

STATE OF NORTH CAROLINA
COUNTY OF

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
13 EHR 17938

<p>Pamlico-Tar River Foundation, NC Coastal Federation, Petitioners,</p> <p>v.</p> <p>NC Department of Environment and Natural Resources, Division of Water Quality, Respondent, and</p> <p>Martin Marietta Materials Inc., Respondent-Intervenor.</p>	<p style="text-align: center;">FINAL DECISION</p>
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This matter coming on for hearing on the merits May 31, 2016 through June 9, 2016, in the Office of Administrative Hearings, and it appearing to the undersigned that the Petitioners are represented by attorneys Mr. Geoffrey R. Gisler, Mr. Douglas W. Hendrick, Ms. Blakely E. Hildebrand, and Mr. Colin A. Shive; Respondent is represented by Assistant Attorney General Scott A. Conklin and Assistant Attorney General Asher P. Spiller; Respondent-Intervenor is represented by attorneys Mr. Alexander Elkan, Mr. George W. House, and Mr. V. Randall Tinsley.

Procedural History

On July 24, 2013, the Respondent, Division of Water Resources (“DWR”), issued National Pollutant Discharge Elimination System (“NPDES”) Permit No. NC0089168 (“Permit”) to Respondent-Intervenor, Martin Marietta Materials, Inc. (“MMM”). Sound Rivers, Inc. and North Carolina Coastal Federation (together as “Petitioners”) initiated a challenge to the issuance of the Permit by filing a Petition for Contested Case Hearing in the Office of Administrative Hearings on September 19, 2013.

On January 27, 2015, a hearing was held on the parties’ summary judgment motions. On March 20, 2015, the undersigned entered an Order for Summary Judgment in favor of the Respondent and Respondent-Intervenor. Petitioners timely petitioned Beaufort County Superior Court for judicial review of the decision on April 20, 2015.

A hearing was held in Beaufort County on November 9, 2015, and the Court entered an order holding, in pertinent part: “Petitioners are entitled to judgment as a matter of law as to their status as ‘persons aggrieved’”; and “with respect to all of Petitioners’ remaining claims, genuine issues of material fact remain, and ... no party is entitled to judgment as a matter of law.” The Order remanded this matter to the Office of Administrative Hearings for “further proceedings,

including specifically, a full plenary hearing on DWR's permitting decision." (Superior Court Order pp. 4-5)

Pretrial Motions

On April 5, 2016, counsel for MMM served subpoenas commanding Robert Boulden, James Daniels, Heather Deck, Ernest Larkin, and Todd Miller to testify at the hearing of this matter, scheduled to begin on May 31, 2016. On April 18, 2016, Petitioners timely moved to quash those subpoenas.

On April 29, 2016, Petitioners filed a Motion in Limine asking this Court to exclude:

1. The testimony of Robert Boulden, James Daniels, Heather Deck, Ernest Larkin, Todd Miller, Paxton Badham, Chad Evenhouse, James Holley, William Lyke, and Steve Whitt;
2. The following exhibits:
 - a. Air Permit (No. 10435R00), dated March 15, 2015;
 - b. Capacity Use Permit for Water Withdrawal (No. CU 3148), dated November 15, 2013;
 - c. Department of Army 404 Permit (No. SAW-2011-02235), dated March 27, 2015; and
 - d. Coastal Area Management Act Consistency Determination (No. CD13-032), dated February 7, 2014.

Also on April 29, 2016, Petitioners filed a motion seeking judicial notice of the following public documents and certain precipitation records:

1. N.C. Division of Water Resources, A Guide to Surface Freshwater Classifications in North Carolina (2011);
2. N.C. Department of Environment and Natural Resources – Division of Water Quality – Environmental Sciences Section – Bioassessment Unit, Standard Operating Procedures for Collection and Analysis of Benthic Macroinvertebrates, (Dec. 2011);
3. N. C. Department of Environment and Natural Resources – Division of Water Quality – Environmental Sciences Section – Bioassessment Unit, Standard Operating Procedure – Biological Monitoring: Stream Fish Community Assessment Program (Aug. 2006); and
4. Daily and monthly precipitation records collected from the National Climatic Data Center for Global Historical Climatology Network stations USW00093719 (New Bern) and US1NCBF0004 (Washington) from June 1, 2012 to July 24, 2013, as well as monthly average rainfall between 1981 and 2010 at each station.

Petitioners also filed a Motion to Simplify and Formulate Issues and Require Compliance with Scheduling Order on April 29, 2016, requesting an order striking paragraphs 8(a) through 8(d) of MMM's Pre-Hearing Exhibit list as non-compliant with the scheduling order, or, in the

alternative, an order requiring MMM to list documents included in paragraphs 8(a) through 8(d) individually and to provide a description for each document summarizing its content no later than May 13, 2016.

On May 9, 2016, the undersigned heard oral argument from the Parties with respect to each pretrial motion. On May 20, 2016, the undersigned entered an order denying Petitioners' Motion to Quash and denying Petitioners' Motion in Limine. The denial of Petitioners' Motion in Limine was without prejudice as related to the four proposed exhibits and the testimony of Paxton Badham, Chad Evenhouse, James Holley, William Lyke, and Steve Whitt.

On May 27, 2016, the undersigned entered an order recognizing the stipulations of the Parties as to jurisdiction and joinder, Petitioners' pre-trial motions, the authenticity and admissibility of exhibits, substantive facts, and the issues in dispute in this contested case. The Order on Final Pre-Hearing Conference ("Prehearing Order") recognized the resolution of Petitioners' Motion to Simplify and Formulate Issues and Require Compliance with Scheduling Order and the partial resolution of Petitioners' Motion for Judicial Notice of Adjudicative Facts.

On May 31, 2016, the undersigned took judicial notice of the daily and monthly precipitation records collected from the National Climatic Data Center for Global Historical Climatology Network stations USW00093719 (New Bern) and US1NCBF0004 (Washington) from June 1, 2012 to July 24, 2013, as well as monthly average rainfall between 1981 and 2010 at each station.

The remaining issues in Petitioners' Motion in Limine were denied.

Issues

Based on the Parties' contentions, submissions, and stipulations, the undersigned determines that the issues to be decided in this contested case are as follows:

Issue 1: "pH Claim": Whether Petitioners have met their burden of proving that Respondent exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining the NPDES Permit reasonably ensures compliance with the pH water quality standard.

Issue 2: "Swamp Waters Claim": Whether Petitioners have met their burden of proving that Respondent exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining the NPDES Permit reasonably ensures compliance with water quality standards and regulations related to the "Swamp Waters" supplemental classification.

Issue 3: "Biological Integrity Claim": Whether Petitioners have met their burden of proving that Respondent exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law

or rule in determining the NPDES Permit reasonably ensures compliance with the biological integrity water quality standard.

Issue 4: Substantial Prejudice: Whether Petitioners have met their burden of proving that Respondent substantially prejudiced Petitioners' rights in issuing the NPDES Permit.

Witnesses

Petitioners: Petitioners Sound Rivers, Inc. ("Sound Rivers") and North Carolina Coastal Federation ("Coastal Federation") presented testimony from the following witnesses: James Daniels; Robert Boulden; Heather Deck; Dr. Ernest Larkin; Todd Miller; Dr. Eban Bean; Anthony Overton; Tom Belnick; Tom Reeder; and Eric Fleek.

Respondent: Respondent DWR presented testimony from the following witnesses: Tom Belnick; Eric Fleek; and Tom Reeder.

Respondent-Intervenor: Respondent-Intervenor Martin Marietta Materials did not present any witnesses.

Exhibits

Petitioners: The following Petitioners' exhibits were admitted into evidence:

- P001 Articles of Organization for Cotton Patch Landing, LLC (Feb. 9, 2014)
- P002 2015 Annual Report for Cotton Patch Landing, LLC (March 13, 2015)
- P003 2013 Profit/Loss statement from Cotton Patch Landing and photos of Cotton Patch Landing (Dep. Ex. 16)
- P004 Map depicting the following: sampling stations used by CZR, Dr. Eban Bean, and DWR; monitoring locations identified by NPDES Permit NC0089168; water quality classifications of Blounts Creek designated by N.C. Environmental Management Commission; and the location of Cotton Patch Landing
- P005 NPDES Permit No. NC00089168 (July 24, 2013) (Dep. Ex. 6)
- P006 Revised Fact Sheet for Final Permit Development: NPDES Permit No. NC0089168 (July 9, 2013) (Dep. Ex. 2)
- P007 N.C. Wildlife Resources Commission — Memorandum from Shannon Deaton to Tom Belnick (April 12, 2013) (Dep. Ex. 34)
- P008 N.C. Division of Marine Fisheries — Memorandum from Dr. Louis B. Daniel to Cyndi Karoly (April 12, 2013) (Dep. Ex. 37)
- P009 Letter from Heather Deck to Tom Belnick (March 14, 2013) (Dep. Ex. 21)
- P010 Letter from Heather Deck to Tom Belnick (April 13, 2013)
- P011 Curriculum Vitae for Dr. Eban Bean

- P012 Blounts Creek Monitoring Draft Preliminary Report, including email submission of report to DWR (April 12, 2013) (Dep. Ex. 35)
- P013 CZR, Inc. Aquatic Habitat Assessment (Aug. 2011) (Dep. Ex. 30)
- P014 Kimley Horn & Associates Water Quality Analysis (Oct. 2012) & Kimley Horn & Associates Flood & Stability Analysis (Oct. 2012) (Dep. Ex. 33, 11)
- P016 Kimley Horn & Associates, Corrections to Flood and Stability Analysis (undated) (Dep. Ex. 69-73)
- P017 Blounts Creek — Upstream site sonde data collected by Dr. Eban Bean from June 7, 2012 — July 24, 2013
- P018 Upstream Data Charts
- P019 Blounts Creek — Downstream site sonde data collected by Dr. Eban Bean from June 7, 2012 — July 24, 2013
- P020 Downstream Data Charts
- P021 Blounts Creek —pH monitoring data collected by Dr. Eban Bean from June 7, 2012 - July 24, 2013
- P022 pH Charts
- P023 Environment 1 Reports
- P024 Salinity Surveys collected by Dr. Eban Bean
- P026 Curriculum Vitae for Dr. Anthony Overton
- P027 CZR Incorporated Technical Memorandum (Oct. 30, 2012) (Dep. Ex. 8)
- P030 Hearing Officer Report (Dep. Ex. 7)
- P032 Memo from David Cox to William Wescott (Jan. 18, 2012) (Dep. Ex. 41)
- P033 Email from Eric Fleek to Tom Belnick (Jan. 23, 2012) (Dep. Ex. 31)
- P034 Email from Tom Belnick to Eric Fleek and Paul Rawls (Jan. 20, 2012)
- P037 Email from Gil Vinzani to Tom Belnick (Nov. 9, 2012) (Dep. Ex. 32)
- P039 Email from Eric Fleek to Tom Belnick (April 16, 2013) (Dep. Ex. 52)
- P042 Email from Eric Fleek to Chuck Wakild and Tom Belnick (May 16, 2013) (Dep. Ex. 38)
- P043 EPA letter from Jim Giattina to Charles Wakild (May 20, 2013) (Dep. Ex. 29)
- P044 Email from Tom Belnick to Steve Whitt (June 17, 2013)
- P049 Public comments on draft NPDES permit submitted to DWR
- P054 Email from Eric Fleek to self (May 22, 2013) (Dep. Ex. 50)
- P058 Standard Operating Procedures for Collection and analysis of Benthic Macroinvertebrates (Dec. 1, 2011) (Dep. Ex. 47)
- P059 Standard Operating Procedures for Biological Monitoring — Stream Fish Community Assessment Program (Aug. 1, 2006)
- P100 Saving Blounts Creek Jubilee Flyer (Apr. 3, 2013)
- P101 Respondent's PreHearing Statement (Nov. 3, 2013)

- P102 Email string with attachment between Fleek, Vinzani et al., Subject: Re: Martin Marietta – Vanceboro Mine (Sept. 5, 2012)
- P103 Email from Belnick to Fleek, Subject: Martin Marietta/Vanceboro Quarry (Nov. 29, 2012)
- P104 Email string between Fleek, Belnick et al., Subject: Re: Martin Marietta comments (Jan. 19, 2012)
- P105 Email string with attachment between Hodge, Hart, Dunn et al., Subject: FW: Vanceboro CZR Outline – Draft 6 Aug 2012.docx (Aug. 27, 2012)
- P106 Email string between Thorpe, Whitt et al., Subject: FW: CZR’s task to address fish population impacts concerning Martin Marietta Vanceboro mine (Sept. 13, 2012)
- P107 Email string between Thorpe, Whitt et al., Subject: FW: Martin Marietta Vanceboro Mine CZR outline (Sept. 13, 2012)
- P108 Email string with attachment between Fleek, Vinzani et al., Subject: Re: Martin Marietta – Vanceboro Mine (Dec. 14, 2012)

Respondent: The following Respondents’ exhibits were admitted into evidence:

- R001 NPDES Revised Fact Sheet (July 9, 2013)
- R002 Email exchange between Belnick and Vinzani, et al, Subject: RE Vanceboro Mine – August 23, 2011 Meeting (Aug. 29, 2011)
- R003 Individual NPDES Permit Application (Oct. 19, 2011)
- R004 CZR Aquatic Habitat Assessment (Aug. 1, 2011)
- R005 Email exchange between Belnick and Fleek, et al., Subject: FW: Response template for Martin Marietta Quarry (Jan. 11, 2012)
- R006 Email exchange (with annotations) between Fleek, Belnick et al., Subject: FW: Martin Marietta comments (Mar. 23, 2012)
- R007 WRC Comments to 404/401 (Jan. 18, 2012)
- R008 Email exchange between Hodge to Belnick et al., Subject: Martin Marietta Vanceboro Mine (Jan. 26, 2012)
- R009 Letter from Vinzani to Whitt, Subject: Request for Additional Information (Feb. 13, 2012)
- R010 Letter from Whitt to Vinzani, Subject: Request for Additional Information (Sept. 18, 2012)
- R011 Email exchange between Whitt and Karoly, et al, Subject: Vanceboro (Sept. 25, 2012)
- R012 Letter from Whitt to Vinzani, Subject: Request for Additional Information (Oct. 12, 2012)
- R013 KHA Technical Memo: Water Quality Analysis (Oct. 10, 2012)
- R014 Blounts Creek Monitoring - DRAFT Preliminary Report (Apr. 12, 2013), Eban Z. Bean
- R015 KHA Technical Memo: Flood and Stability Analysis (Oct. 10, 2012)
- R016 CZR Technical Memo (Oct. 30, 2012)
- R017 Email exchange between Hart and Hodge, Dunn, Subject: RE: Vanceboro CZR Outline – DRAFT 6 Aug 2012.docx (Aug. 7, 2012)

- R018 CZR Outline (Aug. 6, 2012)
- R019 Email exchange between Thorpe and Whitt, Subject: FW: Martin Marietta Mine CZR outline (Sept. 13, 2012)
- R020 Email exchange between Thorpe and Whitt, Subject: FW: CZR's task to address fish population impacts concerning Martin Marietta Vanceboro mine (Sept. 13, 2012)
- R021 Email exchange between Fleek and Vinzani and Shepherd, Subject: MMM dewatering process proposal (Fish Review) (Dec. 14, 2012)
- R022 Map - Tar-Pamlico Anadromous Fish Spawning Areas (Dec. 14, 2012)
- R023 NPDES Hearing Officer Report (July 2, 2013)
- R024 WRC Comments on NPDES Permit (Apr. 12, 2013)
- R025 NCDMF Comments on NPDES Permit (to Cindi Karoly and Chuck Wakild) (Apr. 12, 2013)
- R026 Letter from EPA to Wakild, Subject: Martin Marietta Materials, Inc., NPDES Permit No. NC0089168 (May 20, 2013)
- R027 Letter to EPA Responding to May 20 Letter, w/attachments (Sept. 13, 2013)
- R028 Email exchange between Ghosh and Belnick, Subject: RE: NPDES Draft Final NC0089168: Martin Marietta (July 19, 2013)
- R029 Final Permit (July 24, 2013)
- R030 Email exchange between Matthews and Gillespie, et al., Subject: DCM Federal Consistency Review - Martin Marietta Materials – Vanceboro (June 13, 2013)
- R031 Email string between Adams, Rynas, Subject: FW: Martin Marietta Materials Vanceboro Site Consistency Review (DCM20120010) (June 19, 2013)
- R032 DCM Consistency Determination (Feb. 7, 2014)
- R034 DWQ Standard Operating Procedures for Collection and Analysis of Benthic Macroinvertebrates (Dec. 1, 2011)
- R035 Email exchange between Thorpe and Fleek (Apr. 19, 2012)
- R036 Species Diversity Comparison (undated)
- R037 Email exchange between Fleek and Thorpe, Subject: FW: Martin Marietta - Vanceboro Mine (Oct. 12, 2012)
- R039 Email exchange between Fleek and Vinzani et al., Subject: Vanceboro (Dec. 20, 2011)
- R040 Email exchange between Belnick and Fleek, Subject: Martin Marietta/Vanceboro Quarry (Nov. 29, 2012)
- R044 Email exchange between Vinzani, Fleek, Belnick et al., Subject: FW: Martin Marietta Draft NPDES Permit and Fact Sheet (Jan. 22, 2013)
- R046 Map: Vanceboro Quarry Facility (Sept. 12, 2012)
- R047 Map: Vanceboro Site Drainage Distances and Coastal Area Critical Points (Jan. 26, 2012)
- R048 Map - Surface Water Classifications for Blounts Bay Area (Feb. 21, 2014)
- R049 15A NCAC 026.0211

- R050 15A NCAC 026.0202
- R051 Cardno Inc. Map
- R052 Email with attachment from A. Hodge to M. Dunn, Subject: FW: Draft Report (Aug. 27, 2012) Respondent

Respondent-Intervenor: The following Respondent-Intervenors' exhibits were admitted into evidence:

- MMM0001 Cardno/Entrix Watershed Map
- MMM0046 401 Certification (2nd) (May 15, 2013)
- MMM0114 Map demarcated PERMIT_R 1830
- MMM1289 MMM - NPDES Water Flow Map (Oct. 4, 2011)
- MMM1365 Table entitled "Table 3. Diadromous fish and associated life stage requirements for pH, salinity, and velocity" (Dep. Ex. 63)

Stipulated Facts

1. Blounts Creek watershed is delineated by the U.S. Geological Survey as two 12-digit hydrologic units, referred to as Headwaters Blounts Creek (030201040106) and Outlet Blounts Creek (030201040107). Prehearing Order at 3 (May 27, 2016).
2. Blounts Creek from its source to Herring Run is assigned a primary classification of Class C and supplemental classifications as Swamp Waters (Sw) and Nutrient Sensitive Water (NSW).
3. From Herring Run to Blounts Bay, Blounts Creek is assigned a primary classification of Class SB and a supplemental classification of NSW. Prehearing Order at 3.
4. DWR issued the Permit on July 24, 2013, after an application by MMM for a proposed discharge of commingled groundwater and stormwater from a new mining operation that is anticipated to include a 649-acre open pit aggregate mine (at build out) located within a 1,664-acre quarry footprint. Prehearing Order at 4.
5. The extracted mineral is crushed limestone for use in the construction industry. Pit dewatering, required to extract the limestone material, will create a discharge of comingled groundwater and stormwater. Prehearing Order at 4.
6. The 12 million gallons per day (daily maximum) discharge ("Permitted Discharge") is expected to be discharged to separate tributaries of Blounts Creek through two outfalls — Outfall 001 and Outfall 002. Each outfall has a daily maximum discharge of 6.0 million gallons per day, which is approximately 9 cubic feet per second. Prehearing Order at 4.
7. The discharge is expected to have a pH of approximately 6.9. Prehearing Order at 4.

