

BEFORE THE DELAWARE RIVER BASIN COMMISSION

In re: DRBC Docket D-2017-009-2 }
GIBBSTOWN LOGISTICS CENTER }
Dock 2, }
}

REPORT OF FINDINGS AND RECOMMENDATIONS

Hearing dates: May 11 – 15, 18 – 20, 2020

Hearing venue: Video conference

Hearing Officer: John D. Kelly, Esquire
 Pennsylvania Department of State
 Office of Hearing Examiners

For the Commission: Pamela M. Bush, Esquire

For Delaware River

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 Gibbons, PC

For the Delaware
Riverkeeper and
Network:

 Lauren M. Williams, Esquire
 Mark L. Freed, Esquire
 Curtin & Heefer, LLP

I. LIST OF EXHIBITS REFERENCED IN THIS REPORT

Joint Exhibits

- J-1 DRBC Docket for Dock 2, Docket No. D-2017-009-2
- J-2 DRP Application filed with the Commission for Dock 2
- J-3 NJDEP Waterfront Development IP In-water Permit for Dock 2
- J-4 DRP Application for Waterfront Development IP In-water Permit for Dock 2
- J-7 Action Area for Dock 2 from Ramboll Sturgeon Impact Assessment
- J-8 Weeks Marine Letter to Ramboll regarding disposal (3/12/19)
- J-9 Letter from Clean Earth regarding dredge spoils
- J-14 5G3 – Construction Activity Stormwater General Permit
- J-15 DRBC Staff Comment and Response document for Dock 2 Docket
- J-24 DRBC Docket for Dock One, Docket No. D-2017-009-1
- J-25 DRBC Staff Recommendations and Response to Comments for Dock One
- J-26 DRN Comment Letter to DRBC re Dock One
- J-34 Tideland License (Fixed Structure)
- J-35 Tideland License (Dredging)
- J-36 2015 Partnership for the Delaware Estuary Report
- J-37 USACE Biological Assessment for Dock One
- J-38 NMFS, Endangered Species Act, Section 7 Biological Opinion
- J-44 DRN letter to USACE re Open Comment Period
- J-45 DRN comment letter to NJDEP re WFD Permit
- J-49 DRN comment letter to USACE re CENAP-OP-R-2016-0181-39
- J-50 NJDEP response to (DRN) comment document re Waterfront Development Permit Application
- J-51 Email to NMFS from USACE re re-initiation of consultation for Dock 2
- J-52 November 2019 Dock 2 Site plans
- J-53 Letter from NOAA, NMFS re re-initiation of CENAP-OP-R-2016-0180-39
- J-55 NJDEP 5G3 Construction Activity Stormwater Permit for GLC
- J-56 NJPDES Basic Industrial Stormwater General Permit.

DRN Exhibits

- DRN-1 Affidavit/Declaration of Tracy Carluccio
- DRN-10 Expert Report and direct testimony of Edmund A.C. Crouch, Ph.D.
- DRN-12 Expert Report and direct testimony of Matthew Fisher
- DRN-13 Expert Report and direct testimony of Marc B. Henderson, P.E
- DRN-14 Expert Report and direct testimony of James Schmid, Ph.D.
- DRN-15 Expert Report and direct testimony of Erik L. Silldorff, Ph.D.
- DRN-18 Expert Report and direct testimony of Erik L. Silldorff, Ph.D. (responsive)
- DRN-19 Expert Report and direct testimony of Erik L. Silldorff, Ph.D. (supplemental)
- DRN-25 Versar, Inc. reports entitled “Near-field Water Quality Modeling of Dredging Operations in the Delaware River”
- DRN-29 NJDEP National Heritage Program Cautions and Restrictions re data
- DRN-45 11/15/17 letter from NOAA to USACE re concerns and questions regarding DRP application for permit for Dock One
- DRN-59 5/30/19 letter from NOAA to USACE re continuing concerns regarding DRP application for permit for Dock 2
- DRN-78 Emails between DRN counsel and DRP counsel re exchange of information
- DRN-79 Emails between DRN counsel and DRP counsel re exchange of information

DRP Exhibits

DRP-6	Ramboll's Atlantic Sturgeon and Shortnose Sturgeon Impact Assessment
DRP-7	Action Area for Dock 2 from Ramboll Sturgeon Impact Assessment
DRP-12	Bulk Sediment Chemistry Results
DRP-33	Paul Hauge email to Mr. Kovach re conditions of Dock One Docket
DRP-39	NJDEP Dredging Technical Manual (Oct. 1997)
DRP-53	ISRA Redevelopment Area Remedial Action Report
DRP-66	RAO for PMDA/DMT – Unrestricted Use
DRP-74	Matrix SAV Survey
DRP-77	Dock One post-dredging multi-beam hydrographic survey
DRP-86	2018 Annual Groundwater Report
DRP-94	RAO for PMDA PLA Ditch
DRP-99	RAO for NBA
DRP-106	Ramboll letter to NJDEP re SAV Survey and Assessment
DRP-117	December 2019 Revised Set of Dredging Plans
DRP-118	Annual SAV Monitoring Report, December 2019
DRP-119	Certification from Gloucester County Soil Conservation District
DRP-123	Memorandum of Record re CENAP-OP-R 2016-0181-39
DRP-126	Planning/Zoning Board of Greenwich Township Resolution Approval
DRP-127	Jerry J. Pasquale Expert Report
DRP-129	Harold M. Brundage, III, Expert Report
DRP-131	Anthony DePasquale Expert Report
DRP-132	Jerzy Kichner Expert Report

DRP-133 Gregory Martin Expert Report

DRP-138 Gloucester County Planning Board Site Plan Approval

II. BIOGRAPHICAL INFORMATION OF WITNESSES

DRN Witnesses

Tracy Carluccio is the Deputy Director of the DRN. Ms. Carluccio testified as a fact witness due to her familiarity with the Site. Part of her work includes involvement with communities in Gloucester County (in which the Site is located) and the general region on water quality, public health and land development issues. Due to her work as well as her own personal leisure activities such as hiking and birdwatching, she is familiar with the area in which the Site is located. (DRN-1, ¶¶ 1 – 5)

Edmund A.C. Crouch, Ph.D., is Vice President and Senior Scientist at Green Toxicology, LLC. He specializes in all aspects of exposure assessment and risk assessment, but particularly the analysis of experimental and observational data and the application of such analyses to those fields. He has applied his skills to numerous quantitative risk assessment projects involving groundwater contaminations as well as air emissions, consumer exposures and food safety. Dr. Crouch is also currently a part-time Senior Risk Assessor for ARM Group, Inc. From 1987 to 2016, he was an Associate of the Department of Physics at Harvard University, Cambridge, MA. From 2004 – 05, he was a member of the National Academy of Sciences' Committee on Superfund Site Assessment and Remediation in the Coer D'Alene River Basin. He designed the theory and implemented in computer code a site assessment tool that uses Voronoi diagrams to assist in estimating risks from soil and groundwater on a site. He is an author or co-author of dozens of publications and reports, including State groundwater standards and qualitative health risk assessments of riverside PCB sites. (DRN-3, pp. 1, 2, 4, 5, 7)

Peter M. Demicco, P.G. is the Principal Hydrogeologist and President of Demicco and Water Associates, LLC. He is a geologist registered and certified in the States of Delaware, Pennsylvania and Virginia. He has technical and professional expertise in water resource evaluations, aquifer testing, groundwater flow modeling, and groundwater-surface water interaction. He has over 36 years of experience in the fields of water supply and ground water remediation. His consulting management experience has included oversight of over 50 major water allocation projects from single wells to multiple well installations. His expertise also

extends to ground water remediation of both water supply systems and industrial site remediation. He is the author or co-author of numerous professional publications dating to 1982.
(DRN-5)

Matthew T. Fischer is the sole proprietor of Aquatic Resource Solutions. He is also a Marine Researcher who was involved with the Atlantic sturgeon project of the Virginia Institute of Marine Science from March 2015 to July 2019. With regard to his Atlantic and Shortnose sturgeon experience, his work dates to approximately 2007. He has extensive experience in fish collection, gillnetting and trawling as well as in surgically implanting electronic telemetry transmitters in Atlantic sturgeon and other species. He has a number of published works and presentations with regard to sturgeon, particularly the New York Bight. He was accepted to testify as an expert in fisheries, fish biology and fisheries management with particular expertise as to Atlantic and shortnose sturgeon. (Tr. 517:23 – 518:3)

Marc B. Henderson, P.E., is a Civil Engineer at Meliora Design with more than 12 years of water resources and environmental engineering experience. His primary focus at Meliora Design is full-site civil design and Project Management for projects of all sizes, including low impact development, stormwater retrofits, stormwater and E&S permitting, and general utilities coordination for site improvements. He has performed full site civil engineering at the Wharton Academic Research Building, Philadelphia, PA, Mann Music Center Stormwater Retrofit, Philadelphia, PA, and Korman Quadrangle Renovation, Drexel University, among other projects. He has published environmental advocacy reviews and provided expert testimony and litigation support.

