parties"). The intention of the Parties is that this Agreement in Principle will serve as the foundation for development of a final settlement agreement that can be submitted to the Federal Energy Regulatory Commission (FERC) as an Offer of Settlement pursuant to Commission Rule 602, as well as forming the basis for a USFWS fishway prescription and Virginia Water Quality Certification. This Agreement is a declaration of intention to negotiate in good faith only, and is not intended to constitute a final binding agreement of the Parties.

1.2. The topics for this document include:

- 2.0 Fish Passage
- 3.0 Fish Passage: Upstream and Operations
- 4.0 Fish Passage: Downstream and Operations
- 5.0 Minimum Flow Requirements
- 6.0 Water Quality Standards
- 7.0 Recreational Enhancements

### **2.0 Fish Passage**

2.1. The Applicant has agreed to provide upstream and downstream passage of American Eel (catadromous) and Sea Lamprey (anadromous). The Parties agree to work cooperatively to plan, design and monitor the conditions after construction as will be described in the final settlement. The goal for fish passage is to achieve safe, timely, and effective fish passage in a manner conducive to maintaining an economically viable hydropower project. The Parties will collaboratively develop fish passage concepts as part of a design review team. This will include the development of the computational fluid dynamics (CFD) study and other aspects of operation to save time and money during the licensing process. The USFWS fish passage engineers will provide assistance with the initial fish passage concepts (i.e. form and function) and review. VDGIF fisheries biologists will also review the fishway plans and provide feedback during design development. Various attributes of the newly constructed project that will need evaluation include:

- a. Computational Fluid Dynamics Modeling, including fish passage flow conditions
- b. Fish Passage Design Criteria
- c. Turbine Operations
- d. Downstream Fish Passage Survival (all pathways)
- e. Water Quantity and Quality Conditions

2.2. The Parties will coordinate on the design and implementation of monitoring upstream and downstream passage to meet USFWS performance criteria. The Parties expect that both the upstream and downstream passageways for American Eel and Sea Lamprey will be fully successful for each species by applying modern and tested designs. The likely proposal for downstream passage is a design similar to a successful west coast project that provided for safe passage past the turbines and other barriers and hazards. In addition, maintenance and operational protocols for the new project will be developed and documented with annual reporting to VDGIF and USFWS (herein referred to as the Agencies).

### 3.0 Fish Passage: Upstream and Operations

- 3.1. The Agencies will prescribe immediate fish passage for American Eel and Sea Lamprey, and reserve their authority for future passage of resident and additional anadromous fish species. Construction of upstream passage for American Eel and Sea Lamprey will take place on both sides of Scott's Mill Dam on the James River during construction of the powerhouse. During design and construction of the hydropower facility, the Parties should consider a future passage structure at the Project for multiple fish species including resident and additional anadromous species (e.g., American Shad and river herring). The design of these facilities should be closely coordinated with the Agencies.
- 3.2. The turbine unit proposed for the downstream end of the turbine array (far river right) will have the capability to operate between flows of 200 and 500 cfs, whereas all other turbine units will be fixed blade units operating at about 500 cfs. When flows increase above the hydraulic capacity of the powerhouse and fish passage facility, excess flow may pass over spillway. This does not preclude the need to provide a continuous flow of water (veil) over the spillway to maintain downstream habitat and water quality.
- 3.3. The Applicant, with the Agencies cooperation, will confirm safe, timely and effective upstream fish passage at the Project with a 95% passage efficiency rate required for upstream passage of eel within close proximity to the eelway. The Parties agree to develop a plan that allows the Applicant to adjust attraction flow, to adjust orientation of the fish passage entrance or to make other modifications necessary to improve fish passage conditions to achieve this goal. Suitable testing measures will include radio telemetry or netting of marked eels; and later with a permanently installed eel-counting device for long term monitoring. The Agencies will receive results from these fish passage evaluations each year during testing.



- 3.4. The Applicant will install upstream multi-species passage facilities for resident and anadromous fish species within 10 years of receiving a License. However, the need for a multi-species passage facility may arise within the first ten years of operations depending on what fish species arrive downstream of Scott's Mill Dam. Should American Shad reach Scott's Mill Dam earlier than, or after, the first 10 years of project operation, upstream passage implementation will occur immediately. Additionally, VDGIF annually samples the James River at multiple locations downstream from the Project in the fall. If juvenile American Shad show up in these samples, that will serve as an indicator that these fish are present up to the Project, and should result in upstream passage implementation. Juvenile American Shad have occurred as far upstream as Cartersville, VA, but this is still a considerable distance downstream of Scott's Mill Dam. The VDGIF sampling site at Scottsville, VA is about 110 km downstream from Scott's Mill Dam. The Agencies agree that the capture of juveniles anywhere from Scottsville, or upstream, will result in a reasonable conclusion that American Shad passage is necessary at Scott's Mill Dam. Should one or more juvenile American Shad be sampled at or upstream of Scottsville, the Parties will consult on the need for and timing of upstream passage. This may trigger additional sampling. If 12 juveniles or more, (either in one year or in smaller numbers over 3-4 years) or any amount of adults are sampled, additional fish passage should be triggered.

The longer-term plan envisioned for upstream passage may use turbine flows to attract fish to the fishway entrance. A nature-like fishway using the Waterworks Canal will receive full consideration, as well as other options, for upstream passage. Evaluation efforts may use hydraulic modeling (i.e. physical or CFD models) to identify the optimal entrance location and orientation for the upstream passage facility at the project site.