Findings of Fact

Based upon consideration of the sworn testimony of witnesses presented at the hearing, the documents and exhibits received and admitted into evidence, and the entire record in this proceeding, the undersigned makes the following findings of fact. In making the findings of fact, the undersigned has weighed all the evidence and has assessed the credibility of the witnesses by taking into account the appropriate factors for judging credibility, including, but not limited to, the demeanor of the witness, any interests, bias or prejudice the witness may have, the opportunity of the witness to see, hear, know or remember the facts or occurrences about which the witness testified, whether the testimony of the witness is reasonable, and whether such testimony is consistent with all other believable evidence in the case.

Parties

1. Petitioner Sound Rivers, Inc. is a non-profit corporation organized and existing under the laws of the State of North Carolina.
2. Petitioner North Carolina Coastal Federation is a nonprofit corporation organized and existing under the laws of the State of North Carolina.
3. Respondent DWR is a state agency that is authorized to administer and implement the North Carolina laws and rules for the protection of water quality in North Carolina, including permitting, monitoring and regulating discharges into waters of the State.
4. Respondent-Intervenor Martin Marietta Materials, Inc. is a corporation organized and existing under the laws of the State of North Carolina.

Background

5. Respondent-Intervenor plans to develop and operate an aggregate quarry (“Vanceboro Quarry facility”) within a 90,000-acre managed pine plantation located in Beaufort and Craven Counties, North Carolina. (Stip. 3; Stip. 4; Ex. P6)
6. The quarry will provide crushed limestone for construction and building roads in the region. (Stip. 3; Stip. 4; Ex. P6)
7. To develop and operate the quarry, it is necessary to “dewater” by pumping groundwater and comingled stormwater from the quarry pit and then discharging the water. (Stip. 3; Stip. 4; Ex. P6)
8. A NPDES permit is required for this activity, and Respondent is authorized to issue such permits under the Clean Water Act and the State’s water quality program.
9. In order for DWR to lawfully issue an NPDES permit, the permit must include restrictions or limits on the discharge as necessary to “reasonably ensure compliance with

applicable water quality standards and regulations.” 15A NCAC 02H .0112(c). (Stip. 5; Belnick, Tr. Vol. 6 pp. 1006-1007; Ex. P6)

10. Respondent first became involved in permitting of the proposed Vanceboro Quarry facility in 2010 based on initial studies conducted by Respondent-Intervenor and discussions regarding federal and state permitting requirements for the proposed project.

11. Respondent-Intervenor initially sought a general permit for mining. However, Respondent determined that a NPDES permit would be required. (Belnick, Tr. Vol. 6 pp. 1012-1014; Ex. R2; Ex. P6)

12. On October 19, 2011, Respondent-Intervenor submitted an application for an NPDES permit to discharge co-mingled groundwater and stormwater from the Vanceboro facility.

13. Mr. Belnick, supervisor of the NPDES Permitting Unit in DWR, assigned the application to Mr. Gil Vinzani, an advanced engineer and experienced permit writer in the Complex NPDES Permitting Unit. (Belnick, Tr. Vol. 6 pp. 1014-1015; Ex. R3; Belnick, Tr. Vol. 4 pp. 516-518)

14. Respondent-Intervenor submitted, and Respondent reviewed, an August, 2011 Aquatic Habitat Assessment (“CZR Habit Assessment”) from Coastal Zone Resources, Inc. (“CZR”). This report provided baseline information regarding water quality, fish, and benthic macroinvertebrates near the proposed discharge points. (Ex. P13; R1; R4; Belnick, Tr. Vol. 6 pp. 1015-1016)

15. The CZR Habitat Assessment included pH data obtained from water sampling in upper Blounts Creek. The data showed pH readings of 4.85 and 4.60 downstream of the proposed discharge points (at UT2 and UT3 sampling sites, respectively) and 5.56, 5.56, and 5.86 in the main stem of upper Blounts Creek (at WQ3, WQ2, and WQ1 sampling sites, respectively). (Ex. R4 at pp. 3, 7-9; Ex. P4)

16. The CZR Habitat Assessment also included results of CZR’s benthos sampling. The term “benthos” refers to organisms, including “benthic macroinvertebrates”, that live on or near the bottom of an aquatic environment. These organisms have various tolerances to pollution and stresses, and analysis of benthic macroinvertebrate communities may be used to assess water quality conditions. (Fleek, Tr. Vol. 7 pp. 1101-1102)

17. In sampling for benthos, CZR followed DWR’s Standard Operating Procedures for Collection and Analysis of Benthic Macroinvertebrates (“SOP”), a guidance document prepared by the Environmental Sciences Section of DWR (“ESS”) and signed by Mr. Fleek, an environmental supervisor in the Biological Assessment Branch of DWR. (Ex. R34) The document describes various sampling methods, including the “swamp method,” which may be employed in coastal plain streams that flow intermittently.

18. Contrary to Petitioners' assertions, the evidence demonstrates that the "swamp method" and the term "swamp stream" in the SOP are unrelated to the "swamp waters" supplemental classification. (Fleek, Tr. Vol. 7 pp. 1103-1105; Ex. R34, p.6; Fleek, Tr. Vol. 6 pp. 980-981; Ex. P58; Ex. P59)

19. Mr. Fleek reviewed the CZR Habitat Assessment and provided input to Mr. Belnick. In Mr. Fleek's evaluation, he concluded that there could be an increase in diversity and population of benthos near the proposed discharge outfalls because the discharge would lead to less stressful conditions. (Fleek, Tr. Vol. 7 pp. 1108-1111, 1114-1116; Ex. R4; Ex. 51)

20. By January 2012, DWR believed that the proposed discharge, which consists predominantly of groundwater, would meet numeric water quality standards. However, DWR determined that additional studies were necessary to assess potential impacts on flooding, erosion, pH, salinity, and biology. (Belnick, Tr. Vol. 6 pp. 1071-1072; 1088-1089; Ex. R8)

21. In February 2012, DWR formally requested additional information from Respondent-Intervenor, including studies to "define a zone of impact" and assess effects in that zone, while considering hydraulics, salinity, water quality, biota, and other parameters. (Belnick, Tr. Vol. 6 p. 1020; Ex. R9)

22. In May 2012, in order to verify the results of the CZR Habitat Assessment and to obtain their own data, Mr. Fleek and his team conducted independent benthic sampling using the swamp method at the same sampling stations used by CZR.

23. The data collected by Mr. Fleek indicated to him that CZR may have under sampled.

24. Mr. Fleek's sampling showed higher species diversity than that shown by CZR's sampling. He shared his results with Mr. Vinzani, an advanced engineer and experienced permit writer in the Complex NPDES Permitting Unit, and Mr. Belnick, and communicated his views that: (1) with the proposed discharge, benthic communities in the upstream areas at the proposed discharge outfalls would likely eventually trend toward higher diversity due to more continuous flow; (2) these effects of the proposed discharge would decrease downstream of the discharge outfall areas, with the addition of ambient flow; and (3) it is not uncommon for a discharge that causes more continuous flow in an area that had intermittent or ephemeral flow to also cause an increase in diversity.

25. Mr. Fleek's views are congruent with the CZR Habitat Assessment, DWR's statements in the hearing officer report, and his other expressed views on the effects of the permitted discharge on benthos near the proposed discharge outfalls. (Fleek, Tr. Vol. 7 pp. 1108-1117, 1119-1120, 1128-1129; Ex. R4; Ex. R51; Ex. R. 34; Ex. R35; Ex. 36; Ex. R37; Ex. R23; Ex. R39; Ex. P42)

26. On September 18, 2012, Respondent-Intervenor submitted to DWR a Stability, Flood and Water Quality Analyses report conducted by Kimley Horn & Associates (“Kimly Horn”). (Belnick, Tr. Vol. 6 pp. 1020-1021; Ex. R10)
27. Respondent reviewed the Stability, Flood and Water Quality Analyses report and DWR staff met with the N.C. Division of Marine Fisheries (“DMF”) staff and N.C. Wildlife Resources Commission (“WRC”) staff to discuss the report. (Belnick, Tr. Vol. 6 p. 1021)
28. On September 21, 2012, DWR staff, WRC staff, and DMF staff met with Respondent-Intervenor, Kimley Horn, and CZR to discuss the Kimley Horn Stability, Flood and Water Quality Analyses report as well as CZR’s pending biological impacts report. (Belnick, Tr. Vol. 6 pp. 1021-1022; Ex. R11)
29. On October 16, 2012, Respondent-Intervenor submitted two revised technical memoranda prepared by Kimley Horn: (1) a Flood and Stability Analysis report; and (2) a Water Quality Analysis report. (Belnick, Tr. Vol. 6 pp. 1022-1024; Ex. R12; Ex. R13; Ex. R15)
30. The Kimley Horn Flood and Stability Analysis report was prepared to: (1) address DWR comments regarding stream stability and potential flooding issues associated with the proposed discharge; and (2) provide CZR with predicted zones of potential impacts for further analysis of potential ecological effects. The report employed a combination of field measurements and technical engineering modeling methods to assess potential erosion and flooding, and it included assessment of existing and predicted flow velocities at various stations in Blounts Creek. (Ex. R15 p. 4)
31. The Flood and Stability Analysis report found that the proposed discharge would have little effect on flood elevations. (Ex. R15 p. 2)
32. The Flood and Stability Analysis report concluded that the proposed discharge would, at most, result in only small changes to the channel geometry of the upper reaches of Blounts Creek, and would not result in significant erosion. (Ex. R15 p. 2)
33. In an addendum, the Flood and Stability Analysis report addressed issues raised by DWR, WRC, and DMF. (Ex. R15 pp. 13-14)
34. In specific response to DMF and WRC concerns that the proposed discharge would increase flow velocities and potentially affect fish spawning habitat, the Flood and Stability Analysis report addressed these concerns in detail and concluded that, “the degree of change with the additional quarry discharge varies from minimal [] to negligible[.]” (Ex. R15 pp. 13-14)
35. DWR staff reviewed and assessed the Flood and Stability Analysis report, including a technical review that was conducted by Mr. Vinzani and Mr. Brian Lowther, an experienced engineer with DWR’s stormwater permitting unit.

36. Based on this review, DWR determined that the Kimley Horn study methods were sound and it concurred with the findings and conclusions of the Flood and Stability Analysis report. (Belnick, Tr. Vol. 6 pp. 1028-1029, 1049; Ex. R15; Belnick, Tr. Vol. 4 pp. 630-631; Ex. P108)
37. Kimley Horn submitted minor corrections to the results of its Flood and Stability Analysis report (Ex. P14; Ex. P16). The revisions increased the expected velocities but did not change the conclusions of the report, did not alter DWR's concurrence with the report's conclusions, and did not affect DWR's permitting decision. (Belnick, Tr. Vol. 4 pp. 542-543; Ex. P27; Belnick, Tr. Vol. 6 pp. 1076-1077; Ex. R16; Ex. P14; Ex. P16)
38. The Kimley Horn Water Quality Analysis report was prepared to: (1) address DWR comments regarding impacts on water quality, in particular, pH and salinity; and (2) estimate predicted zones of impact as a basis for CZR to analyze potential ecological effects of the proposed discharge. (Ex. R13 p. 1)
39. As with the Flood and Stability Analysis, the Water Quality Analysis also includes an addendum which specifically addressed issues raised by DWR, WRC, and DMF.
40. With respect to pH, Kimley Horn developed a volumetric ratio model using conservative assumptions to predict pH of upper Blounts Creek with the discharge. The results indicated that the pH of upper Blounts Creek would likely range between approximately 6.3 and 6.9 with the proposed discharge. (Ex. R13 pp. 2, 11-12)
41. With respect to salinity, DWR and Kimley Horn determined that a mass balance or other appropriate analysis would be suitable to assess potential impacts on salinity from the proposed discharge. (Ex. R13 p. 4)
42. Kimley Horn carried out salinity sampling by conducting boat surveys from Herring Run to Cotton Patch landing on three separate days under different flow conditions. (Ex. R13 p. 4)
43. A model was developed by using the ratio of the maximum permitted discharge to the existing stream discharge. (Ex. R13 pp. 4-5)
44. The model was applied to a salinity data set for one day, which was estimated to reflect base flow conditions. (Ex. R13 pp. 4-5)
45. Results of the model indicated a relative impact of less than 1 part per thousand ("ppt"). (Belnick, Tr. Vol. 6 p. 1025-1026)
46. The Water Quality Analysis report concluded, "[T]he volume displacement model does appear to provide an indication of the relative predicted changes to salinity from the addition of the quarry discharge that can be expected during low to moderate base flow

conditions.” In sum, “The model predicts no dramatic change in salinity and such changes may be masked by natural variability of the systems” (Ex. R13 pp. 2, 8)

47. Mr. Belnick reviewed Kimley Horn’s analysis of potential effects of the proposed discharge on salinity. (Belnick, Tr. Vol. 6 p. 1023)

48. Mr. Belnick gave careful consideration to the nature of Kimley Horn’s modeling exercise and sampling results, and understood the limitations of the study.

49. As described in part by Mr. Belnick:

[T]hey sampled three events and they also did salinity predictions. . . . [B]ased upon the model itself, they predicted a change in salinity of less than one part per thousand with the [discharge], comparing base flow conditions to base flow plus the discharge of 12 MGD. They also identified about the same results when they compared low base flow versus a low base flow plus a half inch storm event. They still saw about a one part per thousand change in measurements based upon that storm event, which is fairly similar to the proposed discharge volume. And then in context when I looked at those changes, about one part per thousand, they compared that relative to natural variability in the system and concluded that it would be – it’s much smaller relative to the natural variability of salinity.

(Belnick, Tr. Vol. 6 p. 1025-1026)

50. DWR determined that the salinity model provided a sufficient indication of the relative effect of the proposed discharge on salinity. (Belnick, Tr. Vol. 6 p. 1026)

51. In adopting Kimley Horn’s conclusions regarding salinity impacts, DWR also took into account the salinity data submitted by Petitioners’ expert, Dr. Eban Bean, Assistant Professor in the Department of Engineering and an Assistant Researcher at the Institute for Coastal Science and Policy at East Carolina University, which showed significant variability in a complex estuarine system in accord with the Kimley Horn report. (Belnick, Tr. Vol. 6 p. 533-539, 1027-1028, 1074-1076; Ex. R14; Ex. R13 pp. 14-15)

52. DWR also reviewed and adopted Kimley Horn’s conclusions with respect to predicted pH ranges in upper Blounts Creek with the permitted discharge. (Belnick, Tr. Vol. 6 pp. 1023-1024)

53. DWR took into account the pH data from the CZR Habitat Assessment (Ex. R4), and the pH data collected by Dr. Bean and submitted during the public comment period on the draft NPDES permit. (Belnick, Tr. Vol. 6 pp. 1024-1025; Ex. R13; Ex. R14; Ex. R47)

54. DWR received and evaluated the CZR technical memorandum dated October 30, 2012 (Ex. R16).
55. The CZR technical memorandum, prepared at the request of DWR in consultation with WRC and DMF, analyzed the effects of the proposed discharge on fish species, benthos and biota in both upper and lower Blounts Creek. (Belnick, Tr. Vol. 6 p. 1030-1032; Ex. R16; Ex. R17; Ex. R18; Ex. R52; Ex. R19; Ex. R13 p. 1)
56. To assess impacts on fish species, the CZR technical memorandum undertook a professional literature review to identify managed and recreationally important fish species that may be present in Blounts Creek. (Ex. R16 p. 4)
57. The CZR technical memorandum then analyzed how these species were likely to be affected by the predicted changes in pH, salinity, and velocity. (Ex. R16 pp. 1-14)
58. The study assessed pH tolerance of fishes likely found in upper Blounts Creek, concluding that the proposed discharge would likely result in less stressed conditions and would not negatively impact existing fish species. (Ex. R16 pp. 2, 4-5)
59. The CZR technical memorandum concluded that the proposed discharge may provide more aquatic habitat and result in a greater fish diversity. (Ex. R16 pp. 2-5)
60. The study determined that, because the predicted impacts to salinity would be limited and within the range of existing conditions, adverse effects to fish populations would be unlikely. (Ex. R16 pp. 2, 7)
61. The study utilized the Kimley Horn data regarding existing and predicted velocities as well as literature reviews to determine that the conditions with the proposed discharge likely will not adversely affect fish species, and may create more suitable habitat for fish species, including anadromous fish species such as river herring. (Ex. R16 pp. 2, 6-8)
62. DWR staff, including Mr. Michael Shepherd, Mr. Belnick, and Mr. Fleek, reviewed and evaluated the CZR technical memorandum.
63. Mr. Shepherd, a fisheries biologist in ESS, previously worked with DMF and is knowledgeable with respect to fish biology and ecology.
64. Mr. Shepherd's sole concern upon reviewing the CZR technical memorandum was that the proposed discharge could lead to increased erosion which could negatively affect anadromous fish habitat. (Ex. R21)
65. Mr. Belnick determined that such concerns were addressed by the conclusions and addendum of Kimley Horn's Flood and Stability Analysis report and the monitoring requirements of the NPDES Permit. (Belnick, Tr. Vol. 6 pp. 1035-1036)
66. Mr. Fleek agreed with the CZR's conclusions regarding benthos. (Ex. P37)

67. Mr. Fleek advised Mr. Belnick to include salinity monitoring in the NPDES Permit, which Mr. Belnick did. (Fleek, Tr. Vol. 6 p. 991; Ex. P37)

68. Respondent determined that the CZR findings in the technical memorandum were valid and adopted them. (Belnick, Tr. Vol. 6 pp. 1033-1037; Ex. R16; Ex. R21; Ex. R22; Ex. R47; Fleek, Tr. Vol. 7 pp. 1120-1123; Ex. R40; Ex. R21)

69. In May 2013, Mr. Fleek sent an email to Mr. Belnick and other DWR staff in which he stated his views that, in areas that are in close proximity to the proposed discharge outfalls, the discharge would change water quality parameters and promote the presence of biota indicative of conditions with more permanent flows, higher pH, and higher dissolved oxygen. (Ex. P42)

70. Petitioners have pointed to excerpted statements from Mr. Fleek's May, 2013 email such as: "many of the taxa currently found in this system ... will be replaced by taxa which are adapted to more permanent flows, higher pH, and higher dissolved oxygen levels," and "[t]hese types of streams, and the taxa which inhabit them, are not normally found in North Carolina's coastal plain," as supporting their claims that the permitted discharge will cause significant, widespread biological impacts in violation of the biological integrity standard. (Ex. P42) However, at the hearing Mr. Fleek testified that his views expressed in this email pertain only to the sampling sites located in close proximity to the proposed discharge outfalls, and that such impacts would dissipate downstream of those areas. (Fleek, Tr. Vol. 6 pp. 989-990; Fleek, Tr. Vol. 7 pp. 1119-1120; Ex. R39)

71. Mr. Fleek's May, 2013 email and his testimony are consistent with his assessment of the findings of the CZR technical memorandum (Ex. R16) and his earlier assessment of the likely effects of the proposed discharge on benthos.