James A. Schmid, Ph.D. has been the President of Schmid & Co., Inc., consulting ecologists, since 1985. His current responsibilities include fieldwork, administration of contracts, writing and editing reports, regulatory analysis, client representation before agencies and expert testimony. He received a doctoral degree in Geography from the University of Chicago in 1972. He has certifications from the Ecological Society of America (Senior Ecologist), the Society of Wetland Scientists, the USACE, Baltimore District: Wetland Delineator Program, and the US Fish and

Wildlife Service: Habitat Evaluation Procedures. He is a member of the Citizens' Advisory Council of the Pennsylvania Department of Environmental Protection. Dr. Schmid has participated in more than 100 environmental impact statements prepared using federal, state or local guidelines. He performed environmental analyses that resulted in the filling of wetlands and the Hackensack River at a residential complex of 96 acres in New Jersey. Dr. Schmid authored a Federal EIS on a proposed fuel oil transfer and storage terminal in the Hudson River. He designed mitigation for a marine container terminal expansion which entailed the filling of 16 acres of the River and 8 acres of freshwater tidal marsh. His principal expertise and professional interest lie in the analysis of urban vegetation and in the design and establishment of functioning ecosystems in the form of new wetlands, reclaimed landfills and mined areas. He is the author of dozens of books, book chapters and professional papers in his field. He was accepted as an expert in ecology, including the analysis of urban vegetation and the design and establishment of functioning ecosystems in the form of wetlands and other vegetative spaces. (Tr. 338 – 353).

Eric Silldorff is an aquatic ecologist who has studied freshwater invertebrates, including freshwater mussels, for nearly 30 years. He is currently employed as the Restoration Director for the DRN. From 2006 until 2016, he was a lead scientist and Senior Aquatic Biologist at the DRBC. Part of his duties as both the Restoration Director and Senior Aquatic Biologist have included boat-based sampling the tidal River for water quality parameters and biological communities. In 1992, he obtained a B.S. with Honors and Distinction in Natural Resources from Cornell University. He obtained a doctoral degree in Ecology from the University of California at Santa Barbara in 2003. He is an author or co-author of a number of publications and technical reports regarding freshwater mussels. (DRN-9)

DRP Witnesses

David R. Blye, CEAC is a principal chemist with relevant expertise in environmental chemistry, environmental analysis methods (organic and inorganic), and Sampling and Analysis Plan preparation and review. He is a certified environmental analytical chemist. He has more than 36 years of diversified experience in the field of environmental chemistry; his experience includes

field data collection and environmental sampling and the planning, development and execution of field sampling and analytical projects. He was retained by the Delaware Estuary TMDL Coalition to provide expert analytical consulting services regarding the Delaware Estuary Stage 2 PCB TMDL. He has a number of professional publications along with professional presentations. (DRP-151)

Harold M. Brundage, III is the President of Environmental Research and Consulting, Inc. He has over 45 years of diversified experience in environmental sciences and consulting. He has served as Senior Scientist or Project Manager in numerous projects in the areas of fisheries and aquatic biology, water quality, environmental impact assessment, mitigation planning, hazardous waste site investigation, and environmental licensing and permitting. He has conducted research in marine, estuarine and freshwater environments, and is an expert on sturgeon biology, having performed field research with shortnose and Atlantic sturgeons since 1979, most of which was in the Delaware River. Much of his work for the last seven years has been focused on developing and implementing methods to monitor and protect sturgeon during rock blasting for the Delaware River Main Channel Deepening Project. (DRP-152)

Gregory J. Cavallo, P.G., is an independent consulting geologist. Mr. Cavallo has more than 25 years of diversified experience in the environmental field with a focus on ground water hydrology and environmental chemistry. His career with the DRBC began as Project Manager of the Southeastern Groundwater Protected Area. He also helped to develop the PCB Total Maximum Daily Loads (“TMDL”) for the Delaware Estuary. He was project manager for numerous field studies involving the collection and evaluation of sediment for a variety of environmental compounds, including PCBs. He was project manager responsible for coordinating Pollutant Minimization Plan (“PMP”) efforts regarding PCBs TMDLs in the Delaware River for New Jersey, Pennsylvania, Delaware, and EPA Regions II and III.

Gregory D. Martin, PG, LSRP. Mr. Martin is Vice President/Principal Hydrogeologist for ROUX, Inc. His technical specialties are design and implementation of project completion/closure strategies, design and implementation of soil, sediment, groundwater and air investigations, preliminary design and remedial action selection, regulatory coordination and negotiations, and interpretation of federal and state regulations. He has conducted state-lead investigative and

remedial activities under NJDEP, PADEP, MDE, DNREC, MADEP, and NYSDEC, among others. (DRP-153)

Anthony DePasquale is a Civil and Geotechnical Engineer with 37 years of experience as a designer, construction manager, negotiator and permitting consultant with the USACE. He is experienced with the design, management and construction of flood protection systems, bulkhead rehabilitation, waste and dredge disposal containment facilities, and has reviewed and negotiated numerous construction contract claims, permitting issues and engineering disputes. He is currently employed as Director of Environmental Services for S.T. Hudson Engineers, Inc. From September 1981 to March 2018, he was the Chief of the Operations Division of the USACE, Philadelphia District. From 2008 to 2018, he designed and drafted a dredge material management plan as part of senior level contracting and construction management on the Delaware River Main Channel Deepening Project. (DRP-154)

Laura George is a Principal Consultant with Ramboll, a global engineering, architecture and consultancy firm for environmental and health related issues. She has been at Ramboll since 2006 and she has over 25 years of diverse experience with projects involving environmental and land use permitting and compliance, site assessment and remediation and brownfield redevelopment. (DRP-140, ¶ 1 – 2)

Jerzy J. Kichner, P.E., is the owner and CEO of KSEAS, LLC, which provides consultancy in engineering, safety, security and environmental response. Captain Kichner is retired from the United States Coast Guard with over 40 years of experience in the USCG Marine Safety Program. He provides risk and hazard analysis and assessment, emergency planning and response, and regulatory compliance consultation to commercial marine transportation and support sectors as well as to the U.S. Government. KSEAS is currently actively supporting developers in the permitting of LNG and LHG Terminals and transportation.

Gregory D. Martin, PG, LSRP is Vice President/Principal Hydrogeologist for ROUX, Inc. His technical specialties are design and implementation of project completion/closure strategies,

design and implementation of soil, sediment, groundwater and air investigations, preliminary design and remedial action selection, regulatory coordination and negotiations, and interpretation of federal and state regulations. He has conducted state-lead investigative and remedial activities under NJDEP, PADEP, MDE, DNREC, MADEP, and NYSDEC, among others. (DRP-133)

Jerry J. Pasquale is the Chief of the Environmental Resources Branch of the USACE, Philadelphia District. He has 38 years of experience with the USACE – 9 years as a biologist and 29 years as a supervisory biologist. His responsibilities involved the management and supervision of technical specialists engaged in environmental studies and investigations, including but not limited to habitat evaluations of aquatic, wetland and upland sites to determine fish and wildlife resource values, investigations of federally listed threatened or endangered species, water quality studies, and studies to determine presence and potential impact of pollutants in water resources. His most recent technical assignments included all environmental requirements for the Delaware River Main Channel Deepening Project, and sediment and water quality investigations associated with dredging and dredged material disposal projects. (DRP-157)

DRBC WITNESSES

David Kovach is the Project Review Manager for the DRBC.

III. PROCEDURAL HISTORY

The matter before the Delaware River Basin Commission (“DRBC” or “Commission”) is a *Request for Hearing of the Delaware Riverkeeper and the Delaware Riverkeeper Network under Article 6 of the Commission’s Rules of Practice and Procedure* (“*Request for Hearing*”) filed by the Delaware Riverkeeper and Riverkeeper Network¹ (“DRN”) by transmittal letter dated July 11, 2019. The matter about which a hearing was requested is a Docket approved by the Commission on June 12, 2019 at the above-captioned Docket number regarding an *Application* (“*Application*”) submitted to the DRBC on March 12, 2019 by Delaware River Partners, LLC (“DRP”). The *Application* requested approval of a new Delaware River dredging and deep-water berth construction project (the “Project” or “Dock 2”) at DRP’s previously-approved Gibbstown Logistics Center (“GLC”). The construction of Dock 2 will require dredging approximately 665,000 cubic yards (“cy”) of sediment from the Delaware River (“River”) to a depth of 43 feet below (-43) mean lower low water to accommodate two deep-water ship berths along with an associated pile-supported wharf structure and necessary infrastructure.

On March 25, 2019, the Commission published on its website a *Notice of Applications Received* which included the instant *Application* and which was then circulated via the United States Postal Service or email to the DRBC’s Interested Parties List.

On May 24, 2019, the Commission issued a *Public Hearing Notice* (“PHN”) and draft docket for the Project which set the public hearing for June 6, 2019. The PHN appeared on the DRBC website, Eventbrite, Twitter and LinkedIn and was also emailed to more than 900 individuals, entities and members of the press who participate in DRBC’s listservs. The PHN

¹ For purposes of simplicity, both the Riverkeeper and the Riverkeeper Network will be referenced as “DRN” in this Report.

called for written public comment to be filed by June 7, 2019. In response to the *PHN*, sixteen (16) speakers appeared at the hearing and 119 written comments were received. Seven of the written comments favored the Project for economic reasons while the remainder opposed it for environmental reasons or reasons related to a perceived deficiency in the amount of time the *PHN* allowed for public comment.²

At its June 12, 2019 business meeting, DRBC Project Review Manager David Kovach, P.G., provided the Commission with an oral summary of the public's responses and concerns as submitted during the public comment period. Mr. Kovach recommended certain changes to the draft docket as a result of public input. Most relevant to the instant proceeding, these changes included amending the project description by specifically listing liquid natural gas ("LNG") and Liquid Petroleum Gas ("LPG")³ among the "bulk liquids and bulk gases" generally referenced in DRP's *Application*. Changes recommended by Mr. Kovach also included the addition of an express condition that the DRBC may rescind or reopen the docket if warranted in light of new information. With these changes and others discussed *infra*, the draft docket was unanimously approved by the Commission on June 12, 2019.