#### 4.0 Fish Passage: Downstream and Operations

- 4.1. Daniels Island is a large island that is just upstream of Scott's Mill Dam. Most of the water for power generation will come from the main channel of the James River that is river left of Daniels Island (looking downstream). Project plans will focus hydraulic conditions from the downstream portion of Daniels Island toward the proposed powerhouse head pond that will be just downstream of the existing arch section of Scott's Mill Dam (river right). The Project will remove most of the arch section of Scott's Mill Dam leaving only the bottom layer of stones. A flow velocity of less than 2 feet per second adjacent to operating turbines be maintained during the various combinations of powerhouse generation (i.e., 400-4500 cfs) from the arch section and into the head pond.
- 4.2. The Applicant, with the Agencies cooperation, will confirm safe, timely and effective downstream fish passage at the Project with at least a 95% survival rate requirement for downstream passage of all species. The Parties agree to develop a plan for the Applicant to adjust attraction flow, to adjust the orientation of fish passage entrances, to adjust guidance structures or to make other modifications as necessary to improve the conditions of fish passage structures in order to meet performance criteria for upstream



to downstream survival. Agencies recommend a minimum downstream bypass flow criteria of 5% of station capacity. The expected method for evaluation is a radio telemetry routing study and balloon-tag survival study (or equivalent) with latent mortality testing for 48 hours. Downstream and bypass flow criteria will be noted in the settlement agreement.

- 4.3. The Parties will consider all available techniques and work cooperatively to determine what adjustments to the downstream fishway bypass facility and guidance structure are possible to improve fish passage at the Project. The Applicant is proposing the downstream fish passage facility at the downstream end of the powerhouse (river right, south). In addition, at the upstream end of the head pond and fish passage area, flow approach velocities will be modeled to achieve less than two feet per second adjacent to the operating turbines during the various combinations of powerhouse generation (i.e., 400-4500 cfs). Other proposed downstream fish passage facility components include the conveyance structure, receiving waters, and guidance structure, which have their own set of criteria. Hydraulic modeling (i.e. physical or CFD models) will be needed to design or adjust downstream passage facility components at the project site.
- 4.4. The proposed maximum approach velocity at each turbine is less than two feet per second during the various combinations of powerhouse generation (i.e., 400-4500 cfs) to avoid impingement and entrainment. As part of the Project start-up evaluation, downstream fish passage survival testing will verify all aspects of fish passage.

## 5.0 Minimum Flow Requirements

- 5.1. Calibration of the depth of the proposed continuous veil of water over the spillway will occur once the powerhouse is operating. The Parties expect the height of the veil will be at least one inch based upon the results of the flow dynamics and State of Virginia water quality standards. Given that the flow dynamics below Scott's Mill Dam will likely change significantly with the installation and operation of the powerhouse, the Parties agree to undertake a cooperative adaptive management approach to determine an appropriate amount of flow over the dam (i.e., veil height). This approach will combine a wetted perimeter study with a demonstration flow assessment involving the Parties in order to ascertain a flow regime appropriate for maintaining aquatic habitat downstream of the dam. The goal of this flow regime will be to maintain 90% of current habitat conditions or wetted perimeter, while also providing suitable habitat quality based upon a flow assessment. The Parties agree to work towards development of an adaptive management plan incorporating these approaches with sufficient detail and limits to make it suitable for inclusion by FERC in a license.

## 6.0 Water Quality Standards

- 6.1. The installation and operation of the powerhouse has the potential to alter water quality below Scott's Mill Dam in unpredictable ways. These potential alterations are most likely to occur under low flow conditions. Thus, the Applicant agrees to undertake a limited water quality study, focusing on changes in temperature and dissolved oxygen,

under low flow conditions once the powerhouse is operational. The study will compare the upstream ambient temperature and dissolved oxygen with downstream conditions during normal operations at 90% (+/- 5%) exceedance flows. The Agencies agree that water quality alterations of  $\leq 0.5$  C and  $< 0.5$  ppm are acceptable goals. The Parties also agree to cooperate on the design and implementation of the water quality study. Should the water quality study reveal unacceptable changes in temperature or dissolved oxygen, the Parties agree to utilize an adaptive management approach to rectifying these water quality issues via operational changes, specifically increasing the amount of water passing over the dam or other options that can achieve the water quality standard. The Parties agree to work towards development of an adaptive management plan incorporating these approaches with sufficient detail and limits to make it suitable for inclusion by FERC in a license.

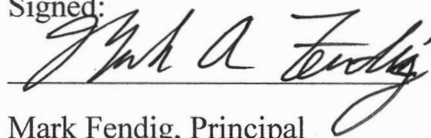
## 7.0 Recreational Enhancements

7.1. Currently, no developed recreational facilities are available to the public within the project boundary, so the Applicant, with the cooperation of the Agencies, agrees to develop the following recreational access facilities:

- a. Boating access facility in the Scotts Mill Dam pool – this will entail a hardened ramp suitable for use by trailer-launched boats, adequate parking to meet the demand, and suitable signage.
- b. Bank fishing access downstream of Scotts Mill Dam – this will entail a pier, platform, or walkway below the dam, adequate parking to meet user demands, and suitable signage.
- c. Canoe/kayak portage around Scotts Mill Dam – this will entail suitable egress/ingress points, a developed walkway over/around the dam, and suitable signage.

Should the development of any of these proposals prove to be infeasible, the Parties will evaluate alternative recreational improvements (on a similar scale) in lieu of the proposals listed. The Parties will cooperatively determine the location and design of these facilities. Construction and maintenance will be the responsibility of Applicant, with consultation among the Agencies.

Signed:



Mark Fendig, Principal

Date:

02-10-2020



Ryan Brown, Executive Director

2-13-2020

Virginia Department of Game and Inland Fisheries

Amie Murphy  
U.S Fish and Wildlife Service

2/21/20