72. Mr. Fleek's May, 2013 email does not support Petitioners' contentions of biological impacts that will be widespread or greater than those predicted by DWR and summarized in the Revised Fact Sheet; nor does the email support a conclusion that DWR acted arbitrarily, irrationally, or improperly in evaluating compliance with the biological integrity standard.

Draft Permit, Fact Sheet, and Public Hearing Process

73. On February 6, 2013, DWR published a draft NPDES permit and fact sheet for public review. DWR concurrently published notice of a public hearing on the draft permit. (Ex. R23)

74. On March 14, 2013, a public hearing was held to solicit public comments on Respondent-Intervenor's permit application and on the draft permit. (Ex. R23)

75. DWR extended the public comment period by one month to allow for the submission of additional comments. (Belnick, Tr. Vol. 6 pp. 1037; Ex. R23)

76. Many of the comments that were received by DWR were in opposition to the NPDES Permit, expressing concerns regarding potential impacts to the estuarine portion of Blounts Creek – the SB classified waters downstream of the confluence with Herring Run.

77. DWR considered the comments received when determining the potential effects of the proposed discharge and deciding whether to issue the NPDES Permit. (Belnick, Tr. Vol. 4 pp. 549-550, 611-614; Belnick, Tr. Vol. 6 pp. 1037-1039; Ex. R23; Ex. P49)

78. On April 12, 2013, WRC and DMF submitted comment letters to DWR. The letters expressed concerns about the potential effects of the proposed discharge, but did not adequately address the analyses and conclusions of the final Kimley Horn reports and CZR technical memorandum. (Ex. P7; Ex. P8)

79. Regarding the expressed concerns that increased flow from the proposed discharge would cause fish eggs to be displaced downstream, DWR determined that the CZR report sufficiently analyzed the impacts of flow on anadromous fish and fish egg survival and concurred with the CZR assessment. (Belnick, Tr. Vol. 6 pp. 1043-1044; Ex. R24)

80. As to the expressed concerns relating to sedimentation, DWR determined that the Kimley Horn Flood and Stability Analysis report provided adequate assurance that significant erosion and sedimentation were not likely to occur. (Belnick, Tr. Vol. 6 pp. 1044; Ex. R24)

81. As to the expressed concerns relating to the importance of olfactory cues to anadromous fish and the potential effect of the proposed discharge, DWR determined that, given the qualitative nature of these concerns in light of the evidence of limited effects of the proposed discharge, these concerns did not provide a reasonable basis for denial of the NPDES Permit. (Belnick, Tr. Vol. 6 pp. 1044-1045; Ex. R24)

82. With respect to recommendations for additional sampling for pH and salinity, DWR considered this comment, but determined it had obtained sufficient data and analysis to make a reasonable prediction of biological impacts, and that additional sampling was not necessary. (Belnick, Tr. Vol. 6 pp. 1046-1047; Ex. R24)

83. WRC did not comment or opine that additional fish sampling was necessary. However, DMF commented that the “[i]nformation provided in the application regarding the fish community was inadequate to address variable and seasonal differences in fish assemblies since it was based on one sampling event with one gear type.” (Belnick, Tr. Vol. 6 pp. 1047-1048; Ex. R24; Ex. R25)

84. DWR determined that comment was addressed by the CZR report, which included a significant literature review of what fish could be in that area, assumed that all potentially present species of fish are in fact present, and assessed potential effects on fishes that could be found. (Belnick, Tr. Vol. 6 pp. 1047-1048; Ex. P27; Ex. R25; Ex. R16; Ex. R51)

85. DMF commented, “The discharge is likely to have significant impacts on Blounts Creek, Blounts Bay in diverse and healthy aquatic community they support.” DWR disagreed with that comment on the basis of its own review of the information and materials presented, including the overwhelming evidence in the record indicating limited effects on Blounts Creek and its ecology, and no evidence of effects on Blounts Bay. (Belnick, Tr. Vol. 6 pp. 1047-1050; Ex. R25; Ex. R16; Ex. R51)

86. On April 12, 2013, Dr. Bean submitted a Draft Preliminary Report (“Draft Report”) to DWR. (Ex. P12)

87. The Draft Report provides results of water quality sampling efforts carried out by Dr. Bean from June 2012 to March 2013. (Ex. P12)

88. His methods included monitoring for water quality at: (1) an upstream sampling site (located approximately two miles upstream of the confluence with Herring Run); and (2) a downstream sampling site (located about 4,400 feet downstream of the confluence with Herring Run). (Ex. P12)

89. Dr. Bean’s Draft Report also shows results from four “water quality surveys” conducted via boat transects of lower Blounts Creek to collect surface water quality data. (Ex. P12 pp. , 13, 30-31, C1-C14; Ex. P4)

90. Dr. Bean’s Draft Report concluded as follows:

a. Dissolved Oxygen: Dissolved oxygen varied and ranged from approximately 0.2 to 7.71 mg/l (with typical range between 3.0 and 5.0 mg/l and with some 80% of samples below 5.0 mg/l) at the upstream site, and ranged from 0.2 to 9.77 mg/l (with most samples below 5.0 mg/l) at the downstream site (Ex. P12 pp. 22-26)

b. Salinity: Salinity varied greatly depending upon a number of factors, including wind (the primary factor), flow rates, and location and time of sampling. The upstream sampling site results indicated freshwater flows and a lack of salinity at that site; the downstream sampling site showed varied salinity ranging from approximately 0 to 11 ppt. (Belnick, Tr. Vol. 4 pp. 550) The data was reported by Dr. Bean to show “migration up or downstream of the fresh-brackish transition zone.” (Ex. P12 pp. 20-22). The four water quality surveys conducted during different times of year indicate salinities vary, as measured at a constant depth of two feet, from the confluence of Herring Run downstream toward Blounts Bay, including: 0.5 ppt at Herring Run to about 2 ppt at Cotton Patch Landing and 4 ppt around Blounts Bay for one survey; about 4 ppt at Herring Run to about 6 ppt at Cotton Patch Landing and 8 ppt around Blounts Bay for another survey; about 2 ppt at Herring Run to about 3 ppt at Cotton Patch Landing and 7 ppt around Blounts Bay for another survey. (Ex. P12 pp. 30-31, appendix C; Ex. P4).

c. pH: pH varied and ranged from 5.3 to 6.5 at the upstream sampling site, and from 5.8 to 6.7 at the downstream sampling site (Ex. P12 pp. 26-29).

d. Flow Rates – With respect to the upstream site: (1) attempts to take flow measurements showed undetectable velocities (<0.3 feet per second (“fps”)); (2) cross-sectional survey techniques estimated a range of flow at the upstream station at between 5.2 cubic feet per second (“cfs”) and 20.7 cfs; and (3) using Kimley Horn measurements and estimates, Dr. Bean stated that he back-calculated baseflow at about 8 cfs, and that with the proposed maximum discharge, “baseflow discharge at the upstream monitoring station could increase by 130%.” No measurements or estimates of flow were reported for the downstream station. (Ex. P12 pp. 29-30)

91. DWR reviewed Dr. Bean’s Draft Report, and considered the data and information presented in its determinations as to the potential effects of the permitted discharge. (Belnick, Tr. Vol. 4 pp. 550-551)

Hearing Officer’s Report

92. Following the comment period, the hearing officer prepared his report. The report includes a set of responses to public comments, prepared by DWR staff, and a set of recommendations from the hearing officer. (Belnick, Tr. Vol. 4 pp. 519-520, 552-553; Ex. P30)

93. DWR responded to concerns relating to purported effects of the discharge. (Belnick, Tr. Vol. 6 pp. 1038-1039; Ex. R23 pp. 2-6)

94. DWR adopted some of the hearing officer’s recommendations and declined to adopt others. (Belnick, Tr. Vol. 6 pp. 1041-1042; Ex. R23 p. 7-9)

95. With respect to the recommendation regarding additional fish sampling (recommendation 5), Mr. Belnick consulted with Mr. Fleek prior to the issuance of the final NPDES Permit and determined that additional fish sampling was not necessary in order to make a permitting decision. (Belnick, Tr. Vol. 6 pp. 1041-1042; Ex. R23 p. 8)

96. With respect to the recommendation to issue the permit as a phased permit (recommendation 8), DWR determined that due to a likely quarry buildup period prior to reaching full discharge capacity, the required renewal of the permit every five years (including a first renewal in 2018), and the discharge restrictions and monitoring and reporting requirements, the NPDES Permit effectively addressed these concerns raised in the recommendation. (Belnick, Tr. Vol. 6 pp. 1042-1043; Ex. R23 p. 8)

EPA Does Not Object to Final NPDES Permit

97. The EPA's role in the NPDES permit process is not only to review and comment on the permit application, along with other agencies, but the EPA also has the authority to object to, and stop DWR's issuance of, a permit pursuant to 40 CFR 123.44.

98. The EPA's basis for objection to the draft permit included misinterpretation or misapplication by DWR of the Clean Water Act's ("CWA") requirements, and failure to include adequate monitoring or reporting conditions in the permit. 40 CFR 123.44(c) and 122.44(d). (Belnick, Tr. Vol. 4 pp. 551-552; Ex. P43; Belnick, Tr. Vol. 6 pp. 1050-1051; R26)

99. On July 9, 2013, in response to the EPA comments, DWR submitted the draft final permit to the EPA along with a letter explaining its responses to the comments. Revisions from the draft permit to the final NPDES Permit included:

- a. the addition of monthly average effluent limit for iron;
- b. a new special condition, A(7), for further effluent data characterization;
- c. monthly effluent nutrient monitoring for total nitrogen and total phosphorus;
- d. monthly effluent temperature monitoring;
- e. monthly instream monitoring at two downstream stations for pH, salinity, temperature, and turbidity;
- f. modification of pH limit for effluent from a range of 6.0 - 9.0 to 5.5 - 8.5;
- g. modification of flow limits from monthly average limits to daily maximum limits; and
- h. modification of special condition A(6) on benthic monitoring to include a study plan to be submitted to DWR prior to the applicant collecting samples.

(Belnick Tr. Vol. 6 pp. 1051-1052; Ex. R27)

100. On July 19, 2013, the EPA communicated that it did not have any further comments and, thus, did not object to the issuance of the final NPDES Permit in this matter. (Belnick, Tr. Vol. 6 pp. 1050-1053, 1082-1083; Ex. R26; Ex. R27; Ex. R28; Belnick, Tr. Vol. 4 pp. 621-623-; Ex. P43)

101. Petitioners have presented no evidence that the EPA has at any time since July 19, 2013, expressed concern over the final NPDES Permit, or otherwise objected to the terms and conditions set forth therein.

102. If the EPA had objected to the final NPDES Permit, DWR could not have issued the Permit as written. (Belnick, Tr. Vol. 6 p. 1053)

Revised Fact Sheet Summarizing DWR Determinations

103. On July 13, 2013, DWR published a Revised Fact Sheet for Final Permit Development, NPDES Permit No. NC0089168 ("Revised Fact Sheet"), which summarized the permit development process, the predicted effects of the permitted discharge, and the permit terms and conditions. (Ex. P6)

104. The findings summarized in the Revised Fact Sheet reflected DWR's consideration of studies submitted by Respondent-Intervenor at DWR's request. (Ex. P6) These findings were stated as follows:

- Aquatic Habitat Assessment of the Upper Headwaters of Blounts Creek in the Vicinity of a Potential Quarry Site near Vanceboro, Beaufort County, NC (CZR Incorporated, August 2011). This study evaluated Blounts Creek and associated unnamed tributaries for aquatic habitat at four locations – two potential impact locations and two control (no planned impact) locations. The habitat assessment included a collection of water quality data (salinity, dissolved oxygen, and pH), fish data (species richness), and macroinvertebrate diversity. Water quality data were within expected ranges for coastal plain swamp streams. (Ex. P6 p. 4)
- Technical Memorandum from Kimley-Horn and Associates (Kimley-Horn) dated September 6, 2012. This report summarized the results of several analyses regarding stream stability, potential flooding, and water quality issues. It also provided predicted zones of impact for further analysis. There were four major conclusions: (1) Modeling indicated that there is no substantial off-site impact to flooding from the addition of a maximum 18 cfs (12 MGD) discharge; (2) The results of the bank stability analysis showed that only minor changes would be anticipated from this discharge; (3) The pH would be raised from the 4.0-5.5 range to 6.3-6.9 in Blounts Creek above the confluence with Herrings Run; and (4) Predicted changes in salinity would not be enough to affect mobile aquatic species. It was concluded that potential increases in pH in upper Blounts Creek may result in increases to the numbers and diversity of acidic-intolerant species. (Ex. P6 p. 4)
- Water Quality Analysis Technical Memorandum by Kimley-Horn dated October 10, 2012. This report addressed comments from the Division [DWR] and from the US Army Corps of Engineers (USACE), and provided CZR Incorporated with predicted zones of potential impact for further analysis. The report concluded that an increase in pH (from 4.0-5.5 to 6.3-6.9) would be noticeable from the discharge point to the confluence with Herrings Run. Regarding salinity, a volumetric displacement model predicted no significant changes at the affected area

downstream of Herrings Run. Such changes may be masked by the natural variability from tidal effects and runoff events. . . . Model predictions generally show less than one part per thousand (1 ppt) difference in salinity between base flow conditions and base flow plus full discharge conditions (12 MGD) at several distances and depths below Herrings Run. (Ex. P6 pp. 4-5)

- Flood and Stability Technical Memorandum by Kimley-Horn dated October 10, 2012. This report addressed concerns from comments made by the Division [DWR], by USACE, and by residents of the Cotton Patch Subdivision regarding flood elevations and stream stability. The results of this study found that the discharge from the proposed quarry would have little effect on flood elevations. In addition, the maximum dewatering discharge (12MGD) from the two outfalls was predicted to result in little or no changes to the channel geometry of the upper reaches of Blounts Creek. The limited amount of stream bank erosion could not be expected to result in a significant increase in instream turbidity. (Ex. P6 p. 5)
- Technical Memorandum by CZR Incorporated, October 30, 2012. This report addressed potential effects on identified fish populations from predicted changes in Blounts Creek water quality. The report findings include: (1) No adverse effects are likely to occur to fish species. Increases in pH provide more habitat and less stress to freshwater species; and diadromous species may also have a more suitable habitat for spawning; (2) No adverse effects are likely to occur to macroinvertebrates or managed invertebrates (e.g. blue crabs, hard clams, shrimp); (3) No adverse effects are likely to essential fish habitat (EFH) in Blounts Creek due to predicted changes in pH, salinity, and flow velocity from the proposed maximum design quarry discharge (12MGD). (Ex. P6 p. 5)

105. The Revised Fact Sheet concluded that:

- a. “the proposed discharge will have no likely significant adverse effects to aquatic life” (Ex. P6 p. 5);
- b. the NPDES Permit “will be protective of state surface water quality standards” (Ex. P6 p. 3); and

- c. “[b]ased on evaluation of all data ... the level of water quality necessary to protect the existing uses will be maintained and protected.” (Ex. P6 p. 5)

Water Quality Standard for pH

106. The water quality standard governing pH for upper Blounts Creek requires that pH “shall be normal for the waters in the area, which generally shall range between 6.0 and 9.0 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions.” 15A NCAC 2B .0211(3)(g) (2013).

107. DWR’s longstanding interpretation of the pH standard for Class C water bodies is that the pH must be 6.0 to 9.0; but if the water body has a supplemental classification of swamp waters (Sw), the lower range of pH can be extended down to 4.3 (if the low pH is caused by natural conditions). Thus, the pH standard for a C, Sw water body would be 4.3 to 9.0. (Belnick, Tr. Vol. 4 pp. 524, 632; Reeder, Tr. Vol. 4 pp. 653-657)

108. No evidence was presented that DWR has ever interpreted the pH standard differently.

109. No evidence was presented that DWR has ever interpreted or applied the pH standard to require that low pH must be maintained in Sw waters. (Belnick, Tr. Vol. 4 pp. 524, 631-632; Reeder, Tr. Vol. 4 pp. 653-657)

110. DWR does not interpret the standard to require site-specific sampling and analysis. (Belnick, Tr. Vol. 4 p. 562)

111. Rather the standard itself defines “normal” pH to be 6.0 to 9.0 in Class C waters, with permissible lower values (down to 4.3) in Sw waters if the lower values are caused by natural conditions. (Reeder, Tr. Vol. 4 pp.653-657)

112. DWR’s longstanding interpretation is also reflected in NPDES permits issued across the State and in DWR’s assessment of waters for impairment. (Reeder, Tr. Vol. 4 pp. 653-657)

113. Available data indicate that the existing pH in upper Blounts Creek ranges from approximately 4.5 downstream from the outfalls to approximately 5.3 to 6.5 at Dr. Bean’s upstream sampling site. (Ex. P12; Ex. P23)

114. The expected pH of the discharge effluent is approximately 6.9; and the pH in upper Blounts Creek with the permitted discharge is expected to range from approximately 6.3 to 6.9. (Ex. R1 p.4; Ex. P21)

115. Dr. Bean agreed with the Kimley Horn report prediction that the pH of upper Blounts Creek would not exceed 6.94 at full discharge. (Ex. P12 p. 36)

116. The Permit requires that the pH of the permitted discharge be within the range of 5.5 to 8.5. Thus, the pH of upper Blounts Creek with the permitted discharge is predicted and required to remain within the range of 4.3 to 9.0. (Ex. R29)

117. Petitioners' attorneys conceded that the pH of neither the discharge nor the effluent would be in excess of 9 or below 4.3. (Tr. Vol. 4 p. 657)

118. Based on the evidence before it, DWR concluded that the Permit reasonably ensures compliance with the pH water quality standard.

Swamp Waters Supplemental Classification

119. Petitioners contend that the NPDES Permit is unlawful because the Permit does not reasonably ensure compliance with what Petitioners characterize as a requirement to "protect" swamp waters "characteristics," which they contend include "low velocity," "low dissolved oxygen," "low pH," and "high tannins." (Petition 4-5)

120. "Swamp Waters" are defined as "waters which are classified by the Environmental Management Commission and which are topographically located so as to generally have very low velocities and other characteristics which are different from adjacent streams draining steeper topography." 15A NCAC 2B.0202(62). See also 15A NCAC 2B .0101(e)(2) and 2B .0301(c).