DRN had submitted comment letters to the Commission dated May 8, 2019 and June 3 and 7, 2019 opposing the draft docket. DRN also presented testimony and comment at the June 6, 2019 hearing and at the June 12, 2019 business meeting. In response to DRN's *Request for Hearing*, the Commission voted on September 11, 2019 to grant an administrative hearing under

² Ultimately, the Commission received 314 written statements on the Dock 2 Project during the hearing process pursuant to 18 C.F.R. § 401.84(a). No interested party requested the right to examine or cross-examine any person who submitted a written statement, and all such statements were therefore included in the record.

³ These gases include butane, isobutane and propane.

subpart F of its Rules of Practice and Procedure (“DRBC Rules”), 18 C.F.R. part 401, to review its June 12, 2019 decision to issue the above-captioned Docket.

By letter dated November 1, 2019, Kenneth Kosinski, P.E., New York State Commission (Governor’s alternate) for the DRBC designating the undersigned Hearing Officer to conduct the administrative hearing and file a *Report of Findings and Recommendations* (“*Report*”). Pursuant to DRBC rules, interested parties were notified of the designation and their right to object to it, but no objections were filed.

On November 19, 2019, an Order was entered to set a case management conference to be held on December 9, 2019 and a deadline for the filing of case management statements. Included in that Order was a provision requiring the filing of briefs with regard to the permissibility of Damascus Citizens for Sustainability (“DCS”) to have interested party status in the administrative hearing based on its August 7, 2019 letter to the Commission demanding a hearing on the above-captioned Docket. Case Management Statements and briefs were duly filed by all Participants⁴ and DCS, but DCS was denied interested party status.

By Order dated December 10, 2019, the hearing in this matter was set to commence on April 15, 2020 and certain other prehearing deadlines were established. The hearing was to be held at the New Jersey Administrative Law Center and was to continue on consecutive business days until completion.

On or about December 19, 2019, DRP filed a *Motion in Limine* along with a brief to preclude DRN from introducing evidence and testimony with regard to certain topics and issues.

⁴ For purposes of the instant Report, the “Participants” include DRBC staff along with the parties, DRP and the DRN.

DRN responded to this Motion with an Answer and brief. By Memorandum Order entered on January 30, 2020, the Motion was granted in part and denied in part.⁵

Despite exhaustive efforts on the part of each of the Participants to commence and conclude it, the hearing set to begin on April 15, 2020 was continued due to governmental restrictions on gatherings and travel imposed as a result of the COVID-19 pandemic. As a further result of those restrictions, nearly all of the ensuing communications among the parties, along with filing and service of documents in this case, took place electronically, and conferences were held by telephone or video connections through the website Zoom.com.⁶

The hearing was reset to commence on May 11, 2020 with each of the Participants, the witnesses, the Court Reporter and the Hearing Officer appearing in separate physical locations connected through the Zoom.com website. By agreement of the parties, the direct testimony of all witnesses was submitted in writing prior to the commencement of the hearing, with hearing time reserved for any necessary cross-examination[s], re-direct examination[s] and rebuttal testimony. Due to the expedited schedule necessary to ensure a timely review by the Commission, the parties agreed to a truncated briefing schedule. At the request of DRBC Staff due to the amount of time necessary for preparations for the Commission's June 2020 meeting, the briefing schedule was extended by three days for each party. Another extension of one (1) day was later granted to all parties, again for good cause. Briefs were duly filed in a timely manner.⁷ The matter is ready for disposition.

⁵ Because of its significance in delineating the boundaries of the issues and the relevant evidence in this case, the Memorandum Order is hereby incorporated into this *Report*, by reference.

⁶ Counsel for DRP sponsored and hosted these video conferences, along with each day of hearings in this matter, through its Zoom.com account.

⁷ For purposes of consistency and ease of cross-referencing, to the extent possible the evidentiary record is identified in this *Report* with naming conventions similar to those the Participants used in their Briefs.

IV. PROPOSED FINDINGS OF FACT

1. The DRBC was created in 1961 as a federal-interstate compact entity, with both the federal government and the basin states (New York, New Jersey, Pennsylvania, and Delaware) as signatory parties. (Joint Stipulations #29)⁸
2. DRP is a Limited Liability Company and a subsidiary of Fortress Investment Group with corporate headquarters located at 1345 Avenue of the Americas, New York, NY, 10105. (Exhibit J-2⁹, AR000021))
3. DRN is a non-profit organization established in 1988 to protect and restore the River, its tributaries and habitats. DRN supports the Delaware Riverkeeper, Maya van Rossum, a full-time privately funded ombudsman for the protection of the waterways in the Delaware River Watershed. (Request for Hearing. pp. 2 – 3)
4. DRN and DRP are “interested parties” for purposes of this administrative hearing as described by Section 2.6.4.A. of DRBC Rules. (JS ¶ 1)

A. Geography, features and history of the Project Site

5. The Project is located within the Delaware River Basin (“Basin”) at Latitude (N) 39° 40’ 44” and Longitude (W) 75° 18’ 29,” at River Mile 86.5 in River Water Quality Zone 4, in the former DuPont Repauno Site (“Site”), an approximately 1,630-acre property located along the River in Gibbstown, New Jersey. (Exhibit J-2, AR 000011; DRP-140, ¶ 5)

⁸ The Joint Stipulations will be referred to herein as “JS.”

⁹ Exhibit J-2 is the *Application* that DRP filed with the Commission for Dock 2.

6. Dock 2 is part¹⁰ of the GLC, a multi-use, deep-water seaport and industrial logistics center at 200 North Repauno Avenue, Gibbstown, NJ. (DRP-140, ¶ 5)
7. Monds Island is located 0.3 miles to the southwest of the GLC, while Riverfront Park/Floodgates Park are 1.6 miles southwest of it. (DRN-1, ¶ 6)
8. The confluence of the River and the Repauno Creek,¹¹ a tidal stream with a forest riparian buffer and marshy conditions, lies to the west of the Site. (DRN-1, ¶ 11)
9. Various areas around the confluence of the River and the Repauno Creek support birdwatching, fishing, picnicking and trail hiking activities with secluded, scenic views. (DRN-1, ¶ 8 – 15)
10. Vessels berthed at the GLC may be visible from Riverfront Park trails. (DRN-1, ¶ 22)
11. The Project area is adjacent to the Tincum Range of the main navigational channel in the River. Remnants of a wood pier and water intake structure for the Repauno facility extend into the river away from Thompson Point, New Jersey. (Exhibit J-2, AR 000296)
12. The Project is situated directly across the River's main navigational channel from the downstream end of Little Tincum Island. (Exhibit J-2, AR 000296)
13. The River is 5,300' wide at the Project location, but the distance from the shoreline at Thompson Point across to Little Tincum Island is slightly less than 3,000'. (Exhibit J-2, AR 000296)
14. The main navigational channel is 800' wide at the Site. (Exhibit J-2, AR 000296)

¹⁰ The other part of the CGL is known as "Dock 1." For ease of reference and to avoid potential confusion, Dock 1 will be spelled out as "Dock One" herein, while Dock 2 will use the Arabic numeral identifier.

¹¹ William DuPont, when planning the original DuPont facility at the Site, modified the name "Repauno" to "Repauno," which he preferred. (Exhibit J-2, AR000386)

15. Dock 2 itself is to be situated 650' from the shoreline (at its nearest point) and 840' from the main navigational channel. (DRP-140, ¶ 17)
16. Dredging for Dock 2 will occur no closer than 600 feet from the shoreline. (Tr. 396:4-11 (DRN-14))¹²
17. In this area, water depths generally range from 30-40 feet deep, with the exception of a small area to the southwest portion of the dredge envelope where depths are in the range of 20 to 30 feet. (DRP-117, Sheet 5; Tr. 61:3 to 63:18 (Silldorff)).
18. Water heights at the Dock 2 site vary about three to five feet twice a day due to tidal influences. Tr. 1610:9-19 (George).
19. Since the 1880s, the Site was used by various DuPont-associated¹³ entities for various chemical research, manufacturing and related purposes, including the testing of explosives. (DRN-14, p. 3; DRP-130)
20. Between 1880 and 1954, portions of the site were used for the purposes of manufacturing dynamite. After 1954, the focus of manufacturing was shifted to the production of commodity chemicals, primarily nitric acids. (Exhibit J-2, AR 000314)
21. In the early 1900s, DuPont installed on the Site a wharf and certain marine structures which were still in existence when DRP acquired it. (DRP-140, ¶ 10)
22. The Repauno Site was closed by DuPont in 2009. (Exhibit J-2, AR000399)
23. Beginning with investigations and remediations in 1990, DuPont has been implementing a long-term environmental remediation program to address historical contamination with the

¹² The transcript of the hearing will be referenced as "Tr." followed by the page and line numbers for the quoted or cited material, with the last name of the witness providing the testimony.