121. The "swamp waters" supplemental classification modifies the water quality standards for dissolved oxygen and pH in the upper Blounts Creek segment by lowering the minimum pH and dissolved oxygen values otherwise required for Class "C" waters:

(b) Dissolved oxygen: ... for non-trout waters, not less than a daily average of 5.0 mg/l with a minimum instantaneous value of not less than 4.0 mg/l; swamp waters, lake coves or backwaters, and lake bottom waters may have lower values if caused by natural conditions;

....

(g) pH: shall be normal for the waters in the area, which generally shall range between 6.0 and 9.0 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions[.]

15A NCAC 2B .0211(3)(b), (g) (2013)

122. Under DWR's longstanding interpretation of the statutes and rules that it administers, the supplemental classification of swamp waters does not provide any additional protections to water bodies to which it is assigned; and low flow and velocity, low pH, low dissolved oxygen, and high tannins are not uses, standards, characteristics, or parameters of swamp waters that are required to be maintained or protected. (Reeder, Tr.

Vol. 7 pp. 1154-1157; Reeder, Tr. Vol. 4 pp. 653-657; Belnick, Tr. Vol. 4 pp. 523-524, 557-558; Reeder, Tr. Vol. 4 pp. 653-657; Belnick, Tr. Vol. 6 pp. 1059-1060)

123. The CZR report states that with the proposed discharge, upper Blounts Creek may no longer exhibit intermittent flow, low dissolved oxygen concentrations, and high tannins. (Ex. R16 p. 10)

124. The report also states that, with the proposed discharge, the use of the swamp stream sampling method may no longer be appropriate to evaluate benthic macroinvertebrates. (Ex. R16 p. 10)

125. The report does not state that the swamp waters supplemental classification requires the preservation or maintenance of low dissolved oxygen, high tannins, low velocities, and low pH as contended by Petitioners. (Ex. R16 p. 10)

126. Based on the evidence before it, DWR concluded that the Permit reasonably ensures compliance with all applicable water quality standards, including those applicable to upper Blounts Creek, which has a C primary classification and a Sw supplemental classification.

Water Quality Standard for Biological Integrity

127. Under North Carolina's administrative rules, one of the existing uses of all classified surface waters is "maintenance of biological integrity." 15A NCAC 2B .0211(1) (2013) (freshwater), 2B .0220(1) (2013) (saltwater).

128. The term "biological integrity" is defined in 15A NCAC 2B .0202(11) as "the ability of an aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities and functional organization similar to that of reference conditions."

129. The biological integrity standards applicable to upper and lower Blounts Creek state, "the waters shall be suitable for aquatic life propagation and maintenance of biological integrity Sources of water pollution which preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard." 15A NCAC 2B .0211(2) (2013) (freshwater standard). See also 15A NCAC 2B .0220(2) (2013) (same standard for saltwater, except that the saltwater preclusion of use provision incorporates the phrase "including their functioning as PNAs," but there is no evidence that there is a PNA (primary nursery area) either in Blounts Creek or at issue in this case).

130. The terms "aquatic ecosystem," "similar," and "reference conditions" are not defined by rule or statute.

131. Mr. Reeder testified that with the assistance of DWR staff, he used his best professional judgment, experience and expertise to determine that the appropriate "aquatic

ecosystem” was the watershed system of Blounts Creek and its tributaries. (Reeder, Tr. Vol. 7 pp. 1149-1150)

132. Mr. Reeder considered “reference conditions” to be the existing conditions in the Blounts Creek aquatic ecosystem without the proposed discharge. (Reeder, Tr. Vol. 7 pp. 1142-1144, 1149-1150; Reeder, Tr. Vol. 4 pp. 662-663; Fleek, Tr. Vol. 6 pp. 992-993)

133. Mr. Reeder also testified that his conclusion that the NPDES Permit reasonably ensures compliance with the biological integrity standard would have been the same if upper Blounts Creek was considered to be one “aquatic ecosystem” and the lower Blounts Creek was considered to be another “aquatic ecosystem.” (Reeder, Tr. Vol. 7 p. 1151)

134. Mr. Reeder testified that he “[did not] know if there is such a thing” as a biological integrity analysis, and he “never really heard of such a thing” in that there are no statutes or rules setting out numeric standards or explicit methods or metrics by which DWR must make a determination that an NPDES permit reasonably ensures compliance with the biological integrity standard. (Reeder, Tr. Vol. 4 pp. 662-663; Reeder, Tr. Vol. 7 pp. 1142-1150)

135. Rather, the standard requires DWR to exercise its discretion, expertise and professional judgment to determine whether the anticipated impacts of a proposed discharge are such that the discharge will preclude the ability of an “aquatic ecosystem” to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities and functional organization “similar” to that of “reference conditions.” (Reeder, Tr. Vol. 7 pp. 1142-1143; Ex. R50; Reeder, Tr. Vol. 7 pp. 1144-1146; Ex. R23; Reeder, Tr. Vol. 7 pp. 1146-1148; Ex. R1; Reeder, Tr. Vol. 7 pp. 1148-1149; Ex. R16)

136. Mr. Reeder took into consideration and weighed Mr. Fleek’s opinions regarding the effects of the proposed discharge on benthos in the upper reaches immediately downstream of the proposed discharge outfalls. (Reeder, Tr. Vol. 4 pp. 660-661)

137. Mr. Reeder understood Mr. Fleek’s professional opinion to be that benthic macroinvertebrates would likely become more diverse near the discharge outfalls and that farther downstream any such impacts would lessen or dissipate. (Reeder, Tr. Vol. 4 pp. 660-661)

138. Mr. Reeder also understood that the many other tributaries of the Blounts Creek aquatic ecosystem, and the biota inhabiting those areas, would be unaffected by the permitted discharge. (Reeder, Tr. Vol. 7 pp. 1142-1151, 1162-1165, 1172; Reeder, Tr. Vol. 4 pp. 658-671; Ex. R23; Ex. R1; Ex. R16)

139. While Mr. Fleek provided review, input, and opinions as to potential biological effects, Mr. Fleek was not asked to provide, nor did he provide, an opinion as to whether proposed discharge would comply with the biological integrity standard. (Fleek, Tr. Vol. 7 pp. 1117-1119; Ex. R50)

140. Based on the evidence before it, DWR concluded that the Permit reasonably ensures compliance with the water quality standard for biological integrity.

Final Decision to Issue the NPDES Permit

141. Mr. Reeder, as the director of DWR, made the decision that the NPDES Permit discharge reasonably ensures compliance with water quality standards, and to issue the Permit. (Reeder, Tr. Vol. 7 pp. 1145-1150; Ex. R23; Ex. R1; Ex. R16)

142. Mr. Reeder was aware of the proposed Vanceboro Quarry by January 2012, and remained informed during the course of the permitting process. (Belnick, Tr. Vol. 6 pp. 1060-1061; Reeder, Tr. Vol. 7 pp. 1139-1142; Reeder, Tr. Vol. 4 pp. 642-653)

143. In reaching his decision that the Permit would reasonably ensure compliance with all applicable water quality standards, Mr. Reeder reviewed, among other things, materials submitted by Respondent-Intervenor and its consultants, the Hearing Officer's Report, and the Revised Fact Sheet. (Reeder, Tr. Vol. 4 pp. 639-643; Reeder, Tr. Vol. 7 pp. 1139-1142)

144. Mr. Reeder also received and relied upon input from DWR staff, including Mr. Belnick, who conveyed the views of Mr. Fleek and the Biological Assessment Branch. (Reeder, Tr. Vol. 4 pp. 639-641)

Terms and Conditions of the Final NPDES Permit

145. On July 24, 2013, DWR issued the final NPDES Permit in the same form as it had been presented to the EPA. (Belnick, Tr. Vol. 6 pp. 1053-1054; Ex. R29; Ex. R27)

146. The Permit terms include discharge controls, effluent and instream monitoring, and benthic biological monitoring requirements. (Ex. R29)

147. Effluent monitoring requirements include flow, total suspended solids, total iron, turbidity, settleable solids, total nitrogen, total phosphorus, temperature, and pH. (Ex. R29 pp.3-4)

148. The Permit also requires instream monitoring at two downstream stations (D1 and D2) for pH, salinity, temperature, and turbidity. (Ex. R29)

149. The Permit requires benthic sampling at four locations, the results of which must be submitted at least six months prior to the expiration of the permit (which expires every five years). (Belnick, Tr. Vol. 6 pp. 1054-1055; Fleek, Tr. Vol. 7 pp. 1123-1128; Ex. R29)

150. The benthic monitoring provision requires submission of a sampling plan to DWR for approval prior to sampling, and requires compliance with DWR sampling protocols. (Fleek, Tr. Vol. 7 pp. 1123-1128; Ex. R29)

151. The NPDES Permit includes a reopener provision pursuant to which DWR may modify or revoke the Permit to prevent a violation of water quality standards. (Belnick, Tr. Vol. 6 pp. 1056-1057; Ex. R29; Belnick, Tr. Vol. 6 pp. 1054-1055; Ex. R29 Permit II.B.8., II.B.13, Permit I.A(7))

Additional Monitoring

152. Respondent-Intervenor was required to obtain other state authorizations for its proposed quarry that also addressed potential impacts on water quality, and imposed monitoring and reporting requirements. Such authorizations included a certification under Section 401 of the Clean Water Act and a consistency concurrence from the North Carolina Division of Coastal Management (“DCM”).

153. On May 15, 2013, DWR issued Water Quality Certification DWQ #11-1013 (“401 Certification”) to Respondent-Intervenor. (Ex. MMM46)

154. The 401 Certification requires, among other things: (a) that construction activities must follow best management practices “so that no violations of state water quality standards, statutes, or rules occur”; (b) a monitoring plan for some of the same concerns raised and addressed in the NPDES permit process, including: “measures to monitor physical and chemical stability of headwater streams to ensure that the project does not result in violation of water quality standards,” and an annual report summarizing the monitoring results; and (c) that Martin Marietta conduct the authorized activities “consistent with State water quality standards.” (Ex. MMM46 pp. 4-6)

155. DWR is authorized to modify the 401 Certification, if needed, to ensure compliance. (Belnick, Tr. Vol. 6 pp. 1064-1068; Ex. MMM46 p. 6)

156. In February 2014, DCM issued Coastal Management Program Consistency Concurrence DCM #20120010 (“Coastal Consistency Concurrence”) that requires Respondent-Intervenor to, among other things: (a) coordinate with DCM to develop fisheries monitoring that will assess impacts of the proposed project on fish species and habitat in the Blounts Creek system; (b) coordinate with DCM to develop a monitoring protocol that will assess potential impacts of the proposed project on stream bank stability within the Blounts Creek system; (c) comply with the NPDES Permit and provide a copy of all benthic monitoring reports to DCM; and (d) comply with the 401 Certification and provide a copy of all wetland hydrology monitoring reports to DCM. (Belnick, Tr. Vol. 6 pp. 1057-1059; Ex. R32 p. 2)

157. DWR may revisit the NPDES Permit and modify or revoke it at any time based on information from the monitoring and reporting requirements of the Permit as well as information collected pursuant to the Coastal Consistency Concurrence and the 401 Certification. (Reeder, Tr. Vol. 7 pp. 1151-1153; Ex. R32; Belnick, Tr. Vol. 6 pp. 1059; Ex. R32; Ex. R29)

Petitioners' Expert Witnesses

158. Petitioners' designated expert witnesses, Dr. Eban Bean and Dr. Anthony Overton, testified on behalf of Petitioners.

Testimony of Dr. Eban Bean

159. Dr. Bean is an assistant professor at East Carolina University ("ECU"). He has a Bachelor's and Master's degree from North Carolina State University in the biological and agricultural engineering department with a concentration in environmental engineering, and in 2010 received a Ph.D. from the University of Florida with the agricultural and biological engineering department. He has research experience relating to water quality. (Bean, Tr. Vol. 2 pp. 290-310; Ex. P11)

160. In January 2012, he started his current position as an assistant professor at East Carolina University with the Department of Engineering and the Institute for Coastal Science and Policy. His primary responsibility is teaching courses in the areas of environmental engineering, hydrology and water quality. He also conducts research on coastal plain hydrology and water quality. (Bean, Tr. Vol. 2 pp. 301-311; Ex. P11)

161. Dr. Bean was offered and accepted as an expert in water quality analysis, coastal plain hydrology, and soil dynamics as it relates to erosion. (Bean, Tr. Vol. 2 p. 333-334)

162. Dr. Bean was not offered or accepted as an expert in statutory or regulatory interpretation. (Bean, Tr. Vol. 2 pp. 397-398)

163. Dr. Bean was not designated and is not qualified as an expert in other subject areas relevant to the matters presented in this contested case, including, specifically the areas of ecology, aquatic ecology, statutory or regulatory interpretation, and NPDES permitting.

Dr. Bean - Monitoring Efforts

164. In April 2012, Ms. Deck of Sound Rivers asked several ECU faculty to undertake water quality monitoring in Blounts Creek due to the proposed Respondent-Intervenor's quarry and her organization's concerns about the proposed discharge. (Bean, Tr. Vol. 3 pp. 447-452)

165. Dr. Bean agreed and worked with Ms. Deck to design the study and complete the sampling efforts and reporting. (Bean, Tr. Vol. 3 pp. 447-455, 458-462)

166. Dr. Bean oversaw sampling and monitoring for water quality parameters, most notably pH, dissolved oxygen and salinity, in upper Blounts Creek from June 2012 through July 2013 and presented the June 2012 - March 2013 results of those sampling efforts in a Draft Report submitted to DWR in April 2013. Dr. Bean's monitoring efforts are discussed in greater detail below. (Bean, Tr. Vol. 2 pp. 317-333; Ex. P12 pp. 9-10, 13, 17-31, C1-C14; Ex. P4; Ex. P17; Ex. P18; Ex. P19; Ex. P20; Ex. P24; P21; P22)

167. Evidence was presented that raised concerns as to the validity of Dr. Bean's data collection, results and analyses. (Bean, Tr. Vol. 3 pp. 404-408, 416-417, 456-458, 470-472, 492-494, 503-505; Ex. P6; Ex. P23; Ex. P12)

168. In particular, Dr. Bean excluded from his analysis pH data with values greater than 7.0 at his upstream sampling site. In his Draft Report submitted to DWR, he explained that this data was excluded because it was not in keeping with his expectations for pH in streams with a Sw supplemental classification. (Bean, Tr. Vol. 3 pp. 404-408, 492-494; Ex. P6; Ex. P23; Ex. P12)

169. However, at the hearing, he maintained that he excluded the data from his analysis because the sampling methodology was not valid. (Bean, Tr. Vol. 3 pp. 406-408)

170. The undersigned finds that while Dr. Bean's explanations were inconsistent, his exclusion of pH data was likely appropriate because the methods used for measuring the pH of certain samples were improper. (Bean, Tr. Vol. 2 pp. 394-396; Bean, Tr. Vol. 3 pp. 406-407, 416-417, 456-458, 470-472, 492-494, 503-505; Ex. P12 p. 28)

Dr. Bean - Swamp Waters Characteristics

171. Dr. Bean testified regarding "characteristics" that he associates with waterbodies having a supplemental classification of swamp waters, including, "typically" "low flows and low velocities," "low dissolved oxygen," "lower pH," and "dark color due to tannins in the water." He also testified that Blounts Creek upstream of Herring Run currently exhibits those characteristics and that those characteristics are naturally occurring, but that with the proposed discharge, upper Blounts Creek would not exhibit those characteristics. (Bean, Tr. Vol. 2 pp. 335-340)

172. With respect to low flow and velocity, Dr. Bean testified that he reviewed the Kimley-Horn Flood and Stability Analysis report and noted that existing low flow and velocity conditions in many Blounts Creek locations would not exist under more constant flow conditions of the proposed discharge. (Bean, Tr. Vol. 2 pp. 341-344)

173. Dr. Bean also testified that the conditions that allow for the Blounts Creek waters to have high tannins would no longer exist under more constant flow conditions of the proposed discharge. (Bean, Tr. Vol. 2 pp. 336-339, 345-347; 377-379)

174. With respect to "low dissolved oxygen," Dr. Bean testified that the proposed discharge will increase dissolved oxygen levels due to turbulence, mixing, and constant flow, such that this parameter will no longer be characteristic of swamp waters. (Bean, Tr. Vol. 2 pp. 348-352; Ex. P18)

175. He stated that by "low" dissolved oxygen he means less than 4.0 mg/l. (Bean, Tr. Vol. 3 pp. 444-445)

176. His own sampling data and Draft Report showed dissolved oxygen varied and ranged from approximately 0.2 to 7.71 mg/l (with typical range between 3.0 and 5.0 mg/l and with most samples below 5.0 mg/l) at Dr. Bean's upstream sampling site, and ranged from 0.2 to 9.77 mg/l (with most samples below 5.0 mg/l) at the downstream sampling site. (Ex. P12 pp. 22-26)

177. Dr. Bean did not offer an opinion with respect to the magnitude or variability of a predicted increase in dissolved oxygen.

178. The evidence and Dr. Bean's testimony on "low pH" was unclear. At the hearing, Dr. Bean testified that, by "low pH," he meant "less than 6." However, he stated in his deposition that the "low pH" characteristic of swamp waters was "less than seven." (Bean, Tr. Vol. 3 pp. 437-440, 503; Ex. P12)

179. His Draft Report submitted to DWR during the comment period of the permitting process states that the "swamp waters" supplemental classification applies to upper Blounts Creek and, "[a]s a result, Upstream waters were expected to have pH values of less than 7.0. and potentially as low as 4.3." (Ex. P12 pp. 26, 28).

180. Dr. Bean testified that the existing conditions of upper Blounts Creek exhibit "low pH," but those conditions will not exist with the proposed discharge. (Bean, Tr. Vol. 2 pp. 335-337, 352-361; Ex. P22)

181. He stated that the basis for his views was his own sampling results at his upstream sampling stations (ranging from 5.3 to 6.6, with a median of 5.8 and average of 5.7 from 20 samples) and samples from the CZR report showing two days of sampling and pH values in the range of approximately 4.5 to 5.9. (Bean, Tr. Vol. 2 pp. 352-361; Ex. P22)

182. Dr. Bean opined that as a result of the proposed discharge, pH in upper Blounts Creek would be about 6.9, based on an assumption that the pH of the proposed discharge would be 6.9. (Bean, Tr. Vol. 2 pp. 354-363, 380-391; Ex. P22; Ex. P4)

183. Dr. Bean acknowledged that contrary to the conservative assumption of a pH value of 4.0 throughout upper Blounts Creek without the discharge as used in the Kimley Horn analysis, his data show that pH measurements in upper Blounts Creek range from 5.3 to 6.5 at his upstream sampling site, and likely increase farther downstream. (Bean, Tr. Vol. 2 pp. 388-394; Ex. P12 pp. 26-28; Ex. P14; Ex. P4; Ex. P13)

184. Dr. Bean testified that his views on the "characteristics" of "swamp waters" are based on his "own definition of swamp waters based on the water quality and the chemistry in that water for what swamp waters are." (Bean, Tr. Vol. 2 pp. 396)

185. When asked whether the swamp waters supplemental classification "requires waters that have the classification to have the characteristics of [low pH, low flow, low dissolved oxygen, and high tannins]," Dr. Bean responded "I don't know that they're

required to have those, I guess.” (Bean, Tr. Vol. 2 pp. 396-399; Bean, Tr. Vol. 3 pp. 437-440; Ex. P12)

186. Assuming the data from Dr. Bean’s Draft Report and monitoring efforts are reliable, Dr. Bean’s testimony with respect to his characterizations of “low pH” and what is “normal” pH in upper Blounts Creek is inconsistent and not persuasive.

187. Furthermore, to the extent Petitioners rely upon Dr. Bean’s testimony to establish the characteristics that must be protected by the swamp waters classification, such testimony is outside Dr. Bean’s expertise and is not reliable, credible, or persuasive.

188. Dr. Bean acknowledged that he does not know what the classification requires, and he was not tendered or accepted as an expert in regulatory interpretation or implementation.

Dr. Bean – Salinity

189. Dr. Bean testified to his opinions about the adequacy of Kimley Horn’s salinity analysis and DWR’s reliance on that analysis. (Bean, Tr. Vol. 2 pp. 366-373; Ex. P14)

190. With respect to salinities under existing conditions, Dr. Bean’s sampling data and testimony indicate that: (a) his upstream sampling site is located in an area where existing conditions are freshwater and not brackish; (b) his downstream sampling site data show varying salinities (from 0 to 11 ppt); (c) there is a “salt wedge,” which is the transition zone between fresh and more saline waters, that moves at times upstream past his downstream sampling station; (d) salinities generally increase downstream toward Blounts Bay; and (e) salinities vary over time depending upon wind, precipitation (predominantly) and flow, which all affect the location and shape of the “salt wedge.” (Bean, Tr. Vol. 2 pp. 362-366; Bean, Tr. Vol. 3. pp. 409-413, 416-417, 497-500; Ex. P12; Ex. P20; Ex. P4; Ex. P24)

191. Dr. Bean testified that, in his opinion: (a) Kimley Horn’s salinity analysis failed to assess the full range of the position of the salt wedge; therefore, he was “not sure that [he] [could] make that statement” in the Revised Fact Sheet that summarized the relative effects of the proposed discharge as approximately 1 ppt. (Bean, Tr. Vol. 2 pp. 370-373; Ex. P14; Ex. P6); and (b) Kimley Horn’s salinity modeling and results failed to take into account data showing higher salinities at certain segments of Blounts Creek during certain times of year. (Bean, Tr. Vol. 2 pp. 370-371; Ex. P14)

192. However, according to Kimley Horn, the purpose of its salinity modeling was not to sample over the full range of conditions, but rather to provide a volumetric displacement assessment in order to estimate the relative effect of the proposed discharge on salinities in lower Blounts Creek, which was verified by the sampling events. (Ex. P14 p. 2, 4-5)

193. Dr. Bean’s testimony concerning the factors that Kimley Horn’s salinity modeling and analysis did not consider may be technically accurate, but his testimony does not invalidate or undermine Kimley Horn’s modeling methodology, sampling results, or modeling conclusions regarding salinity.

194. Kimley Horn's salinity modeling and analyses predicted "no dramatic change in salinity and such changes may be masked by [the] natural variability of the systems from tides and runoff events." (Ex. P14 p. 2)

195. Dr. Bean did not conduct any analysis that would allow him to reach contrary conclusions.

196. Dr. Bean did not undertake any modeling or calculations upon which to base his criticisms of the Kimley Horn analyses or upon which to determine the magnitude of predicted impacts of the permitted discharge on salinity. (Bean, Tr. Vol. 2 pp. 360-371; Bean, Tr. Vol. 3 pp. 407-408)

197. In March 2013, with respect to his review of the Kimley Horn analytical reports, Dr. Bean provided comment that he had closely reviewed the reports and advised Ms. Deck, "For the most part, I could not find fault with the analytical methods and conclusions that were drawn from results of these methods." (Bean, Tr. Vol. 3 pp. 466-470)

198. The undersigned finds that Dr. Bean's opinions regarding the change in salinity that will occur as a result of the proposed discharge lack sufficient foundation, including in his own data, are speculative, and are not persuasive.

199. Even if Dr. Bean's testimony with respect to salinity impacts is accorded more weight, the testimony is not inconsistent with, and does not refute, Kimley Horn's and DWR's conclusions regarding limited salinity impacts.

200. The undersigned finds that Dr. Bean's testimony regarding the frequency of sampling needed to draw conclusions about the "normal" conditions of receiving waters is inconsistent and not persuasive.

201. For instance, Dr. Bean testified that Kimley Horn's salinity sampling was insufficient because it did not demonstrate or account for seasonal variations, and Kimley Horn, therefore, could not draw reliable conclusions regarding the salinity of Blounts Creek based on that sampling data. Yet, Dr. Bean used the same sampling methodology as Kimley Horn to determine a "normal pH" of upper Blounts Creek. Specifically, Dr. Bean testified he was able to form an opinion regarding "normal pH" at the D2 sampling site based on "one data point." When asked, "So do you believe that you can render an opinion that the normal pH at the D2 sampling location is less than 6.0 based on one day of data?" Dr. Bean responded, "Based on the data that's available, that's the opinion that I have." (Bean, Tr. Vol. 2, p. 388)

202. The undersigned also finds Dr. Bean's testimony regarding the frequency of sampling needed to draw conclusions about the existing conditions of Blounts Creek to be inconsistent and not persuasive.

Testimony of Dr. Anthony Overton

203. Dr. Overton testified on behalf of Petitioners. He currently serves as a professor and chair of the biological and environmental sciences department at Alabama A&M University and was previously a post-doctoral researcher and professor at East Carolina University. His expertise is in fisheries biology, and his research experience includes field work involving river herring and striped bass, striped bass larvae, and fisheries research in North Carolina coastal rivers. He is credited with a number of scientific publications based on his fisheries research. (Overton, Tr. Vol. 5 pp. 679-702; Ex. P26)

204. Dr. Overton was offered, and accepted by the Court, as an expert in the fields of fisheries ecology, larval fish ecology, fisheries management, and fish sampling methods and analysis. (Overton, Tr. Vol. 5 pp. 706-707)

205. Dr. Overton was not offered or accepted and is not qualified as an expert in other subject areas relevant to the matters presented in this contested case, specifically including the areas of civil and environmental engineering, hydraulics and hydrology, statutory or regulatory interpretation, and NPDES permitting.

206. Dr. Overton testified that he does not understand the decision-making basis for issuance of an NPDES permit. (Overton, Tr. Vol. 5 pp. 868-869)

207. Dr. Overton testified that he is familiar with Blounts Creek as a tributary of the Pamlico River, and stated that he had previously conducted fish sampling for flounder in lower Blounts Creek and Blounts Bay. He has not previously conducted sampling in upper Blounts Creek; nor did he conduct sampling or field studies in Blounts Creek for this case. (Overton, Tr. Vol. 5 pp. 702-703, 750-751, 761-762).

208. Dr. Overton testified the only time that he visited the upper Blounts Creek stream segment and made professional observations was the day before his hearing testimony. (Overton, Tr. Vol. 5 pp. 762, 702-705)

209. Dr. Overton testified regarding CZR's assessment of the fish community in Blounts Creek, the effect of pH change on the freshwater fish community, the effects of salinity on the distribution of fishes in the Blounts Creek system, and the effect of the permitted discharge on river herring. (Overton, Tr. Vol. 5 pp. 759-760)

Dr. Overton - Fish Sampling

210. Dr. Overton testified that, in his view, sampling is required to measure species diversity, population density, composition, and functional organization. He testified that there are numerous factors that can affect the presence of fish species, including fishing and variability of environmental conditions. (Overton, Tr. Vol. 5 pp. 707-714)

211. Dr. Overton acknowledged that: (a) whether or not sampling is required or is sufficient depends upon the objective of the study and (b) CZR's sampling methods were

appropriately employed and provide valid results for fishes found during the time of CZR's sampling. (Overton, Tr. Vol. 5 pp. 861-862; Ex. P13; Overton, Tr. Vol. 5 pp. 811-813).

212. However, Dr. Overton testified that: (a) CZR's sampling efforts were insufficient to measure change in these parameters over time and were not sufficient to describe the fish communities in the entirety of the Blounts Creek system (Overton, Tr. Vol. 5 pp. 717-726; Ex. P13); and (b) in order to adequately evaluate fish community metrics in Blounts Creek over space and time, he would develop a sampling plan to be carried out over the course of one year with four sampling sites in the freshwater portion from the headwaters to Herring Run, and then two to four sampling sites in the estuarine portion of the creek, with sampling twice per week from March through May (during the spawning season for anadromous fishes) and then twice each month for the rest of the year. (Overton, Tr. Vol. 5 pp. 726-730, 863-866; Overton, Tr. Vol. 6 pp. 936-939; Ex. P13)

Dr. Overton - Impacts on Fish Species in Upper Blounts Creek

213. Dr. Overton opined generally on the potential impact of the proposed discharge on various fishes in Blounts Creek. (Overton, Tr. Vol. 5 pp. 737-745, 866-924)

214. Dr. Overton opined that the fishes he expects to be found in upper Blounts Creek (sunfish, basses, catfish, and minnows) would be present in the creek all year round. (Overton, Tr. Vol. 5 pp. 737-738, 867)

215. He opined that such fishes would typically tolerate pH lower than 5.5 and would also tolerate pH up to and including 7.0. (Overton, Tr. Vol. 5 p. 867-868)

216. Dr. Overton testified that, in his view, the predicted pH in upper Blounts Creek with the permitted discharge, 6.3 to 6.9, would not exceed the tolerance ranges of fishes that currently inhabit upper Blounts Creek, and the pH change would not kill those fishes or make the current habitat unsuitable, but rather such a change may affect fish growth and reproduction and allow for other species of fish to also inhabit the less stressed environment, potentially increasing fish diversity and competition. (Overton, Tr. Vol. 5 pp. 734, 737-739, 740-741, 743-744, , 769, 867-868)

217. Dr. Overton testified that as a result of the permitted discharge "the fish community [of upper Blounts Creek] will not be similar to existing conditions." When asked what he meant by that statement, Dr. Overton simply responded, "[T]hat means there will be a change." (Overton, Tr. Vol. 5 p. 907)

218. Dr. Overton did not offer any opinion as to the magnitude of change he expects, but rather testified that any change in pH caused by the proposed discharge would cause changes in the fish community. (Overton, Tr. Vol. 5 pp. 848-859, 897-914; Overton, Tr. Vol. 6 pp. 948-951, 967-968)

219. However, other evidence shows that under existing conditions pH varies and ranges from 4.5 to 6.5 in upper Blounts Creek and that the predicted range of pH in upper Blounts

Creek with the discharge is from 6.3 to 6.9. Dr. Overton refused to acknowledge that, if the pH remained the same with the permitted discharge, then the fish community would not change due to any change in pH. (Overton, Tr. Vol. 5 pp. 898-902)

220. Dr. Overton's testimony does not refute or undermine CZR's and DWR's conclusions that increased flow and less stressed conditions arising from the permitted discharge may result in some increased aquatic habitat availability for freshwater fishes in the upper reaches of Blounts Creek near the discharge outfalls.

221. Dr. Overton testified regarding the impact of the discharge on river herring. The common name "river herring" comprises two separate species – alewife and blueback herring. (Overton, Tr. Vol. 5 pp. 873-874; Ex. P27)

222. DMF has designated an anadromous fish spawning area in Blounts Creek, with the upstream boundary at the location where Highway 33 crosses Blounts Creek. This designation indicates anadromous fishes, including river herring, have been found in that area. (Overton, Tr. Vol. 5 pp. 755-756; Ex. R22)

223. No sampling data were presented showing anadromous fish have been found upstream of Highway 33. However, Dr. Overton testified that, based on his experience as well as WRC's reported catch of river herring in the anadromous fish spawning area, he "would expect" that anadromous fish use Blounts Creek. (Overton, Tr. Vol. 5 pp. 723-724)

224. Dr. Overton testified that, due to increased flow from existing flows of 2 or 3 cfs in the upstream headwaters of Blounts Creek to the more than 18 cfs with the permitted discharge, he is concerned "that any eggs or larvae that are spawned upstream will float or ... drift downstream at a much faster rate[.]" (Overton, Tr. Vol. 5 pp. 731-734)

225. He further testified that river herring eggs and larvae can only tolerate salinity of 0.5 ppt, or maybe 1 ppt, but the lower the salinity the better. (Overton, Tr. Vol. 5 pp. 742-745)

226. Dr. Overton stated that it takes about four to five days for river herring larvae to hatch and become able to swim; and that based upon flow rates one can estimate how long it will take for eggs to be carried a particular distance. (Overton, Tr. Vol. 5 pp. 752)

227. However, Dr. Overton did not perform any analysis of, or attempt to quantify or specifically assess, fish egg or larvae drift rates in Blounts Creek. (Overton, Tr. Vol. 5 pp. 752-753)

228. Dr. Overton testified that he did not analyze the Kimley Horn Flood and Stability Analysis report. (Overton, Tr. Vol. 5 pp. 821-849; Ex. P14)

229. Dr. Overton did not use the Kimley Horn estimated current and predicted water velocities to inform his opinion on the effects of the permitted discharge on fish larvae and

eggs, as the CZR report and the addendum to the Kimley Horn Flood and Stability analysis report had done. (Overton, Tr. Vol. 5 pp. 821-848; Ex. P14; Ex. P27)

230. Dr. Overton simply believes that there was a “potential” for increased drift rates to occur with the permitted discharge. (Overton, Tr. Vol. 5 pp. 751-753; 869-872)

231. Dr. Overton failed to adequately address the extensive CZR analysis of potential impacts to fish, which used the Kimley Horn water velocity modeling and literature concerning acceptable flow. (Overton, Tr. Vol. 5 pp. 874-881; Ex. P27 pp. 7-8)

232. With respect to Dr. Overton’s opinion that river herring eggs and larvae cannot tolerate salinities greater than 3 ppt and that egg and larvae mortalities would increase if increased flows flushed eggs and larvae downstream toward saline water at a faster rate, his opinion is contradicted by published fisheries management documents of the Atlantic States Marine Fisheries Commission (“ASMFC”) and DMF, which show “tolerable” salinity ranges from 0 ppt to 22 ppt for eggs and larvae of one species of river herring (blueback herring). (Overton, Tr. Vol. 5 pp. 884-891)

233. Dr. Overton asserted that the research underpinning these reported environmental parameters was not conducted on river herring in North Carolina and so was not applicable to river herring that may be found in Blounts Creek. (Overton, Tr. Vol. 5 pp.891-892)

234. However, Dr. Overton did not explain the wide discrepancy between his views of 3 ppt tolerance and the reported 22 ppt tolerance shown in DMF’s North Carolina fishery management publications. (Overton, Tr. Vol. 5 pp. 892; Overton, Tr. Vol. 6 pp. 953-966)

235. With respect to the suitability of current conditions in upper Blounts Creek for river herring eggs and larvae, Dr. Overton agreed that the data from Dr. Bean’s upstream Blounts Creek sampling station showed dissolved oxygen levels below 5 mg/l approximately 60% of the time and that the data from Dr. Bean’s downstream Blounts Creek sampling station showed dissolved oxygen levels below 5 mg/l approximately 80% of the time. (Overton, Tr. Vol. 5 pp. 787-793; Ex. P12)

236. The CZR data indicate that the upper reaches of Blounts Creek have an approximate pH in the range of 4.5 to 5.8. When asked about the ASMFC and DMF fisheries management plans showing that greater than 5 mg/l dissolved oxygen and greater than 5.0 pH were generally reported as the minimum tolerance levels for river herring egg and larvae survival, indicating that the existing conditions of upper Blounts Creek may not be suitable for both species of river herring eggs and larvae much of the time, Dr. Overton took issue with the literature underpinning the reported figures as not applicable to river herring found in North Carolina and Blounts Creek. Dr. Overton stated that, in his view, he would be concerned about river herring egg survival at dissolved oxygen levels of 2, 3, or 4 mg/l. (Overton, Tr. Vol. 5 pp. 885-892, 895-897, 953-966; Ex. P12; Ex. P4; Ex. P27)

237. The evidence does not reflect a reasoned foundation for Dr. Overton’s opinion regarding the effect of the proposed discharge on herring eggs and larvae beyond his

testimony that the discharge will cause flow to increase to some degree, and that river herring eggs and larvae prefer less saline water.

238. Absent any data or persuasive analysis to support his opinions, which are contradicted by other credible evidence, including the extensive analyses and findings of the Kimley Horn and CZR reports, Dr. Overton's qualitative concerns, with respect to the effect of increased flow velocities on river herring eggs and larvae, lack foundation and are speculative, unpersuasive, and are given little evidentiary weight.