¹³ The specific identities of DuPont subsidiaries or related entities having had ownership of the site in the distant and near past are not relevant to this proceeding. Therefore, any references herein to historical ownership of the property will be simply to DuPont.

oversight of the NJDEP Site Remediation Program. (DRP-140, ¶ 55; Exhibit J-2, AR000399)

24. DRP is currently redeveloping part of the Site, including areas adjacent to the Delaware River, into a marine terminal and logistics center which is designed to handle a range of ships transporting roll-on/roll-off cargo (e.g. automobiles), break-bulk cargo and bulk-liquid products. (DRP-140, ¶10)
25. DRP's redevelopment is being coordinated with DuPont's Licensed Site Remediation Professional and the NJDEP. (DRP-140, ¶ 56)
26. The wharves constructed in the early 1900s include a large timber-cribbed structure with a finger pier at its northwest corner extending northward some 150 feet into the Delaware River and a pier at Thompson Point extending northward some 300 feet into the river. (Exhibit J-2, AR000314)
27. In the early 1950s, a water intake system was installed at Thompson Point with steel sheet-pile cells on the east side of the Thompson Point pier. (Exhibit J-2, AR 000314)
28. Periodic dredging permits were approved for the Repauno terminal to create a 35-foot deep ship berth between 1968 and 1983.¹⁴ (Exhibit J-2, AR000314)
29. DuPont's manufacturing operations at the Site began in the 1880s and ended by the early 2000s. (DRP-130 at 1: DRP-133, p 11)
30. Chemours, which acquired the Site from DuPont, has been implementing a long-term environmental remediation program at the Site under the oversight of New Jersey

¹⁴ Further details regarding the history of the Site but not directly related to water quality issues may be found in an Underwater Archeological Investigations Report regarding the Repauno Site which was prepared by Dolan Research, Inc. for Ramboll in February 2019. (App. AR000291 – 347)

Department of Environmental Protection (“NJDEP”). (DRP-133, pp. 11, 12-14; DRP-140, ¶ 55 & Exhibit E, p. 3)

31. Railroad tracks and vehicular traffic enter the Site through Gibbstown. (DRN-1, ¶ 23)

32. A new truck bypass and access roadway will be necessary to Dock 2 operations once the project is complete. (DRN-14, p. 2)

B. Background of the Project

33. DRP acquired the Site from Chemours in 2016, intending to redevelop and return it to productive use as a marine terminal and logistics center. (JS ¶¶ 3, 4; DRP-140, ¶ 5)

34. In 2014, DRP retained Ramboll, a global engineering, architecture and consultancy firm for matters involving environmental health, to provide environmental consulting services in connection with the acquisition of the Site. (DRP-140, ¶¶ 1, 3)

35. In 2015, Ms. George, a principal consultant at Ramboll, was appointed to serve as lead environmental consultant for DRP. (DRP-140, ¶¶ 1)

36. As lead environmental consultant, Ms. George assisted DRP in the preparation of environmental permit applications for the Site and also interacted on DRP’s behalf with federal and state regulatory agencies and the DRBC with regard to regulatory compliance and permit issues. (DRP-140, ¶ 4)

37. The total area to be redeveloped covers approximately 184 acres of the 1,630-acre Site. (DRP-140, ¶ 5 & n.1)

38. The Dock 2 Project involves dredging of approximately 665,000 cubic yards of Delaware River sediment in a 45-acre area and the construction of two deep-water berths along with supporting landside infrastructure, the construction of which will temporarily disturb

- approximately 0.8 acres of land, with the remainder of the structure over water. (JS ¶ 6; DRP-140, ¶¶ 17, 57; DRP-131, p.5; Tr. 1295:16-22 (George); Exhibit J-52)¹⁵
39. 665,000 cubic yards divided by 45 acres is approximately 14,777.78 cubic yards of dredged material per acre.
40. There were 371,000 cubic yards removed from Dock One, for a total of over 1 million cubic yards between the projects. (Tr. 1272:11-20 (Kovach)).
41. The dredging for Dock One and Dock 2 cover roughly 1-2 miles of river in front of the DuPont Repauno property. (Exhibit J-52)
42. The Site is currently the subject of a remediation program by Chemours under NJDEP. (DRP-140, ¶ 55)
43. The 0.8-acre parcel is part of Chemour’s remediation effort, but the soils temporarily disturbed as part of any Dock 2 construction have been previously remediated. (DRP-140, ¶ 58)
44. The remediation is overseen by both a case manager in NJDEP’s Site Remediation Program and two Licensed Site Remediation Professionals (“LSRP”), one retained by Chemours and the other by DRP. (DRP-133, p. 17; (Tr. 2223:5-2224:20 (Martin))
45. Chemours has completed the remediation of soils in all areas within the portions of the Site to be redeveloped by DRP, as reflected in the issuance of multiple Response Action Outcomes (“RAOs”) that cover the entire 184-acre redevelopment area, and beyond.¹⁶ (DRP-133, p. 12-13; DRP-140, Exhibit R)

¹⁵ Exhibit J-52 contains the Nov. 2019 Dock 2 Site Plans.

¹⁶ The issuance of an RAO signals the completion, in full satisfaction of all regulatory requirements, of the remediation of all contamination in the media and the geographic area covered by the RAO. (Tr. 2221:13-2222:1 (Martin)). Prior to issuing an RAO, the LSRP prepares several reports documenting the investigation and remediation of the areas subject to the RAO, each of which are submitted to the NJDEP for review and approval at each stage of the process. DRP-133, p. 10-11; Tr. 2218:11-21 (Martin).

46. Groundwater remediation at the Site by Chemours, also under dual NJDEP/LSRP oversight, is ongoing. (DRP-133, p. 19)
47. Chemours is required to control and reduce PCB discharges via stormwater runoff into the River under the terms of a Pollution Minimization Plan (“PMP”) prepared and submitted to the Commission in accordance with the Commission’s regulations. (Exhibit J-24, p. 5; DRP-130, p. 4; DRP-140, ¶ 63)
48. On August 8, 2017, DRP submitted an application for DRBC approval of the Dock One facility. (Exhibit J-24, p. 1)
49. On November 20, 2017, DRN submitted a public comment letter to the Commission opposing the Dock One construction. (Exhibit J-26)
50. DRN’s comments raised concerns about many of the same issues that have been raised with regard to Dock 2, e.g., potential PCB discharges, impacts to Atlantic sturgeon critical habitat, disturbance of submerged aquatic vegetation (“SAV”), the potential presence of mussels, and the completeness of the information in DRP’s docket application. (Exhibit J-26, pp. 2-6)
51. Ms. Carluccio provided oral comments to the Commission at DRBC’s November 15, 2017 public hearing in connection with the Dock One Project. (Exhibit J-25 at AR001546)
52. The Commission unanimously voted to approve Docket No. 2017-009-1 for Dock One on December 13, 2017. (Exhibit J-24; JS, ¶ 5)
53. The Dock One project as approved included the dredging of 371,000 cubic yards of sediment from the Delaware River to a depth of -40 mean lower low water (“MLLW”), deep-water berth construction of a pile-supported dock immediately adjacent to and

- connected to the GLC, and installation of six new stormwater outfalls as part of the GLC's comprehensive stormwater management system. (Exhibit J-24, ¶¶ A.1, A.4)
54. The Commission also included a condition in the Dock One Docket that requires DRP to prepare and implement a PCB stormwater sampling plan to assess potential PCBs in stormwater discharges from the redeveloped site. (Exhibit J-24, ¶¶ B, C.I.1.)
55. The sampling plan is to be incorporated into DRP's New Jersey Pollution Discharge Elimination System ("NJPDES") Permit covering the GLC and will be used by DRBC and NJDEP to determine the potential need for DRP to develop a PCB PMP for the GLC. (Exhibit J-24, ¶¶ B, C.I.1.)
56. DRN did not seek rehearing from the Commission or otherwise appeal the Dock One Docket. (Official Notice, DRBC records)
57. The overall GLC plan has changed in certain respects from what was originally documented and submitted to DRBC. (DRN-13, p.5)
58. In the view of the Project Review staff, the Dock One Project constitutes a net environmental benefit in the River by removing hundreds of pounds of PCB-contaminated sediment from dredging and adding clean fill to the redeveloped areas of the Site. (Exhibit J-24 at AR001549; Tr. 1324:9-17 (Kovach))
59. Within the GLC there are three general areas: 1) the Northern Marine Terminal area, an approximately 166-acre area adjacent to the River shoreline, which is currently being developed by DRP; 2) the Southern Marine Terminal Area, an approximately 18-acre area which is planned for warehousing and logistics at a future date; and 3) a central undeveloped area that separates the Northern and Southern Marine Terminal Areas. (DRP-140, ¶¶ 5, 15)

60. The GLC is being developed in phases, with Dock One construction now complete and portions of the Northern Marine Terminal Area currently under development. (DRP-140, ¶ 6)
61. Unlike the Dock One wharf, which is fully connected to land because of its designed use, Dock 2 is to be located approximately 650 feet from the shoreline (at its nearest point), and approximately 840 feet from the Delaware River Federal Navigation Channel (“Navigation Channel”). (DRP-140, ¶ 17)
62. Access from the landside area to the Dock 2 marine facility is to be provided by an approximately 32-foot wide trestle which will tie into landside infrastructure currently under development as part of Dock One. (DRP-140, ¶ 17)
63. As the various phases of construction are carried out, approximately 3 – 7 feet of clean fill is being added to raise the elevation of the redevelopment area to meet NJDEP flood hazard requirements. (DRP-140, ¶ 7)
64. The calculations used to determine the amount of necessary fill did not take into account projections for increased water levels resulting from global climate change. (DRN-14, p. 3)
65. DRP intends to install new stormwater collection, conveyance and treatment systems in conjunction with development of the Site. (DRP-140, ¶ 7)
66. As of the date of the hearing, the environmental permitting for Dock One and the marine terminal facility included the following:
- a. A *Jurisdictional Determination* issued by the USACE on July 5, 2016;
 - b. A *Freshwater Wetlands Letter of Interpretation* issued by the NJDEP on July 11, 2016 (revised on July 29, 2016 and October 11, 2016);

- c. *A Waterfront Development Individual Permit (Upland and In-water)* including an *Acceptable Use Determination* for dredged material, issued by NJDEP on April 10, 2017 (revised August 3, 2017, January 18, 2018, February 14, 2018 and November 29, 2018);
- d. *A Water Quality Certificate* issued by NJDEP on April 10, 2017 (revised August 3, 2017);
- e. *A Flood Hazard Area Verification and Individual Permit* issued by NJDEP on April 10, 2017 (revised August 3, 2017, January 18, 2018, February 14, 2018 and November 29, 2018);
- f. *A Coastal Wetland Individual Permit* issued by NJDEP on April 10, 2017 (revised August 3, 2017, January 18, 2018 and February 14, 2018);
- g. *A Freshwater Wetlands Individual Permit* issued by NJDEP on June 30, 2017 (revised August 3, 2017 and November 29, 2018);
- h. Two *Tidelands Licenses (Dredging and Fixed Structure)* issued by NJDEP on September 28, 2017;
- i. *Construction Activity Stormwater Permits (5G3)* issued by NJDEP (addressing landside construction activities) on November 8, 2017, May 28, 2019 and September 13, 2019;
- j. *Soil Erosion and sediment Control Plan Certifications* issued by Gloucester County Soil Conservation District on November 1, 2017, May 22, 2019 and September 12, 2019;
- k. *DRBC Docket No. 2017-009-01* in connection with Dock One of the Project;

- l. A *Section 10/404 Individual Permit* issued by the USACE on December 21, 2017 (revised January 10, 2018, February 22, 2018 and March 18, 2018);
- m. A *Basic Industry Stormwater Permit (5G2)* issued by NJDEP (addressing landside operations) on January 15, 2020.

(DRP-140, ¶ 11)

67. The DRBC Docket for Dock One did not identify legacy chemical contamination at the Dock 2 site. (DRN-14, p. 3)

68. Currently, infrastructure development and operational plans are focused on the transloading of LPG directly from rail cars to marine vessels at Dock One, and the transloading of butane to and from a subterranean hard rock cavern by truck and railcar.

(DRN-140, ¶ 8)

C. The various state and federal permit applications filed for the Dock 2 Project

69. On March 12, 2019, DRP submitted its *Application* to the Commission seeking approval for the Dock 2 Project. (JS ¶ 11)

70. The *Application* included a complete copy of DRP's applications to NJDEP for a Waterfront Development Individual Permit and for Tidelands licenses. (JS ¶ 11)

71. A Dredge Material Management Plan ("DMMP") was provided to DRBC under separate cover. (JS ¶ 11)

72. On March 25, 2019, DRBC published on its website a notice of applications received that included a description of the Dock 2 Project. (JS ¶ 12)

73. On May 24, 2019, DRBC issued the *PHN* and draft docket for the Dock 2 Project, providing notice of a public hearing scheduled for June 6, 2019 and a 14-day written comment period for the draft docket, to close on June 7, 2019. (JS ¶ 13)

74. The DRN presented oral comments at the June 6, 2019 DRBC hearing. The DRN and the Delaware Riverkeeper also submitted written comments on the draft docket. (JS ¶ 14)
75. The Commissioners unanimously approved Docket No. D-2017-009-02 for DRP on June 12, 2019. (JS ¶ 15)
76. At the time of DRBC consideration of the *Application*, several permit applications were still pending consideration by their respective permit-issuing authorities. (DRN-13, p. 5)
77. In March 2019, in addition to its application to the Commission, DRP had also submitted applications to NJDEP and the United States Army Corps of Engineers (“USACE”) for approval of the Dock 2 Project. (JS ¶ 6)
78. The USACE regulates the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act and works within navigable waters under Section 10 of the Rivers and Harbor Act of 1899” (DRP-123, p.20; 33 U.S.C. § 1344; 33 U.S.C. § 403)
79. On or about March 1, 2019, DRP submitted an application to NJDEP for a Waterfront Development Individual Permit and Water Quality Certificate, NJDEP Tidelands License (dredging), and NJDEP Tidelands License (fixed structure). (JS ¶ 9)
80. On or about March 1, 2019, DRP submitted an application to USACE for a Section 10/Section 404 permit for the Dock 2 Project. (JS ¶ 10)
81. As part of the USACE’s Section 404/10 permitting process, along with the NJDEP’s waterfront development, coastal wetlands and freshwater wetlands permitting processes, DRP determined that no wetlands are present on the Site. (DRP-140, ¶ 60)

82. DRP has obtained local soil erosion and sediment control plan certifications along with an NJDEP Construction Activity Stormwater Permit for the landside construction. (DRP-140 ¶ 59)
83. NJDEP issued a Waterfront Development Individual Permit (“WFD Permit”) including a Section 401 Water Quality Certificate for the Dock 2 Project on May 20, 2019. (JS ¶ 18)
84. Due to an inadvertent lack of notice of DRP’s application in the NJDEP Bulletin, NJDEP suspended the WFD Permit on June 5, 2019 to allow time to publish notice of the permit and obtain public comment. (JS ¶ 19)
85. Following expiration of the notice period, NJDEP reinstated the WFD Permit on September 5, 2019. (JS ¶ 20)
86. On January 14, 2020, DRP obtained an authorization from NJDEP for New Jersey Pollutant Discharge Elimination System (“NJPDES”) General Permit No. NJG0304042. (JS ¶ 21)
87. This Permit addresses stormwater discharges from construction activity for the Dock 2 Project. (JS ¶ 21)
88. Certain changes to the GLC layout plan were submitted as part of the application for a RFA Basic Industrial Stormwater General Permit 5G2 dated July 31, 2019. (DRN-13, p. 11)
89. On January 15, 2020, NJDEP issued to DRP an authorization under NJPDES Basic Industrial Stormwater General Permit No. NJ0088315DRP for the GLC. DRN and DRP disagree regarding the scope of this authorization. (JS ¶ 22)
90. On February 25, 2020, USACE issued a Section 10/Section 404 permit (the “USACE Permit”) to DRP for the Dock 2 Project. (JS ¶ 23)

91. The USACE Permit authorizes the construction of the new docking facility and mechanical dredging in the waterway. (JS ¶ 23)
92. The USACE Permit further provides that the dredged material shall be taken for disposal at either White's Basin in Logan Township, New Jersey or the Fort Mifflin CDF in Philadelphia, Pennsylvania. (JS ¶ 23)
93. All of the dredging BMP's proposed in the DMMP have been included as mandates in the Section 10/404 Permit issued by the USACE, in the Waterfront Development Permit issued by NJDEP and in the Dock 2 Docket. (DRP-140, ¶ 36)
94. Due to a ministerial error, the cover letter pertaining to the USACE Permit is date-stamped January 25, 2020. (JS ¶ 23)
95. Previously, in March 2019, DRP had received letters from Weeks Marine Inc. and Clean Earth notifying DRP that the dredged material is acceptable for disposal at White's Basin or Fort Mifflin. (JS ¶ 24)
96. The USACE's *Biological Assessment* for Dock One was issued in August 2017, and the National Marine Fisheries Service's ("NMFS") *Biological Opinion* for Dock One was issued on December 8, 2017. (JS ¶ 25)
97. The USACE permitting process for Dock 2 included re-initiation of consultation with NMFS, at the request of NMFS, regarding the potential impacts of the project on species listed as threatened or endangered under the Endangered Species Act, and the issuance of a Biological Assessment on September 26, 2019. (JS ¶ 26)
98. NMFS issued a Letter of Concurrence as to the Dock 2 Project on November 19, 2019. (JS ¶ 27)

99. The USACE Permit imposes a seasonal restriction of no in-water work between March 15th and September 15th. (JS ¶ 28)
100. The combined footprint of Dock One and Dock 2 has been subject to multiple reviews and approvals by the NJDEP Site Remediation Program, including four RAOs that document that the redevelopment area has been satisfactorily remediated in accordance with NJDEP rules and regulations. (DRP-133, p. 16-17 and Figure 5; DRP-57 (Mar. 30, 2017 RAO); DRP-66 (Oct. 13, 2017 RAO); DRP-94 (July 8, 2019 RAO); DRP-99 (July 12, 2019 RAO); Tr. 2221:16-2222:1 (Martin))
101. Each of these RAOs was the culmination of decades of environmental investigation and remediation efforts at the Site. (DRP-133, p. 11-14; Tr. 2221:16-2222:1 (Martin))
102. The remediation and the issuance of the RAOs were overseen by Chemours' LSRP, AECOM, who has the regulatory obligation to ensure that the historic contamination at the site is properly investigated, assessed, and remediated in accordance with all applicable regulatory requirements. (DRP-133, p. 9-10; Tr. 2214:10-18 (Martin))
103. In an RAO, the LSRP certifies that the remediation identified therein "has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), that is protective of public health, safety and the environment." (See e.g., DRP-99, p. 1 of AECOM letter to Chemours dated July 12, 2019)

C. Pre-Application evaluation of effect on wildlife, including endangered species

i. Mussels

104. The tidal Delaware River and its tidal tributaries near the Site are regional hotspots for a unique group of bivalves (clams) known as freshwater or "pearly" mussels which were once more abundant in the region. (DRN-15, p. 2)