Dr. Overton - Impacts on Estuarine Fish Species

239. Dr. Overton testified that generally he considered estuarine waters as having salinities of 1.0 ppt to roughly 28 ppt, with freshwater as 0.5 ppt and less. (Overton, Tr. Vol. 5 pp. 767-768) Dr. Overton testified that estuaries have variable salinity conditions, and he agreed that Dr. Bean's salinity data ranged from 0 ppt to 11 ppt at his downstream sampling site. (Overton, Tr. Vol. 5 pp. 775-787, 801-803; Ex. P12; Ex. P20; Ex. P4)

240. Dr. Overton testified that lower Blounts Creek has an indigenous fish community comprised of fishes that are present throughout the year or that inhabit the creek during certain parts of the year. Based on his knowledge and experience, but no literature review or sampling results from lower Blounts Creek, Dr. Overton opined that these indigenous fishes in lower Blounts Creek include striped bass, red drum, trout, flounder, spot, croaker, pinfish, and white perch. (Overton, Tr. Vol. 5 pp. 746-747)

241. Dr. Overton testified that his reading of the CZR report is that changes are expected in the estuarine portion of Blounts Creek as a result of the proposed discharge, including that the salt wedge is predicted to move farther downstream because of the inflow of freshwater, and the predicted movement of the salt wedge will change the location of some fish species. (Overton, Tr. Vol. 5 pp. 746-748; Ex. P27)

242. Dr. Overton did not know the distance the salt wedge is predicted to move. (Overton, Tr. Vol. 5 p. 757)

243. Dr. Overton disagrees with CZR's characterization of expected changes as "not adverse." (Overton, Tr. Vol. 5 pp. 747-748)

244. In Dr. Overton's view, if the salt wedge moves, any estuarine fish that cannot tolerate freshwater have to move, and if there is not appropriate habitat for those fish to move into, it would be an adverse effect. (Overton, Tr. Vol. 5 pp. 747-750, 757-758)

245. Dr. Overton did not opine, and the evidence does not show, that there would be an absence of appropriate habitat such that an adverse effect would occur. (Overton, Tr. Vol. 6 pp. 967-969)

246. Dr. Overton testified that many estuarine fish species can well tolerate significant shifts in salinity and remain in the same waters as salinities change, but other fish cannot tolerate significant shifts in salinities and would move. (Overton, Tr. Vol. 5 pp. 859-861)

247. He acknowledged that many species of estuarine fish are “euryhaline”, meaning they can inhabit waters with wide ranges of salinities, including freshwater and all other salinities that may be found in Blounts Creek under existing conditions. These species include red drum, flounder, and spotted sea trout, among others. (Overton, Tr. Vol. 5 pp. 914-916; Overton, T. Vol. 6 pp. 943-945, 967-969)

248. Dr. Overton’s testimony that changes in salinity as a result of the permitted discharge may cause some estuarine fishes to move and provide additional freshwater habitat for freshwater fish is in accord with the conclusions of the CZR report. (Ex. P27)

Petitioners’ Claims of Impacts on Their Interests

249. Petitioners called as lay witnesses three members (Mr. Daniels, Mr. Boulden, and Dr. Larkin) and one officer (Ms. Deck and Mr. Miller) of Sound Rivers and the Coastal Federation, respectively, for the purpose of establishing that their rights have been substantially prejudiced by DWR’s issuance of the Permit.

250. Mr. James Daniels has been a member of Petitioner Sound Rivers for approximately ten years. (Daniels, Tr. Vol. 1 p. 30)

251. He is retired and lives in Chocowinity on Cotton Patch Road. Since 2009, he has operated a marina called Cotton Patch Landing and sells goods (bait, tackle, etc.) to customers who engage in sport fishing in Blounts Creek. (Daniels, Tr. Vol. 1 p. 30, 36)

252. Mr. Daniels testified that his marina employs himself and his wife year-round, and three high school students on a seasonal basis. (Daniels, Tr. Vol. 1 p. 53)

253. However, when shown that the profit and loss statement (“P&L”) submitted by Petitioners to demonstrate Mr. Daniels had an active business on Blounts Creek did not show any expenses for wages, salaries, or compensation, he stated that neither he nor his wife nor any employees are paid for their labor or receive any salary. (Daniels, Tr. Vol. 1 pp. 86-89; Ex. P3)

254. He testified that he borrowed money from relatives for the business, but did not show interest payments on the P&L. (Daniels, Tr. Vol. 1 p. 101)

255. He refused to answer questions regarding who owns the assets of his business and did not differentiate between ownership by the limited liability company and ownership by him and his wife. (Daniels, Tr. Vol. 1 pp. 89-90)

256. He could not explain why no asset depreciation was listed on the P&L. The total net income, without payment of any salaries or wages, for Cotton Patch Landing in 2013 is shown on the P&L as \$3,876.24. (Daniels, Tr. Vol. 1 pp. 90-91; Ex. P3)

257. The P&L, when corrected for interest expense, depreciation (if there are any assets), wages, and other normal business expenses, about which he refused to testify, would likely be negative. (Ex. P3)

258. He asserted that Cotton Patch Landing is not a hobby, but rather is a business. (Daniels, Tr. Vol. 1 p. 92-93)

259. However, the preponderance of the evidence shows his activities are more indicative of a hobby for a retired person living on other income rather than a business for profit. (Daniels, Tr. Vol. 1 pp. 34-35; 40-41, 88-93, 52-53; Exs. P1, P2, P3)

260. Mr. Daniels testified that he boats and sport fishes, and has been up past Herring Run in a kayak, but did not state that he had been in the main stem of Blounts Creek upstream of Herring Run. (Daniels, Tr. Vol. 1 p. 54-55)

261. Mr. Daniels said he read the NPDES Permit several times, along with the Revised Fact Sheet for the NPDES permit. (Daniels, Tr. Vol. 1 pp. 61-63; Ex. P5; Ex. P6)

262. He testified that based on his reading of these documents and others, including a marine fisheries letter, a wildlife resources commission letter, and a DWR letter, he understands that the entirety of Blounts Creek will be affected by the discharge allowed by the NPDES Permit. (Daniels, Tr. Vol. 1 p. 63-64)

263. Mr. Daniels purports to be concerned about “dilution of the salinity” and “almost doubling the pH”, which, he says, will “drive the fish out” – meaning that they will still be in Blounts Creek, but “they won’t be where people are used to catching them.” (Daniels, Tr. Vol. 1 pp. 63-64)

264. Mr. Daniels also expressed concern that there will be a rise in water levels such that his docks will be flooded because Blounts Creek water levels are wind-driven, and that the permitted discharge will contain toxic chemicals. (Daniels, Tr. Vol. 1 pp. 63-65, 77-78, 83)

265. Mr. Daniels believes the changes he described will affect his business by diminishing his property values and impairing fishing. (Daniels, Tr. Vol. 1 pp. 65-67)

266. Mr. Daniels asserted that the permitted discharge will affect his personal use of Blounts Creek by causing saltwater fish, like trout and drum, to no longer be present in fishing holes that he is familiar with because they will have moved to other locations on Blounts Creek. (Daniels, Tr. Vol. 1 pp. 66-67)

267. Mr. Daniels believes that the manner in which people use Blounts Creek will be different after the discharge because there will not be any sport fishing during the winter

months and his marina will then be used only seasonally during the warmer months. (Daniels, Tr. Vol. 1 pp. 70-72)

268. Mr. Daniels' testimony of potential economic impact was based on predicted environmental conditions or responses that were beyond any expertise he might have, and was not supported by the testimony of any experts, even those who testified for the Petitioners.

269. Mr. Daniels repeatedly stated that he is not a chemist or biologist and refused to answer questions regarding scientific topics that were a part of his direct examination when asked by counsel for Respondent-Intervenor, even though his testimony of impacts of the proposed discharge depended on his knowledge of these scientific topics. However, he had no difficulty answering questions posed to him in the same subject area by counsel for Petitioners. (Daniels, Tr. Vol 1 pp. 73-78, 95, 99-100)

270. Mr. Daniels' testimony contradicts itself and the record evidence, lacks foundation, and is generally not credible, in part because of his evident bias and his evasion on cross-examination.

271. His opinion testimony as to the impacts of the permitted discharge on Blounts Creek and its ecology, even if admissible, is speculative at best, not persuasive, not credible, and is entitled to little weight.

272. Due to a lack of evidence of impacts to Blounts Creek that would affect Mr. Daniels' claimed interests, his testimony regarding impacts to his interests is also speculative and entitled to little weight.

273. Mr. Robert Boulden is retired from a career as an environmental engineer and has been a member of Petitioner Sound Rivers since early 2013. He lives on a minor tributary of lower Blounts Creek called Yeats Creek. (Boulden, Tr. Vol. 1 p. 104-105)

274. Mr. Boulden owns a charter boat operation, and uses Blounts Creek for site-seeing, nature photography and other recreational purposes. (Boulden, Tr. Vol. 1 pp. 107-108, 112-117, 120-121)

275. Mr. Boulden testified that he believes the permitted discharge would affect his use of the creek for fishing and photography, and that the permitted discharge will harm his charter boat activities by making the creek a less desirable place to visit. (Boulden, Tr. Vol. 1 pp. 104-105, 113-114, 120-121, 130-132)

276. Mr. Boulden currently owns and works in what he identified as his charter boat "business." (Boulden, Tr. Vol. 1 p. 107) Mr. Boulden started his chartering business in 2012 with seven charters that year, 19 in 2013, 54 in 2014, 83 in 2015, and 21 in 2016 up until the time of the hearing. (Boulden, Tr. Vol. 1 p. 121-122)

277. When he has charters, Mr. Boulden pilots his boat on Blounts Creek while his passengers photograph wildlife. (Boulden, Tr. Vol. 1 pp. 114-116, 121-122)
278. Mr. Boulden first purchased the boat he uses for his charter activities in 2005, and only used it for personal use until he started the charter business in 2012. (Boulden, Tr. Vol. 1 pp. 135-136)
279. Mr. Boulden was aware of the planned quarry and NPDES Permit in early 2012, but that did not deter him from continuing to increase his charter boat activities. (Boulden, Tr. Vol. 1 pp. 136-138)
280. The published prices Mr. Boulden charges for charters are: \$40 for two people for one hour; \$70 for two people for two hours; \$135 for two people for four hours; \$250 for two people for eight hours; and \$5 per head per hour additional above two people. Children under 10 are free. (Boulden, Tr. Vol. 1 p. 138) His average revenue per charter is approximately \$110. (Boulden, Tr. Vol. 1 pp. 138-139)
281. Multiplying the average revenue per charter by the number of charters per year, indicates that the gross revenue for Mr. Boulden's charter business was approximately \$770 in 2012, \$2,090 in 2013, \$5,940 in 2014, and \$9,130 in 2015. (Boulden, Tr. Vol. 1 pp. 139-140)
282. Mr. Boulden has expenses that include gasoline and liability insurance, but the expenses do not include any salary or wages for himself or anyone else. (Boulden, Tr. Vol. 1 p. 140, 142)
283. Mr. Boulden files a schedule C with his tax return and claims a portion of his boat as personal and a portion as business use. (Boulden, Tr. Vol. 1 p. 140)
284. 2015 is the first year that Mr. Boulden's business made any "profit" and that "profit" was very small, and did not include any salary or wage expenses. (Boulden, Tr. Vol. 1 pp. 139-141)
285. Mr. Boulden enjoys taking people out on his boat and loves being out on the water, and, despite the limited net revenues, maintains that his charter operation is a business rather than a hobby. (Boulden, Tr. Vol. 1 pp. 141-143)
286. However, the preponderance of the evidence shows Mr. Boulden's activities are more indicative of a hobby for a retired person living on other income rather than a business for profit.
287. Furthermore, Mr. Bolden's decisions to expand his charter activities with knowledge of Respondent-Intervenor's pursuit and receipt of the Permit contradict his stated concerns about the impacts of the permitted discharge.

288. With respect to changes in Blounts Creek, Mr. Boulden testified that the permitted discharge is “just going change things. I don't know how. I have my opinions, but I don't know how.” (Boulden, Tr. Vol. 1 pp. 143-144, 148-149)

289. Mr. Boulden believes the discharge will affect his personal enjoyment of the Blounts Creek because “things will be out of balance.” (Boulden, Tr. Vol. 1 pp. 130-132)

290. Mr. Boulden believes that his predictions of changes to Blounts Creek as a result of the discharge will impact his business if people do not enjoy the creek as much as they do now. (Boulden, Tr. Vol. 1 p. 132-133)

291. With respect to whether he will be able to use Blounts Creek in the same way with the discharge as he does today, Mr. Boulden stated, “It would be in a modified state. I don't think exactly the same as I do now, no.” (Boulden, Tr. Vol. 1 p. 133)

292. Mr. Boulden's opinion testimony as to the impacts of the permitted discharge on Blounts Creek and its ecology, even if admissible, is speculative, not persuasive, not credible, and entitled to little weight.

293. Due to a lack of evidence of impacts to Blounts Creek that would affect his claimed interests, his testimony regarding impacts to his interests is also speculative and entitled to little weight.

294. Ms. Heather Deck is a resident of Washington, North Carolina, and she is a member of Petitioner Sound Rivers. She currently holds the position of Pamlico-Tar “Riverkeeper” for Sound Rivers and has held that position since 2003. (Deck, Tr. Vol. 1 pp. 152-153)

295. Ms. Deck testified that Blounts Creek is valued by Sound Rivers' members, and that Blounts Creek is important to the mission of Sound Rivers because it is a “high quality functioning system” and members use the water body for recreational purposes. (Deck, Tr. Vol. 1 pp. 161, 166, 167, 220)

296. Ms. Deck is familiar with Blounts Creek from past and present advocacy and water monitoring work in her position as river keeper. She has used Blounts Creek personally by kayaking and fishing on the creek, including areas downstream from Cotton Patch Landing and at least a couple hundred yards upstream of the confluence of Herring Run. (Deck, Tr. Vol. 1 pp. 158-161)

297. Ms. Deck testified as to her perceptions of the current conditions of Blounts Creek, and to her advocacy efforts in opposition to the Permit. She did not assert independent knowledge or opinions regarding the effects of the permitted discharge or the basis for such views, but instead referenced the materials that had been submitted by Sound Rivers to DWR during the permitting process. (Deck, Tr. Vol. 1 pp. 161-198)

298. Ms. Deck contends that if the NPDES Permit is upheld in this litigation that Sound Rivers' advocacy efforts will be impacted. (Deck, Tr. Vol. 1 pp. 204-206)

299. To the extent Ms. Deck provided opinion testimony as to the impacts of the permitted discharge on Blounts Creek and its ecology, even if admissible, such testimony is speculative, not persuasive, not credible, and entitled to little weight.

300. Due to a lack of evidence of impacts to Blounts Creek that would affect her and her organization's claimed interests, Ms. Deck's testimony regarding impacts to those interests is also speculative and entitled to little weight.

301. Dr. Earnest Larkin, a retired physician, has been a member of the North Carolina Coastal Federation and Sound Rivers since about 1982. He was on the Coastal Resources Commission from 1998 to 2002 and on the Environmental Management Commission from 2007 to 2013, where he was the chair of the NPDES committee for several months. (Larkin, Tr. Vol. 2 pp. 230-231, 242)

302. Dr. Larkin has used Blounts Creek and Blounts Bay, off and on, for boating, water skiing, fishing, and photography for around 50 years. With respect to the potential effects of the permitted discharge on Blounts Creek, he "can imagine what will happen with this much water coming down the creek." (Larkin, Tr. Vol. 2 pp. 233-235, 242)

303. Dr. Larkin believes the proposed discharge will negatively impact his use of the Creek for sport fishing and photography. (Larkin, Tr. Vol. 2 pp. 230-240, 242, 251-252)

304. Dr. Larkin's opinion testimony as to the impacts of the permitted discharge on Blounts Creek and its ecology, even if admissible, is speculative, not persuasive, not credible, and entitled to little weight.

305. Due to a lack of evidence of impacts to Blounts Creek that would affect his claimed interests, his testimony regarding impacts to his interests is also speculative and entitled to little weight.

306. Mr. Todd Miller has been the Executive Director of the Coastal Federation since he founded the organization in 1982. His position as executive director entails: managing a 30-member staff; helping to formulate policy and advocacy positions; overseeing organization finances; and fund-raising. (Miller, Tr. Vol. 2 p. 256-257, 261)

307. According to Mr. Miller, Coastal Federation members use Blounts Creek for boating, swimming, photography, and fishing; and that he knows Dr. Larkin is one such member. (Miller, Tr. Vol. 2 p. 264)

308. The Coastal Federation had the opportunity to participate in the permitting process by attending and submitting comment, but declined to participate. (Miller, Tr. Vol. 2 pp. 265-266, 285)

309. Mr. Miller testified that he believes the NPDES Permit will harm his organization's credibility by impeding its mission to protect exceptional areas on the coast. He also

believes that the discharge will harm the Coastal Federation's members' recreational use of Blounts Creek. (Miller, Tr. Vol. 2 pp. 264, 272-276)

310. Mr. Miller's opinion testimony as to the impacts of the permitted discharge on Blounts Creek and its ecology, even if admissible, is speculative, not persuasive, not credible, and entitled to little weight.

311. Due to a lack of evidence of impacts to Blounts Creek that would affect his and his organization's claimed interests, Mr. Miller's testimony regarding impacts to those interests is also speculative and entitled to little weight.

Conclusions of Law

Based upon the foregoing findings of fact, and upon the preponderance of the evidence in the whole record, the undersigned makes the following conclusions of law:

1. The Office of Administrative Hearings has jurisdiction over the parties and the subject matter herein.
2. The parties have received adequate, sufficient, and proper notice of hearing in this matter.
3. To the extent that the findings of fact contain conclusions of law, or that the conclusions of law may be considered or include findings of fact, they should be so considered without regard to their given labels.

Burden of Proof

4. The Petitioners bear the burden of proof by a preponderance of the evidence of showing that (1) Respondent DWR substantially prejudiced their rights; and (2) Respondent DWR acted erroneously, arbitrarily and capriciously, used improper procedure, or failed to act as required by law or rule. *See* N.C. Gen. Stat. §§ 150B-23(a) and 150B-29(a); *Surgical Care Affiliates, LLC v. Dept. of Health and Human Services*, 235 N.C. App. 620, 623, 626-631, 762 S.E.2d 468, 471, 473-75 (2014), disc. review denied, 368 N.C. 242, 768 S.E.2d 564 (2015). *Overcash v. N.C. Dept. of Env. & Natural Res.*, 635 S.E.2d 442, 447 (2006), disc. rev. denied, 361 N.C. 220, 642 S.E.2d 445 (2007).

5. North Carolina law presumes that a regulatory agency has properly performed the duties it has been delegated to perform. *In re Broad & Gales Creek Community Assoc.*, 300 N.C. 267, 280, 266 S.E.2d 645, 654 (1980); *Adams v. N.C. State Board of Reg. for Prof. Eng. & Land Surveyors*, 129 N.C. App. 292, 297, 501 S.E.2d 660, 663 (1998).

6. The proper interpretation of a law or rule is a question of law, and an agency interpretation of a statute or rule is not binding on the undersigned. Nevertheless, "It is a tenet of statutory construction that a reviewing court should defer to the agency's interpretation of a statute it administers so [] long as the agency's interpretation is

reasonable and based on a permissible construction of the statute.” *County of Durham v. North Carolina Dept. of Env’t. & Natural Res.*, 131 N.C. App. 395, 396-97, 507 S.E.2d 310, 311 (1998), *disc. rev. denied*, 350 N.C. 92, 528 S.E. 2d 361 (1999) (citations omitted).

7. This deference applies to an even greater extent to the agency’s interpretation of its own regulations which “will be enforced unless clearly erroneous or inconsistent with the regulation’s plain language.” *Hilliard v. N.C. Dept. of Corrections*, 173 N.C. App. 594, 598, 620 S.E.2d 14, 17-18 (2005). “[B]road deference is all the more warranted” in highly technical regulatory areas. *Morrell v. Flaherty*, 338 N.C. 230, 237-38, 449 S.E.2d 175, 179-80 (1994), *cert. denied*, 515 U.S. 1122 (1995).

8. Deference must also be accorded to any agency’s factual determinations based on its expertise in administering its regulatory program. The Administrative Procedure Act (“APA”) requires that the Court “giv[e] due regard to the demonstrated knowledge and expertise of the agency with respect to facts and inferences within the specialized knowledge of the agency.” N.C. Gen. Stat. § 150B-34(a).