105. Included among these mussel groups are 4 state-listed species or species of special concern: the Tidewater Mucket (NJ “threatened”, PA “S1 rank”); the Eastern Pondmussel (NJ “threatened, PA S23 rank); the Eastern Lampmussel (NJ “threatened”); and the Creeper (NJ “special concern”). These species are not federally listed. (DRN-15, p. 2)
106. Freshwater mussels play a key role in the diversity and function of the freshwater ecosystems in which they live. (DRN-15, p. 3)
107. As filter-feeding organisms with large biomass, they are primary consumers in the broader food web and they have the ability to remove particulates from the water column, helping to maintain overall water quality conditions. (DRN-15, p. 3)
108. No site-specific data regarding freshwater mussel impacts from dredging and construction operations for Dock 2 were submitted to DRBC with the Dock 2 Application. (DRN-15, p. 3)
109. Deep-water SCUBA surveys conducted in 2013 and 2015 in the River north of Philadelphia revealed higher numbers of mussel beds in deep water than some experts might have been expected, but no state or federal agency with environmental jurisdiction over the project required similar deep-water surveys to be at the Site. (DRN-15, p. 4)
110. Due to their relative immobility, mussels are particularly susceptible to adverse changes in water quality that may result from unforeseen events such as chemical spills, increases in suspended sediments or the introduction of invasive species through ballast water exchanges from ocean-going vessels. (DRN-15, pp. 4 – 5)
111. Freshwater mussels have demonstrated sensitivities to a broad array of water quality characteristics, from dissolved oxygen and ammonia to salinity and suspended sediment. (DRN-15, p. 5)

112. Freshwater mussel sensitivities to elevated total suspended solids (“TSS”) may negatively impact mussel reproduction and feeding. (DRN-15, p. 5)
113. According to DRP’s Waterfront Development Permit Application submitted to the NJDEP in conjunction with the Project, the construction of Dock 2 will result in temporary increases in TSS in the River within an envelope around the construction to a figure in excess of 120 mg/L. (DRN-15, p. 5)
114. TSS levels may also increase to some degree as a result of increased shipping traffic. (DRN-15, p. 5; Exhibit J-4, AR 000212)
115. Under NJDEP regulations, applicants proposing waterfront development like the Dock 2 Project must conduct an evaluation of the potential presence of State-listed endangered and threatened species, including mussel species, in the project area to demonstrate that impacts to such species and their habitat have been avoided and/or minimized. (DRP-140, ¶ 37)
116. To conduct its evaluation for Dock 2, Ramboll submitted a Natural Heritage Database search request to NJDEP specifying a search area that included the Project area. (DRP-140, ¶ 39)
117. The search results provided by NJDEP for the Project area and its vicinity within a quarter mile did not identify any threatened or endangered mussels, thus rendering any site-specific mussel survey unnecessary under NJDEP rules. (DRP-140 ¶ 40)
118. NJDEP issued its WDIP permit despite the risks of increases in TSS concentrations resulting from the dredging for Dock 2 and/or the probabilities of increased ship traffic, and the potential effects thereof on mussels. (Exhibit J-3)

ii. Atlantic and shortnose sturgeon

119. The Project lies within the federally-designated Critical Habitat for Atlantic Sturgeon. (DRN-18, p. 3)
120. With respect to fish species, the Dock 2 area was identified as a migration corridor for the shortnose sturgeon and Atlantic sturgeon, both of which are listed on federal and state endangerment lists. (DRP-140 ¶ 42)
121. In 2017 with regard to the Dock One project, as required under the federal Endangered Species Act, the USACE consulted with the National Marine Fisheries Service (“NMFS”) regarding these endangered sturgeon, in response to which NMFS issued a Biological Opinion indicating that the Dock One project was not likely to result in jeopardy to those species or adverse modification of critical habitat. (DRP-140 ¶ 43)
122. On November 19, 2019, the NMFS issued a letter of concurrence for the Dock 2 project indicating that although the construction and operation of Dock 2 will change the patterns of vessel usage at the facility, those changes are not likely to have an adverse effect on sturgeon species. (DRP-140 ¶ 48)
123. In February 2019, Ramboll conducted its own “Sturgeon Impact Assessment” with regard to Dock 2, after which it concluded that the construction and operation of Dock 2 would be unlikely to adversely impact any designated critical habitat or the endangered sturgeon species. Ramboll submitted this Assessment to NJDEP, DRBC, and the USACE as part of its applications for the permits that it ultimately received from those authorities. (DRP-140 ¶ 45, 47)
124. Due to DRBC regulations and a condition imposed by the USACE’s Section 10/404 Individual Permit used on February 25, 2020, DRP has been prohibited from

conducting in-water work on the Dock 2 Project between March 15, 2020 and September 15, 2020. (DRP-140 ¶ 46)

125. USACE evaluated the potential water quality impacts of the Dock 2 Project during dredging and concluded that no adverse impacts to water quality are expected, although the water quality in the vicinity of the Project Area may be temporarily impacted due to sediment disturbance caused by dredging activities, the impacts will be relatively brief and limited to a relatively small area of the Delaware River. (DRP-123, pp. 21, 39)

126. USACE further concluded that following the completion of construction activities, water quality is expected to return to pre-construction conditions. (DRP-123, pp. 21, 39)

D. Project's effect on Submerged Aquatic Vegetation

127. As part of the environmental compliance assessment for the Dock 2 project, Ramboll also evaluated the potential impacts of the project on SAV in the project area. (DRP-140 ¶ 49)

128. SAV is the community of plants that grow within tidal waters that can appear above the surface of the water as part of their growing cycle and at some part of the tidal cycle, but they primarily spend their lifecycle submerged beneath the water. (Tr. 367:22-24, 368:1-4 (Schmid))

129. There are a number of species that comprise SAV, some of which are found in freshwater, while others in saline and eastern waters of mixed salinity. (Tr. 368:4-10 (Schmid))

130. In the aquatic system, these parts of the plant community are important because the plants provide hiding places for fish and for macro invertebrates. (Tr. 368:11-22) (Schmid))

131. SAV “provid[es] food and shelter for commercially and recreationally important fish species including striped bass, American shad, alewife, and blueback herring”; it is “also an important food source for waterfowl.” (DRN-45, p.4)
132. SAV provides places where energy may be collected and turned into biomass which is then made available for the animals to transmit up the food chain. (Tr. 368: 11 – 17) (Schmid))
133. SAV has declined in the GLC area of the River in recent years, although the cause of the decline is unknown and could be due to natural causes. (Tr. 421:21 - 422:5 (Schmid); DRP-118 (2019 Monitoring Report) at § 3.1 & App. D at 8)
134. Fluctuations in SAV bed limits are expected since they are dynamic and not the same every year. (Tr. 423:4-11 (Schmid))
135. The U.S. Environmental Protection Agency has designated SAV as a special aquatic site under Section 404(b)(1) of the Clean Water Act, due to its importance as nesting, spawning, nursery cover, and forage habitat for fish and wildlife. (DRN-45, p.4)
136. “Water quality and, in particular, water clarity is a critical factor in the maintenance of healthy SAV habitat.” (DRN-45, p.3)
137. “Increases in suspended sediments and the subsequent reductions in water transparency caused by dredging and vessel activities will limit photosynthesis and results in the loss and degradation of SAV beds.” (DRN-45, p.3; see also DRN-14, p.6)
138. The Dock 2 Project will impact less than 0.1 acres of SAV. (DRP-123)
139. Because the Project will impact less than 0.1 acres of SAV, compensatory mitigation is not required. (DRP-123)

140. Dredging for the construction of Dock 2 as well as any future maintenance dredging will generate turbidity and decrease water transparency. (DRN-14, p.6)
141. “Because light energy drives the photosynthetic process, which in turn controls plant growth and survival, any permanent filling and shading of SAV habitat may adversely affect federally managed species and other species of concern through decreased habitat quantity, as well as reductions in prey species and primary production, water quality degradation, sediment retention, and pollution filtration, along with increased sediment erosion and decreased diversity and densities of benthic prey species (Johnson et al. 2008).” (DRN-59, p.9)
142. DRP did no analysis of the extent to which turbidity from port creation, maintenance dredging, and operations either solely for Dock 2, or when combined with the GLC/Dock One, adversely affects the survival of the SAV beds at the site. (DRN-14, p. 8)
143. DRP did no analysis of the extent to which reduction in SAV due to turbidity impacts would adversely affect the stability and/or erosion of the near-shore sediments at Dock 2. (DRN-14, p. 8)
144. SAV was surveyed for an east-west distance of approximately 1600 feet at Dock 2, although the dredging extends approximately 3000 feet along the navigational channel. (DRN-14, p. 4)
145. Under NJDEP rules, SAV habitat is defined as those water areas supporting or documented as having previously supported rooted, submerged sacular plants, including *Vallisneria Americana* (wild celery). (DRP-140, ¶ 49)
146. To conduct its SAV evaluation in preparation for the Project, Ramboll contracted with Matrix New World Engineering, Inc. (“Matrix”) to conduct a visual survey in

- September 2018 to physically identify and locate the approximate extents of SAV within and in the vicinity of the then-extant Dock 2 layout. This survey confirmed the presence of an approximately 3.78-acre bed of wild celery in the area. (DRP-140 ¶ 50)
147. Based on the Matrix survey, Dock 2 was re-designed and repositioned to avoid the wild celery bed. (DRP-140 ¶ 50)
148. After the USACE and NMFS evaluated the project’s direct impacts to SAV caused by pile driving and indirect impacts caused by shading, Matrix conducted a follow-up survey in June 2019 that focused on the trestle footprint in shallow water (less than 10 feet). The follow up survey revealed within the trestle footprint a .01-acre SAV bed and random solitary plants that were part of a larger SAV complex extending east to west and including the 3.78-acre bed identified in September 2018. (DRP-140 ¶ 52)
149. After consultation with Matrix, the USACE and the NMFS, the .01-acre SAV growth was transplanted away from the trestle’s footprint in August 2019. (DRP-140 ¶ 53)
150. The SAV beds relevant to the Project are located in relatively shallow water, as SAV needs sunlight to grow. (Tr. 369:10-370:1; 377:12-17 (Schmid))
151. Survey data collected by expert scientists and divers indicate that SAV in this portion of the River is generally limited to waters that are less than 10-feet deep. (DRP-74 (2018 SAV Survey) at 2; DRP-106 (2019 SAV Survey) at 2-4; DRP-118, App. D (2019 SAV Monitoring Report) at 3)
152. Elevated concentrations of TSS from the Dock 2 dredge site are expected to extend “only a small area around the dredge,” with maximum concentrations extending no further than 328 feet down-current from the dredge bucket. (DRP-6 at 17 (Sturgeon Impact Assessment); DRP-7 (Fig. 2 from Sturgeon Impact Assessment); Tr. 1451:7-1452:7)

(George); 1562:23-1563:8 (George); J-51, p. 19); J-53, p. 3 (NMFS Letter of Concurrence))

153. On January 15, 2020, DRP obtained a Basic Industrial Stormwater Permit from NJDEP to address stormwater discharges associated with landside operations at the GLS. (DRP-140 ¶ 61)

154. There is no mention of the potential impacts of stormwater discharges on nearby SAV in the Ramboll February 2019 compliance statement for the Project's Waterfront Development Permit Application. (DRN-14, p. 4)

155. The potential impact of stormwater discharge from the Site on wild celery beds within the Site are not known. (DRN-14, p. 6)

E. PCBs

156. The Clean Water Act ("CWA") requires states to develop and maintain a list of water bodies that are not attaining water quality standards. (DRP-130, p. 3)

157. The tidal Delaware River has been designated under the CWA as impaired for PCBs since the late 1990s. (DRP-130, p. 4)

158. The contamination of the Repauno site is both complex and heterogeneous, with different contaminants related to varying industrial histories. (DRN-19, p. 6)

159. Among the contaminants of concern at the project site are benzene, arsenic, lead, aniline, ammonia, cadmium, and PCBs. (DRN-19, p. 6)

160. Prior to the filing of DRP's Application for approval of Dock 2 by the Commission, in the portions of the redevelopment area where PCB-impacted soils exceeded applicable criteria, soils were either excavated and removed for off-site disposal, or capped in accordance with applicable remediation standards. (DRP-53, p. 19; J-42, p. 70-98)

161. PCBs are bioaccumulators, which means they get into the living tissue of aquatic life and will persist there. (DRN-12, p.5)
162. PCBs are ingested at the plankton level which are, in turn, consumed and transferred within the food web, placing species higher up the aquatic food pyramid, such as striped bass and eventually humans, at risk of adverse health effects. (DRN-12, p.5)
163. Numerous fish consumption advisories are in effect in the Delaware River for PCBs and mercury. (DRN-12, p.5)
164. To address PCB-related contamination issues, the Commission developed a comprehensive PCB database and established a Pollutant Minimization Plan (“PMP”) program, which was incorporated into DRBC Water Quality Regulations and Water Code in Section 4.30.9. (DRP-130, p. 4)
165. The PMP initiative in the Delaware Estuary has resulted in a 75% reduction in PCB loadings from the largest point source dischargers to the River between 2005 and 2016. (DRP-130, p. 4)
166. As a result of CWA requirements, DuPont prepared and maintained a PMP for the Repauno site. (DRP-130, p. 4)
167. Substantial remediation has occurred at the Repauno site as a result of removing and capping of soils and sediments impacted by PCBs. (DRP-130, p. 4)
168. Examples of actions taken to reduce known sources of PCBs include the testing and removal of PCB-impacted materials such as transformer oils, fluorescent ballasts, paints and building materials from abandoned structures. (DRP-130, p. 4)

169. Sediment PCB and benzo(a)pyrene concentrations in the vicinity of Dock One are shown on Ramboll's Dock One DMMP which reported PCB-contaminated sediments to range from 2.7 to 29.5 feet deep beneath the Dock One dredged area. (DRN-14, p. 7)
170. The PCB concentrations detected in the bulk sediment data are "very low," and are below NJDEP's residential soil standards by "several orders of magnitude." (Tr. 1940:9-10, 1941:1-6 (Cavallo); DRP-130, pp. 5-6)
171. According to DRP's PCB expert, Mr. Cavallo, the detected concentrations of PCBs in the bulk sediment data were "as low as some of the lowest concentrations" of PCBs he has seen elsewhere in the Delaware Estuary and "commensurate with background concentrations," based on previous sediments investigations he oversaw during his time on the staff of DRBC. (Tr. 1940:9-10, 1976:20-22 (Cavallo); DRP-130, p. 6)
172. As a result of the very low concentrations of PCBs detected in the sediment, there is "little PCB mass that could theoretically be resuspended and released to the water column" during dredging. (DRP-130, p. 6)
173. The probability of having any material adverse impact to water quality during dredging "is almost non-existent." (Tr. 1971:7-18, 1978:12-18 (Cavallo); DRP-130, p. 6)
174. Previous studies of dredging in the Delaware Estuary indicate that PCBs in such low concentrations will not have a negative impact on water quality during dredging. (DRP-130, p. 6; Tr. 1978:19-1979:2 (Cavallo))
175. One such study, the Versar Report, indicates that even when concentrations for PCBs were higher than concentrations like those detected in the bulk sediment data for Dock 2, resuspension of PCBs from dredging using a bucket dredge (not the environmental clamshell bucket that will be used for Dock 2) would not cause exceedances of DRBC's

acute or chronic water quality criteria. (Tr. 1978:19-1979:2 (Cavallo); DRP-130, p. 6; DRN-25, p. 9-16 (Versar Report))

176. The Dock One Docket included a condition at paragraph C.1.1. requiring site investigation and a sampling program for future PCBs in stormwater, but information regarding such investigation and sampling program is not of record in the instant case. (DRN-14, p. 7)

177. Under its Basic Industrial Stormwater Permit, DRP is required to develop and implement a Stormwater Pollution Prevention Plan (“SPPP”) containing BMPs designed to ensure that stormwater from operations at the facility will not adversely affect River water quality at the point of discharge. (DRP-140 ¶ 62)

178. As of the date of the hearing, DRP’s SPPP was not yet fully developed, but under the Dock One Docket, it is required to include a stormwater sampling plan to evaluate the potential conveyance of PCBs in stormwater discharged from the GLC into the River. (DRP-140, ¶ 62 – 66)

179. The PCB Sampling and Analysis Plan being prepared by DRP will be incorporated into the overall stormwater plan for the facility, as a condition of the operational industrial stormwater permit for the property. (Tr. 1932:13-22 (Cavallo); DRP-140, ¶ 65; Tr. 1521:23-1522:5 (George))

180. Regarding PCBs in stormwater runoff from the Repauno Site, Chemours already has a PMP for managing pre-existing PCBs at the Site that covers discharges of stormwater from pre-existing outfalls at the property. (See J-24, p. 5 (reference to Dupont existing PMP submission to DRBC in 2005); DRP-130, p. 4; DR-140, ¶ 63)

181. In addition, the Dock One Docket requires DRP to develop and implement a PCB Sampling and Analysis Plan for discharges of stormwater from any new outfalls that are being constructed as part of the GLC. (Exhibit J-24, p. 5)
182. DRBC staff's project review for the landside GLC facility did not consider any discharges except PCBs in stormwater, and stormwater was only considered in its review of Dock One since no additional stormwater discharge points will be installed as a result of the construction of Dock 2. (Tr. 1160:2-15 (Kovach))

F. Dredging methods and potential impacts

183. In order to conduct its dredging operation, DRP is required by both DRBC and NJDEP to use an Environmental Clamshell Bucket on its dredge. (Exhibit J-1, AR 000005; Exhibit J-3, AR000021)
184. The environmental bucket is "state of the art technology" for removing contaminated sediments. (Tr. 1670:1-8 (DePasquale))
185. There is not a more environmentally-friendly method of dredging available for the Dock 2 Project than a closed clamshell environmental bucket. (Tr. 1788:12-17 (DePasquale); DRP-131, p. 9)
186. The closed clamshell environmental bucket is required to be sealed on all sides. The bucket has vents and a series of baffles that are intended to allow water to escape from the bucket while minimizing sediment from being lost. (Tr. 1667:22-1669:2, 1671:14-17, 1806:12-17 (DePasquale))
187. Most of the water that drains out of the bucket is merely "river water" that "remains on top of the bucket as it pulls out of the water." (Tr. 1667:22-1669:2, 1671:14-17, 1806:12-17 (DePasquale))

188. While some sediment may escape the sealed and enclosed clamshell bucket after it emerges from the water, elevated TSS levels will only extend a few hundred feet from the dredge location just below the surface and would return to background levels within “minutes.” (Tr. 1891:3-23 (Pasquale)¹⁷)
189. When operated in accordance with other BMPs as described in further Findings of Fact below, an environmental bucket will retain more than 95% of sediment that is captured during the dredging process. (DRP-131, p. 8)
190. The remainder of the sediment will settle to the bottom and may ultimately be removed in subsequent passes of the dredge. (DRP-131, p. 8; Tr. 1670:9-1671:1, 1675:2-1676:17 (DePasquale))
191. The NJDEP permits for the Dock 2 Project required the following BMPs to be implemented by DRP in the course of dredging:
- a. Use of a closed clamshell environmental bucket;
 - b. A controlled rate of descent of the bucket to maximize vertical cut while not penetrating the sediment so far as to overfill the bucket;
 - c. Use of appropriate software and sensors by the dredging contractor (and monitoring thereof by an independent dredging inspector) to ensure consistent compliance with rate of descent and bucket load limitations;
 - d. Use of sensors on the bucket to ensure complete bucket closure before lifting;

¹⁷ Jerry J. Pasquale is the Chief of the Environmental Resources Branch of the USACE, Philadelphia District. He has 38 years of experience with the USACE – 9 years as a biologist and 29 years as a supervisory biologist. His responsibilities involved the management and supervision of technical specialists engaged in environmental studies and investigations, including but not limited to habitat evaluations of aquatic, wetland and upland sites to determine fish and wildlife resource values, investigations of federally listed threatened or endangered species, water quality studies, and studies to determine presence and potential impact of pollutants in water resources. His most recent technical assignments included all environmental requirements for the Delaware River Main Channel Deepening Project, and sediment and water quality investigations associated with dredging and dredged material disposal projects. (DRP-157, p. 1).