9. To the extent Petitioners seek to prove that DWR’s permitting decision was arbitrary and capricious, Petitioners bear a heavy burden. “The ‘arbitrary or capricious’ standard is a difficult one to meet.” *ACT-UP Triangle v. Comm’n for Health Services*, 345 N.C. 699, 707, 483 S.E.2d 388, 393 (1997) (citations omitted). “The reviewing court does not have authority to override decisions within agency discretion when that discretion is exercised in good faith and in accordance with law.” *Id.* “Administrative agency decisions may be reversed as arbitrary or capricious if they are ‘patently in bad faith,’ or ‘whimsical’ in the sense that ‘they indicate a lack of fair and careful consideration’ or ‘fail to indicate ‘any course of reasoning and the exercise of judgment.’” *Id.* (quoting *Comm’r of Ins. v. Rate Bureau*, 300 N.C. 381, 420, 269 S.E.2d 547 573 (1980)).

10. When reviewing whether an agency’s action is arbitrary and capricious, a reviewing court should not “replace the [agency]’s judgment as between two reasonably conflicting views, even though the court could justifiably have reached a different result.” *See Thompson v. Wake County Bd. of Educ.*, 292 N.C. 406, 410, 233 S.E.2d 538, 541 (1977).

Regulatory Framework for Water Quality Protection

11. The federal Clean Water Act, 33 U.S.C. §§ 1251 et seq. (“CWA”), prohibits point source discharges of pollutants into surface waters except in compliance with applicable regulatory permits, including NPDES permits. 33 U.S.C. §§ 1311(a), 1342.

12. NPDES permits authorize discharge to surface waters while protecting the quality of those waters in accord with applicable water quality standards. Water quality standards are promulgated and NPDES permits are issued in North Carolina pursuant to the State-federal water quality regulatory scheme established pursuant to State statutes and the CWA. *See* N.C. Gen. Stat. §§ 143-211 et seq.; 33 U.S.C. §§ 1251 et seq.

13. North Carolina's regulatory system for protecting surface waters includes three elements, all established by formal rulemaking: (1) several surface water *classifications* based primarily on the *uses* of surface waters; (2) water quality *standards* that protect the uses included under most of the classifications; and (3) assignment of classifications to individual surface water segments. *See* N.C. Gen. Stat. §§ 143-211(c), 143-214.1, 143-214.3, 143-215.1; 15A NCAC Subch. 2B.
14. Under this system, every surface water segment in the state is assigned a *primary* classification by formal rulemaking. The primary classification connects to the water segment a set of numeric and narrative water quality standards that protect a specified set of uses of the segment. Some, but not all, surface water segments are also assigned one or more *supplemental* classifications, which may trigger the modification of standards and requirements that accompany primary classifications. *See* 15A NCAC 02B .0101 for current rulemaking procedures.
15. Upper Blounts Creek is assigned the *primary* classification "C." 15A NCAC 02B .0316(a). The protected uses of Class "C" waters are those listed in 15A NCAC 02B .0211(1), and the applicable set of water quality standards to protect those uses are prescribed, expressly and by incorporation, by 15A NCAC 02B .0211.
16. Upper Blounts Creek is also assigned two *supplemental* classifications: Sw and NSW. 15A NCAC 02B .0316(a) (Index Number 29-9-1-(1)).
17. Lower Blounts Creek from Herring Run downstream to Blounts Bay is assigned a *primary* classification of SB and a *supplemental* classification of NSW. 15A NCAC 02B .0316(a) (Index Number 29-9-1-(1)).
18. Under the State's program, an NPDES permit cannot be issued when the "imposition of conditions cannot reasonably ensure compliance with applicable water quality standards and regulations." 15A NCAC 02H .0112(c).
19. "The permit applicant has the burden of providing sufficient evidence to reasonably ensure that the proposed system will comply with all applicable water quality standards and requirements." 15A NCAC 02H .0112(c). The "reasonably ensure" standard reflects the fact that permits must be issued based on predictions of a discharge's future effects and future compliance with water quality standards.
20. The CWA requires that States have an "antidegradation policy." 40 CFR 131.12.
21. North Carolina's antidegradation policy is as follows: "It is the policy of the Environmental Management Commission to maintain, protect, and enhance water quality within the State of North Carolina." 15A NCAC 02B .0201(a).
22. The antidegradation policy is implemented in two steps. 15A NCAC 02B .0201(a). The first step is formal rulemaking decisions that establish North Carolina's surface water classifications, uses and standards, and that assign classifications, with the accompanying

uses and standards, to surface water segments. *See* 15A NCAC 02B .0201(b). The second step is permitting decisions that include antidegradation procedures. *See* 15A NCAC 02B .0201(c)-(f).

23. For NPDES permit decisions, there are procedures and protections for most waters with unused pollutant loading capacity and more extensive procedures and protections for waters that have been assigned the supplemental classification High Quality Waters (“HQW”) or Outstanding Resource Waters (“ORW”). *See* 15A NCAC 02B .0201(c)-(e). Under the NPDES rules, an assignment of the “Sw” supplemental classification to a surface water segment does not trigger stricter antidegradation permitting procedures.

24. For Blounts Creek, the first step in the North Carolina antidegradation policy was implemented by formal rulemaking that assigned classifications to the stream segments. The second step for Blounts Creek was implemented by DWR applying the permit procedures of 15A NCAC 02B .0201(c) in considering and issuing the NPDES Permit.

25. The more extensive antidegradation permitting procedures and protections in 15A NCAC 02B .0201(d) and (e) are not relevant to Respondent-Intervenor’s NPDES permit application because there was no evidence presented that the receiving waters in this case (Blounts Creek) are classified “High Quality Waters” or “Outstanding Resource Waters.”

Petitioners’ pH Claim

26. Petitioners claim that, in issuing the NPDES Permit, DWR failed to reasonably ensure compliance with the water quality standard for pH. Under 15A NCAC 02B .0211(3)(g) (2013), the pH standard for Blounts Creek, a Class “C” water, provides: “pH: shall be normal for the waters in the area, which generally shall range between 6.0 and 9.0 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions.”

27. The pH standard is administered by DWR and relates to a highly technical and scientific subject area within DWR’s expertise. As required by North Carolina case law and the APA, the undersigned accords deference to DWR’s interpretation of its own rule.

28. DWR interprets the pH rule as limiting the maximum allowable pH in the receiving waters to 9.0, but allowing pH to range as low as 4.3 if resulting from natural conditions.

29. The undersigned finds that based on a preponderance of the evidence, DWR’s interpretation is longstanding, is reasonable, and is consistent with and supported by the plain language of the rule, and, therefore, the undersigned will decide Petitioners’ pH claim based on DWR’s interpretation of the rule.

30. The Permit allows for pH of the permitted discharge effluent to range from 5.5 to 8.5.

31. The parties have stipulated and the preponderance of the evidence shows that the permitted discharge will have a pH of approximately 6.9.

32. Both the predicted maximum pH of upper Blounts Creek receiving waters, post-discharge, (6.9) and the maximum permitted pH of the permitted discharge (8.5) are less than the maximum allowable pH for Blounts Creek (9.0) authorized under the pH standard as interpreted by DWR.

33. Petitioners' arguments that DWR both misinterpreted and misapplied the pH standard present questions of law and fact. Petitioner's arguments have been thoroughly considered and rejected by the undersigned as unpersuasive, unsupported by the preponderance of evidence, and contradictory to the plain language of the pH standard.

34. Petitioners do not contend that the discharge will cause the receiving waters, Blounts Creek, to have a pH of higher than 9.0 or lower than 4.3. Rather, they contend that DWR was required to set the pH limit in the Permit based upon the measured pH of the receiving waters. The undersigned finds there is nothing in the language or purpose of the pH standard that supports Petitioners' contention.

35. Petitioners' interpretation of the pH standard is contrary to the plain language of the rule, since it ignores the language defining what is "normal": pH "shall be normal for the waters in the area, which generally shall range between 6.0 and 9.0 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions." 15A NCAC 02B .0211(3)(g) (2013).

36. Where the language of a statute or rule is clear and unambiguous, there is no room for judicial construction and the courts must apply its plain meaning. *Burgess v. Your House of Raleigh, Inc.*, 326 N.C. 205, 209, 388 S.E.2d 134, 136 (1990); *Kyle v. Holston Group*, 188 N.C. App. 686, 692, 656 S.E.2d 667, 671 ("Supreme Court has applied the rules of statutory construction to administrative regulations"), disc. review denied, 362 N.C. 359, 662 S.E.2d 905 (2008).

37. The pH standard is clear and unambiguous, and DWR's interpretation is consistent with and according to its plain meaning. Even if the pH standard was construed to be ambiguous, Petitioners failed to demonstrate that DWR's interpretation is unreasonable, clearly erroneous, or contrary to the plain language of the rule.

38. The pH standard, if applied as interpreted by Petitioners, would be unworkable. The result of implementing Petitioners' interpretation would be a separate, unique pH standard for every one of the State's more than 10,000 classified waterbody segments. *See* 15A NCAC 02B Section .0300. It would no longer be possible to know the applicable pH standard by reading the text of the rule; instead, it would be necessary to calculate a site-specific pH standard after costly, time-consuming sampling and analysis. If adopted, Petitioner's interpretation would create a new source of regulatory uncertainty, cause delay in permitting and enforcement, and impose the expense of a sampling program anytime there is a need to know the pH standard applicable to a waterbody segment in North

Carolina. Even if Petitioners' interpretation of the pH standard were reasonable or plausible, which it is not, the undersigned defers to DWR's reasonable interpretation of its own rule.

39. A recent technical amendment to the language of the pH standard supports DWR's longstanding interpretation of the rule. Effective January 1, 2015, the phrase "generally shall" has been deleted from the rule. 15A NCAC 02B .0211(14) (2015).

40. The preponderance of the evidence demonstrates that DWR reasonably interpreted the pH standard; reasonably and rationally applied the pH standard to the relevant information and facts regarding the proposed discharge; and reasonably determined that the NPDES Permit reasonably ensures compliance with the pH standard.

41. Petitioners failed to present evidence sufficient to overcome the presumption that DWR acted appropriately in determining the NPDES Permit reasonably ensures compliance with the pH standard.

42. Petitioners failed to meet their burden of proving by a preponderance of the evidence that DWR exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining the NPDES Permit reasonably ensures compliance with the pH water quality standard, 15A NCAC 02B .0211(3)(g) (2013) (now amended and recodified at 15A NCAC 02B .0211(14)).

43. DWR's decision that the NPDES Permit reasonably ensures compliance with the pH water quality standard is affirmed.

Petitioners' Biological Integrity Claim

44. Petitioners claim that, in issuing the NPDES Permit, DWR failed to reasonably ensure compliance with the biological integrity standard.

45. Under applicable North Carolina rules, one of the existing uses of all classified surface waters is "maintenance of biological integrity." *See* 15A NCAC 02B .0211(1) (2013) (freshwater), and 02B .0220(1) (2013) (saltwater).

46. The term "biological integrity" is defined in 15A NCAC 02B .0202(11) as follows: "the ability of an aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities and functional organization similar to that of reference conditions."

47. The biological integrity standards applicable to upper and lower Blounts Creek state:

the waters shall be suitable for aquatic life propagation and maintenance of biological integrity Sources of water

pollution which preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard

15A NCAC 02B .0211(2) (2013) (freshwater standard). *See also* 15A NCAC 02B .0220(2) (2013) (same standard for saltwater).

48. DWR interprets the applicable rules and definitions to mean that an NPDES permit complies with the biological integrity standard if the permit's terms and conditions reasonably ensure that the permitted discharge will not preclude maintenance of the ability of an aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities and functional organization similar to that of reference conditions.

49. The biological integrity standard is administered by DWR and relates to a highly technical and scientific subject area within DWR's expertise.

50. As required by North Carolina case law and the APA, the undersigned accords deference and gives due regard to DWR's interpretation of its own rules.

51. Even if the undersigned were not required to defer to DWR's interpretation of the biological integrity standard rules, the undersigned finds that DWR's interpretation is longstanding, is reasonable, and is consistent with and supported by the plain language of the rules, and therefore the undersigned will decide Petitioners' biological integrity claim based on DWR's interpretation of the rules.

52. The preponderance of the evidence shows that, in evaluating and determining whether the NPDES Permit reasonably ensures compliance with the biological integrity standard, DWR (through its staff) applied its knowledge and expertise, and:

- a. identified the Blounts Creek system, meaning Blounts Creek and its tributaries, as the appropriate "aquatic ecosystem";
- b. determined that the appropriate "reference conditions" were the existing conditions of the Blounts Creek system before the proposed discharge;
- c. studied and assessed the existing, pre-discharge ecological resources of the Blounts Creek system;
- d. determined the degree and geographic scope of potential physical and chemical impacts of the proposed discharge;
- e. determined the predicted changes to the ecosystem and ecological resources from the proposed discharge to be limited; and

f. concluded that the effects predicted to occur as a result of the permitted discharge would not violate the standard, and, in fact, a violation would not occur unless the impacts to the Blounts Creek aquatic ecosystem were much greater in degree and geographic scope than those predicted to occur.

53. Petitioners' arguments that DWR misinterpreted and misapplied key aspects of the biological integrity standard and understated the effects of the permitted discharge present questions of law and fact, and mixed questions of law and fact. Petitioners' arguments have been thoroughly considered and rejected by the undersigned as unpersuasive and unsupported by the preponderance of evidence.

"Aquatic Ecosystem"

54. Petitioners have asserted that the relevant "aquatic ecosystem" should be defined more narrowly and that DWR must use a single stream segment as the ecosystem unit for assessing compliance. See Petition at 3.

55. The term "aquatic ecosystem" is not defined by North Carolina statute or rule.

56. The determination and application of "aquatic ecosystem" in a specific context is complex and requires significant scientific expertise and judgment, and should be accorded deference. *See County of Durham v. N.C. Dept. of Environment and Natural Resources*, 131 N.C. App. at 396-97, 507 S.E.2d at 311 (1998), disc. rev. denied, 350 N.C. 92, 528 S.E.2d 361 (1999).

57. DWR's interpretation and application of this term are reasonable, rational, and in accordance with the language and purpose of the biological integrity standard.

58. To the extent DWR's selection of an appropriate aquatic ecosystem is considered a factual determination, it is one which falls directly within the agency's expertise and is therefore entitled to "due regard" pursuant to the APA.

"Reference Conditions"

59. Petitioners have asserted that DWR failed to conduct a biological integrity analysis by inadequately sampling for "species composition, diversity, population densities and functional organization" throughout the Blounts Creek aquatic ecosystem.

60. The determination and application of "reference conditions" in a specific context is complex and requires significant scientific expertise and judgment, and should be accorded deference.

61. DWR's interpretation and application of this term are reasonable, rational, and in accordance with the language and purpose of the biological integrity standard.

62. To the extent DWR's selection of appropriate "reference conditions" is considered a factual determination, it is one which falls directly within the agency's expertise and is therefore entitled to "due regard" pursuant to the APA.

63. The preponderance of the evidence shows that Blounts Creek aquatic ecosystem's existing conditions ("reference conditions") are dynamic, vary over time and geographic location, and can be affected by many environmental factors.

64. The preponderance of the evidence shows that DWR had sufficient information such that the biological sampling efforts Petitioners sought were unnecessary.

65. Before issuing the Permit, DWR determined that: (a) the proposed discharge likely would not cause significant erosion or sedimentation; (b) pH likely would not exceed 6.9 in the upper Blounts Creek and was unlikely to change significantly in lower Blounts Creek; (c) relative salinity impacts would likely be on the order of 1 ppt and salinities would remain within the variability of the system; (d) shifts in macrobenthic invertebrates would likely be toward an increase in diversity and would be geographically limited to the upper reaches of Blounts Creek; and (e) the proposed discharge is not likely to adversely impact fish communities of the Blounts Creek aquatic ecosystem. These determinations by DWR are reasonable and supported by the preponderance of the evidence.

66. DWR determined that the likely effects of the permitted discharge are limited in degree, limited in geographic scope, and not deleterious.

67. The preponderance of the evidence supports DWR's conclusion and shows that the permitted discharge will not have any significant detrimental effect on the Blounts Creek aquatic ecosystem, including the many miles of C and Sw stream segments of other tributaries of Blounts Creek.

Impacts of the Proposed Discharge

68. Petitioners argued that DWR underestimated or understated the effects the proposed discharge will likely have on the Blounts Creek aquatic ecosystem, including effects on flow, pH, salinity, benthos, fish, and the existing biological community of Blounts Creek.

69. DWR's findings and inferences regarding the predicted effects of the proposed discharge fall within "specialized knowledge of the agency." As such, the undersigned is required to give such facts and inferences "due regard" pursuant to the APA. N.C. Gen. Stat. § 150B-34(a).

70. The preponderance of the evidence demonstrates that DWR applied its knowledge and expertise in its collection and review of the data and reports obtained during the permitting process, and drew reasonable inferences and conclusions based on those data and reports.

71. The preponderance of the evidence demonstrates that DWR reasonably evaluated and adopted the findings of the Kimley Horn reports (Exs. R13, R15) and the CZR report (Ex. R16) after satisfying itself of the reliability of these studies.

72. The preponderance of the evidence demonstrates that: (a) DWR applied its discretion and expertise in its review of the comments it received from the public (including Petitioners'), EPA, and other state agencies during the permitting process; and (b) the substantive comments were considered and accounted for by DWR based on DWR's expertise, judgment, and rational evaluation of the comments and other evidence.

73. To the extent Petitioners contend that DWR acted arbitrarily and capriciously in its evaluation of the evidence, its gathering and evaluation of relevant data and information, its interpretation and application of the biological integrity standard, and its conclusion that the NPDES Permit reasonably ensures compliance with the biological integrity standard, Petitioners failed to present any evidence that DWR acted "whimsically" or in "bad faith."

74. The undersigned finds that DWR's evaluation of the NPDES permit application, reports and data submitted during the permit process, the data independently collected by DWR, and the comments received from the public, state agencies and EPA was reasonable, rational, thorough, supported by a preponderance of the evidence in the record, and undertaken in good faith.

75. The undersigned finds the evidence and expert opinion testimony as well as the lay opinion testimony, even if admitted, presented by Petitioners, does not overcome DWR's determinations, with respect to the likely impacts and effects of the permitted discharge, which were thoroughly evaluated based on DWR's knowledge, expertise, and judgment, and well-supported by a preponderance of the evidence.

76. The undersigned has considered all of the evidence of potential impacts presented by Petitioners and their experts, and finds, based on a preponderance of the evidence, that Petitioners' evidence either does not contradict DWR's determinations or is not persuasive and not sufficient to overcome the data, studies, and other information reasonably considered and relied on by DWR in evaluating compliance with the biological integrity standard.

77. Petitioners failed to present evidence sufficient to overcome the presumption that DWR acted appropriately in determining the NPDES Permit reasonably ensures compliance with the biological integrity standard.

78. The preponderance of the evidence demonstrates that DWR:

a. reasonably interpreted the biological integrity standard;

b. reasonably and rationally applied the biological integrity standard to the relevant information and facts regarding the proposed discharge;

c. reasonably determined that, although certain changes are predicted to occur as a result of the proposed discharge, the predicted effects would not preclude the ability of the relevant aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities and functional organization similar to that of reference conditions; and

d. reasonably and rationally determined that the NPDES Permit reasonably ensures compliance with the biological integrity standard.

79. Petitioners failed to meet their burden of proving by a preponderance of the evidence that DWR exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining the NPDES Permit reasonably ensures compliance with the biological integrity water quality standard. *See* 15A NCAC 02B.0202(11), 15A NCAC 02B.0211(2) (2013), and 15A NCAC 02B.0220(2) (2013).

80. DWR's decision that the NPDES Permit reasonably ensures compliance with the biological integrity water quality standard is affirmed.

Petitioners' Swamp Waters Claim

81. Petitioners claim that the NPDES Permit does not reasonably ensure compliance with what Petitioners characterize as a requirement to "protect" swamp waters "characteristics." Petition 4-5.

82. "Swamp Waters" are defined as "waters which are classified by the Environmental Management Commission and which are topographically located so as to generally have very low velocities and other characteristics which are different from adjacent streams draining steeper topography." 15A NCAC 02B.0202(62). *See also* 15A NCAC 02B.0101(e)(2) and 02B.0301(c).

83. Petitioners claim that DWR has a duty to preserve swamp waters in their existing condition, and they objected to the predicted changes in physical and chemical parameters in upper Blounts Creek, specifically dissolved oxygen, pH, flow velocity, and tannins. Petitioners have characterized the predicted changes to these parameters as unlawfully eliminating swamp waters characteristics and uses.

84. DWR disagrees with Petitioners in that DWR has a duty under the applicable rules and laws to preserve waters with the supplemental classification "swamp waters" in their existing condition. DWR asserts, consistent with its longstanding interpretation and past practices, that the only effect of the Sw supplemental classification is to modify the water quality standards for dissolved oxygen and pH by lowering the minimum limits otherwise required for Class "C" waters. *See* 15A NCAC 02B.0211(3)(b) and (3)(g) (2013).

85. Petitioners failed to identify any statute or rule that expressly protects “low tannins”, “low pH”, “low dissolved oxygen”, or “low velocity” attributes of swamp waters.

86. Petitioners have not cited a law or rule that requires additional protection or uses for waters with the supplemental classification “swamp waters.”

87. The swamp waters supplemental classification and the water quality standards administered by DWR relate to a highly technical and scientific subject area within DWR’s expertise.

88. As the agency delegated the responsibility for NPDES permitting and enforcement of North Carolina’s water quality standards, DWR’s interpretation and application of the State’s water quality standards, and its surface water classifications and supplemental classifications are entitled to deference. *Hilliard v. N.C. Dept. of Corrections*, 173 N.C. App. 594, 598, 620 S.E.2d 14, 17-18 (2005).

89. DWR’s interpretation and application of the highly technical rules it administers, including the swamp waters and antidegradation rules, are reasonable, longstanding, in accord with past DWR practices, and consistent with and supported by the plain language of the relevant rules.

90. Petitioners have presented no evidence, authority, or argument that persuades the undersigned to overrule DWR’s rational interpretation and application of the State’s swamp waters and antidegradation laws and rules.

91. Some supplemental classifications may trigger protection or uses in addition to the protections or uses for Class C waters. For example, the “Outstanding Resource Waters” supplemental classification states that such waters “require special protection to maintain existing uses.” 15A NCAC 02B .0101(e)(4).

92. The specificity of additional protections and uses explicitly applicable by rule to some supplemental classifications is further evidence that, if the “swamp waters” supplemental classification was intended to provide additional protections, the rules would have specifically provided for such protections. See, e.g., *Mangum v. Raleigh Bd. of Adjustment*, 196 N.C. App. 249, 255, 674 S.E.2d 742, 747 (2009) (“One of the long-standing rules of interpretation and construction in this state is *expressio unius est exclusio alterius*, the expression of one thing is the exclusion of another.”) (citations omitted).

93. The term “swamp waters” is a regulatory term that guides the assignment of the Sw supplemental classification to particular stream segments; and once the assignment is made by rule, the only regulatory effect of the assignment of the swamp waters supplemental classification is to lower the acceptable minimum values for pH and dissolved oxygen. See 15A NCAC 02B .0211(3)(b) and (3)(g) (2013). Upper Blounts Creek, for example, has been assigned the “Sw” supplemental classification by formal rulemaking. 15A NCAC 02B .0316(a) (Index Number 29--9-1-(1)).

94. Petitioners' arguments that DWR misinterpreted and misapplied the swamp waters supplemental classification present questions of law and fact, and mixed questions of law and fact. Petitioners' arguments have been thoroughly considered and rejected by the undersigned as unpersuasive and unsupported by the preponderance of evidence.

95. Petitioners rely on a sentence from the State's antidegradation policy: "Existing uses, as defined by Rule .0202 of this Section, and the water quality to protect such uses shall be protected by properly classifying surface waters and having standards sufficient to protect these uses." 15A NCAC 02B .0201(b). *See* Petition at 4-5.

96. According to its plain language, this provision is implemented by formal rulemaking that establishes classifications, uses and water quality standards, and that assign classifications, uses and standards to individual surface water segments. *See, e.g.*, 15A NCAC 02B .0211 (2013) (uses and standards for Class C waters, including waters with the supplemental "Sw" classification), 15A NCAC 02B .0316(a) (Index Number 29-9-1-(1) (assignment of classifications to upper Blounts Creek).

97. There are antidegradation permitting procedures that did apply to DWR's evaluation and issuance of the NPDES Permit, but Petitioners have not argued that these applicable procedures were not followed.

98. The preponderance of the evidence demonstrates that DWR reasonably interpreted the laws and rules governing swamp waters and the state's antidegradation policy, and reasonably applied those laws and rules to the data, studies, and other information submitted or obtained during the course of DWR's NPDES permitting review and decision.

99. Petitioners failed to present evidence sufficient to overcome the presumption that DWR acted appropriately in determining the NPDES Permit reasonably ensures compliance with water quality standards or regulations related to the "Swamp Waters" supplemental classification.

100. Petitioners failed to meet their burden of proving by a preponderance of the evidence that DWR exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining that the laws and rules do not require protection of the existing conditions or characteristics of surface waters with the supplemental classification "swamp waters" and that the NPDES Permit reasonably ensures compliance with water quality standards and rules related to the "Swamp Waters" supplemental classification.

101. DWR's decision that the NPDES Permit reasonably ensures compliance with all applicable water quality standards and rules, including those relating to the swamp waters supplemental classification, is affirmed.

Legal Effect of Monitoring and Reopener Provisions

102. The legal effect of monitoring and reopener provisions in a water quality permit is discussed in *Deep River Citizens' Coalition v. N.C. Dept. of Env. & Natural Res.*, 165 N.C. App. 206, 598 S.E.2d 565 (2004). In the Deep River case, a group of environmental petitioners contested DWR's issuance of a CWA Section 401 water quality certification for a dam and reservoir construction project. The petitioners in that case argued, inter alia, that DWR failed to provide "reasonable assurance that the State's water quality standards would not be violated by the proposed project." 165 N.C. App. at 209, 598 S.E.2d at 567. Specifically, the petitioners contended that "the trial court erred in finding and concluding there were adequate assurances that chlorophyll a levels would not be violated by the proposed Randleman Reservoir." 165 N.C. App. at 210, 598 S.E.2d at 567.

103. In rejecting petitioners' argument in the Deep River case, the North Carolina Court of Appeals stated,

We agree with respondents that "no one will know precisely whether or to what extent exceedances of the Standard will occur until construction of the dam and impoundment of the lake have been completed" but that mere "knowledge of the potential for exceedances of the chlorophyll a standard was not sufficient to preclude [DWR] from issuing the 401 Certification."

165 N.C. App. at 213, 598 S.E.2d at 569.

104. The Court of Appeals explained in the Deep River case that the Director of DWR "was aware of the potential for water quality standard violations and specifically considered ... the opportunity that the State would have to impose additional restrictions on nutrient sources in the event of actual or threatened water quality standard violations after the reservoir is constructed." 165 N.C. App. at 213, 598 S.E.2d at 569 (emphasis added).

105. Because DWR could impose additional restrictions "in the event water quality standards were actually threatened," the Court of Appeals held that DWR "provided reasonable assurance that the State's water quality standards would not be violated by the proposed project." 165 N.C. App. at 213, 598 S.E.2d at 569.

106. Deep River establishes that imposing monitoring requirements in a discharge permit, and retaining the power to impose additional permit conditions if monitoring shows additional conditions are needed, is an appropriate regulatory strategy for DWR to reasonably ensure that water quality standards will not be violated as a result of a permitted discharge.

107. The undersigned finds that a preponderance of the evidence in this contested case demonstrates:

- a. DWR rationally determined the predicted effects of the permitted discharge based on the materials and information before it at the time it issued the NPDES Permit, and, although all impacts of the permitted discharge cannot be known with

complete precision and certainty, the effects are not likely to be greater than or in addition to those predicted by DWR;

b. the monitoring and reporting and reopener provisions of the NPDES Permit are sufficient to provide DWR the ability to detect and assess actual or threatened water quality standard violations as a result of the permitted discharge and to impose additional restrictions to prevent or address any such violations; and

c. the monitoring and reporting provisions of the Coastal Consistency Concurrence, the 401 Certification, and the reopener provisions of the NPDES Permit provide additional opportunity for DWR to detect and assess actual or threatened water quality standard violations as a result of the permitted discharge and to impose additional restrictions to prevent or address any such violations.

108. The undersigned finds that, as in Deep River, “in the event water quality standards were actually threatened,” the NPDES Permit authorizes and provides DWR the opportunity and ability to detect threatened or actual water quality violations and to impose “additional restrictions to avoid [any water quality] violations.” 165 N.C. App. at 213, 598 S.E.2d at 569.

109. Even without the monitoring and reopener provisions of the NPDES Permit, the undersigned finds that DWR reasonably concluded that the Permit reasonably ensures compliance with all applicable water quality standards and regulations. However, the monitoring and reopener provisions provide even further assurance that the NPDES Permit will reasonably ensure compliance with applicable water quality standards and regulations.

110. Petitioners failed to present evidence sufficient to overcome the presumption that DWR acted appropriately in issuing the Permit.

111. Petitioners failed to meet their burden of proving Respondent DWR exceeded its authority or jurisdiction, acted erroneously, acted arbitrarily and capriciously, used improper procedure, or failed to act as required by law or rule in issuing the NPDES Permit.

112. DWR’s issuance of the NPDES Permit is affirmed in all respects.

Petitioners’ Rights are not Substantially Prejudiced

113. In order to succeed on their claims, Petitioners are required to prove by a preponderance of the evidence that an allegedly unlawful agency action “substantially prejudiced the petitioner[s’] rights.” See N.C. Gen. Stat. §§ 150B-23(a), 150B-29(a).

114. Petitioners failed to meet this burden for at least two reasons:

a. First, the preponderance of the evidence does not demonstrate that the permitted discharge will cause impacts to Blounts Creek that substantially prejudice Petitioners’ claimed uses of and interests in Blounts Creek. See *Surgical Care*

Affiliates, LLC v. Dept. of Health and Human Services, 235 N.C. App. 620, 623-631, 762 S.E.2d 468, 471-476 (2014) (“harm required to establish substantial prejudice cannot be conjectural or hypothetical,” rather it “must be concrete, particularized, and ‘actual’ or imminent”), disc. review denied, 368 N.C. 242, 768 S.E.2d 564 (2015).

b. Second, even if the preponderance of the evidence demonstrated that the permitted discharge will cause impacts to Blounts Creek that substantially prejudice the interests and uses claimed by Petitioners, such interests and uses are not and do not derive from individual rights held by Petitioners, but rather relate to public trust rights held by the State and so cannot form a basis for establishing this element of their APA claim.

115. There is insufficient evidence to conclude that the permitted discharge will substantially prejudice the hobbies and activities of Petitioners’ selected members. To the extent any evidence does exist, the purported harm is conjectural and hypothetical.

116. Article XIV, Section 5 of the North Carolina Constitution recognizes and affirms the State’s authority to manage and protect state waters for the benefit of all North Carolina citizens, providing, in pertinent part:

It shall be the policy of this State to conserve and protect its . . . waters for the benefit of all its citizenry, and to this end it shall be a proper function of the State of North Carolina . . . to acquire and preserve park, recreational, and scenic areas, to control and limit the pollution of our . . . water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, openlands, and places of beauty.

117. The State has the power to assert rights in state waters and to protect, manage, and balance those rights for the benefit of all citizens. *See Parker v. New Hanover Cnty.*, 173 N.C. App. 644, 652–54, 619 S.E.2d 868, 874–76 (2005) (citing N.C. Const. Art. XIV, § 5 as supporting the conclusion that “our constitution, the public trust doctrine, and the State’s public policy and legislation have long recognized the key role of the State . . . in ensuring the navigability and quality of waters”); *State ex rel. Rohrer v. Credle*, 322 N.C. 522, 531-32, 369 S.E.2d 825, 830-31 (1988) (recognizing N.C. Const. Art. XIV, Sec. 5 as an “endorse[ment]” of the public policy behind acts of the General assembly to favor public ownership of and public trust rights to fisheries); N.C. Gen. Stat. § 77-20(d) (noting that public trust rights are “part of the common heritage of the State recognized by Article XIV, Section 5 of the Constitution of North Carolina”).

118. The General Assembly has enacted laws placing enforcement of public trust rights solely within the purview of the State. N.C. Gen. Stat. § 1-45.1 defines “public trust rights” as follows:

[T]hose rights held in trust by the State for the use and benefit of the people of the State in common. They are established by common law as interpreted by the courts of this State. They include, but are not limited to, the right to navigate, swim, hunt, fish, and enjoy all recreational activities in the watercourses of the State and the right to freely use and enjoy the State's ocean and estuarine beaches and public access to the beaches.

119. Protection of public trust rights is entrusted to DEQ, and DMF through delegation by DEQ, and WRC.

120. In particular, DEQ and WRC are authorized to “[i]nitiate contested case proceedings under Chapter 150B for review of permit decisions by State agencies which will adversely affect the public trust rights of the people of the State or initiate civil actions to remove or restrain any unlawful or unauthorized encroachment upon, usurpation of, or any other violation of the public trust rights of the people of the State or legal rights of access to such public trust areas.” N.C. Gen. Stat. § 113-131(b)(3). DEQ and WRC may also institute civil actions for violations of public trust rights. N.C. Gen. Stat. § 113-131(b)(3), (c).

121. Only the State may assert a claim based on public trust rights. *See, e.g., Town of Nags Head v. Cherry, Inc.*, 219 N.C. App. 66, 74–75, 723 S.E.2d 156, 161 (2012) (recognizing that “only the *State*, acting through the Attorney General, has standing to bring an action to enforce the State’s public trust rights in accord with N.C. Gen. Stat. § 113-131”) (emphases in original); *Fish House, Inc. v. Clarke*, 204 N.C. App. 130, 136–37, 693 S.E.2d 208, 212–13 (2010) (recognizing that “no party has the standing to litigate the rights of the state”); *Neuse River Found. v. Smithfield Foods, Inc.*, 155 N.C. App. 110, 118, 574 S.E.2d 48, 54 (2002) (“The state is the sole party able to seek non-individualized, or public, remedies for alleged harm to public waters.”).

122. Petitioners are required to prove that their rights have been substantially prejudiced. Interests in fishing, boating, and recreational activities in State waters are public trust rights held by the State. Because public trust rights are held by the State and not by individual citizens, Petitioners cannot rely on impacts, even if proven, to these interests to show that their rights have been substantially prejudiced. *See, e.g., Town of Nags Head*, 219 N.C. App. at 74-75, 723 S.E.2d at 161; *Fish House*, 204 N.C. App. at 136-37, 693 S.E.2d at 212-13; *Neuse River*, 155 N.C. App. at 118, 574 S.E.2d at 54.

123. Petitioners failed to meet their burden of proving by a preponderance of evidence that DWR’s issuance of the NPDES Permit substantially prejudiced Petitioners’ rights.

124. Petitioners’ claims are denied on the independent, alternative basis that Petitioners have not shown that their rights have been substantially prejudiced.

Based upon the findings of fact and conclusions of law, the undersigned holds that Petitioners failed to carry their burden of proof by a preponderance of the evidence that Respondent DWR exceeded its authority or jurisdiction, acted erroneously, acted arbitrarily and capriciously, used improper procedure, or failed to act as required by law or rule in issuing the NPDES Permit.

Based on the findings of fact and conclusions of law, the undersigned holds, on an independent alternative basis, that Petitioners' claims are denied because Petitioners failed to carry their burden of proof by a preponderance of the evidence that their rights have been substantially prejudiced by Respondent DWR's issuance of the NPDES Permit.

Respondent DWR's decision to issue the NPDES Permit is **AFFIRMED**. Petitioners' claims and requests for relief are denied.

NOTICE

This is a Final Decision issued under the authority of N.C. Gen. Stat. § 150B-34.

Under the provisions of North Carolina General Statute § 150B-45, any party wishing to appeal the final decision of the Administrative Law Judge must file a Petition for Judicial Review in the Superior Court of the county where the person aggrieved by the administrative decision resides, or in the case of a person residing outside the State, the county where the contested case which resulted in the final decision was filed. **The appealing party must file the petition within 30 days after being served with a written copy of the Administrative Law Judge's Final Decision.** In conformity with the Office of Administrative Hearings Rule 26 N.C. Admin. Code 03.0102, and the Rules of Civil Procedure, N.C. General Statute 1A-1, Article 2, **this Final Decision was served on the parties the date it was placed in the mail as indicated by the date on the Certificate of Service attached to this Final Decision.** N.C. Gen. Stat. § 150B-46 describes the contents of the Petition and requires service of the Petition on all parties. Under N.C. Gen. Stat. § 150B-47, the Office of Administrative Hearings is required to file the official record in the contested case with the Clerk of Superior Court within 30 days of receipt of the Petition for Judicial Review. Consequently, a copy of the Petition for Judicial Review must be sent to the Office of Administrative Hearings at the time the appeal is initiated in order to ensure the timely filing of the record.

This the 30th day of November, 2016.



Philip E. Berger, Jr.
Administrative Law Judge

CERTIFICATE OF SERVICE

The undersigned certifies that, on the date shown below, the Office of Administrative Hearings sent the foregoing document to the persons named below at the addresses shown below, by electronic service as defined in 26 NCAC 03 .0501(4), or by placing a copy thereof, enclosed in a wrapper addressed to the person to be served, into the custody of the North Carolina Mail Service Center who subsequently will place the foregoing document into an official depository of the United States Postal Service:

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This the 30th day of November, 2016.



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