- e. Lifting of the bucket at a rate no greater than two feet per second;
- f. Deliberate placing of dredged material in the barge, to prevent spillage;
- g. Discharging of water from the barge/scow into which dredged material is placed is prohibited;
- h. All barges and scows used to transport sediment are to be of solid hull construction or sealed with concrete;
- i. The gunwales of the dredge scows are not to be rinsed or hosed during dredging except to the extent necessary to ensure the safety of workers;
- j. All decant water holding scows are to be watertight and of solid hull construction;
- k. Decant water may only be discharged within the dredge area after having been held in the decant holding scow for a minimum of 24 hours;
- l. The dredging contractor must complete and submit a Dewatering Form to the inspector on a weekly basis and contain a certification stating that the inspector has witnessed the dewatering process.

(DRP-131, pp. 7 – 8.)

- 192. The above-described BMPs are in accord with national and international industry practices and represent the most stringent set of requirements. (DRP-131, p. 8)
- 193. Although dredging operations will inevitably resuspend some sediment, any elevations in TSS or turbidity caused by the Dock 2 Project's dredging operation is expected to be temporary and relatively short-lived. (Tr. 182:2-5 (Silldorff); Tr. 388:23-389:3 (Schmid); Tr. 182:6-9 (Silldorff); Tr. 1243:3-5 (Kovach); DRP-123, p. 21)
- 194. The dredging operation for Dock 2 is expected to be completed within six months. (Tr. 1572:1-10 (George))

195. The dredge depth for Dock One is only approximately 5-7 feet shallower than the dredge depth for Dock 2. (DRP-77)
196. In preparing the permit applications for the Dock 2 Project, Ramboll relied on studies of a dredging project in the Hudson River to estimate the transport of TSS generated in the River during the dredging operation. (Exhibit J-37, p. 77)
197. Based on this analysis, Ramboll concluded that elevated concentrations of TSS would extend “only a small area around the dredge,” resulting in a maximum concentration of TSS up to 120 mg/L above background, which would drift no further than approximately 328 feet down-current from the dredge bucket before returning to background levels. (DRP-6 at AR 000212 (Sturgeon Impact Assessment); DRP-7 (Figure 2 from Sturgeon Impact Assessment); Tr. 1562:23-1563:8 (George)). The following figure depicts this area:

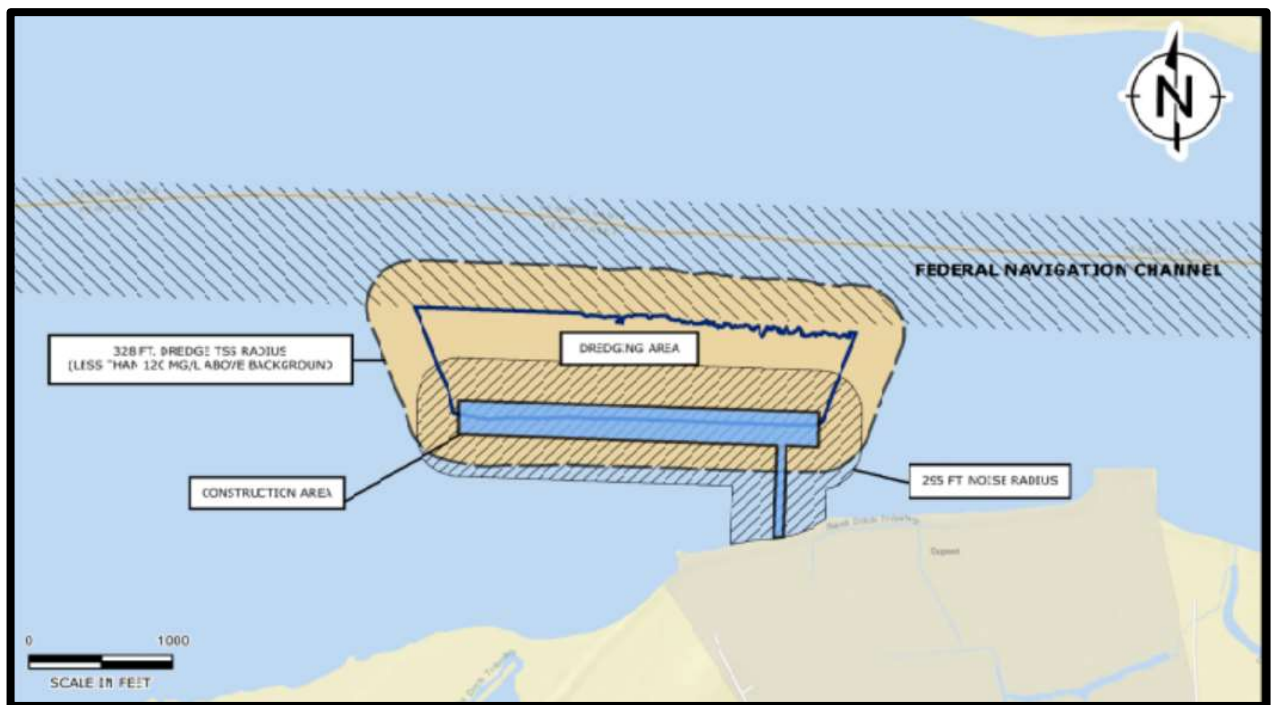


Figure excerpted from DRP-7 (Figure from Sturgeon Impact Assessment Report).

198. The rate of flow of the River effects the distance over which uncaptured sediment will travel. At the Site, the usual rate of flow of the River is three knots. (DRP-131, p. 8)
199. DRP's Application contains no plans for measuring contaminants in the sediment plumes during the course of dredging. (DRN-10, pp. 2, 3)
200. DRP's Application contains no plans for measuring contamination concentrations in the sediments remaining on the bottom of the river after dredging is complete. (DRN-10, p. 4)
201. The final configuration of sediment at the Dock 2 site may differ to some degree from the extant configuration depending on the amount of slumping, if any, that occurs in the dredged area. (DRN-10, p. 2)
202. The likelihood that the dredging or the final dredged slope for the Dock 2 Project will disturb sediments located more than 600 feet away near the shoreline of the GLC is "practically impossible." (Tr. 1684:1-18 (DePasquale))
203. The dredging footprint for the Dock 2 Project will be dredged to a 3:1 slope, a common feature of dredging for new projects and for maintenance on the Delaware River. (DRP-131, p. 10)
204. There are numerous examples of new work dredging projects that have been located on the Delaware River that were dredged to a 3:1 slope and that remained stable for decades. (DRP-131, p. 10; Tr. 1783:7-1785:6 (DePasquale))
205. The amount of slumping associated with the Dock 2 Project is expected to be "small and localized," and a landslide of near-shore sediment as a result of any such sloughing is "practically impossible." (Tr. 1683:1-1684:18; 1721:18-1722:8 (DePasquale))

206. There is no conclusive evidence in the record that the dredging for the Dock 2 project will expose contaminated sediments, and Dr. Crouch conceded that he has no evidence that the sediments will be contaminated. (Tr. 279:7 - 280:20 (Crouch))

207. At the depths proposed for the Dock 2 dredging, several feet of sediment will be comprised of virgin material, significantly decreasing the likelihood that there would be newly-exposed contaminated sediments. (Tr. 1803:19-1804:1 (DePasquale))

208. In performing its suspended sediment analysis, NMFS stated the following regarding turbidity:

- a. Given that no egg or larvae will be present, [] expected TSS levels expected for all activities are lower than what have been found adversely affecting juvenile and adult estuarine fish, that only benthic invertebrates in a narrow zone near the edge of the dredged area may negatively affected by suspended sediment, that ample foraging habitat exists in the river channel at the project site, that any avoidance of turbidity plumes will be small and not hinder normal essential behaviors, we conclude that the effects of suspended sediment on sturgeon resulting from proposed activities when added to baseline conditions will be so small that effects cannot be meaningfully detected, evaluated, or measured. Therefore, effects on sturgeon are insignificant.

(J-38, pp. 137-138)

209. NMFS concluded that any resuspension of contaminated sediments caused by dredging for Dock 2 would be unlikely to cause adverse impacts. (J-53, p. 3)

G. Core sampling of sediments at the Site

210. The Commission does not have specific protocols for how to prepare a sediment sampling plan for a dredging project. (Tr. 1304:17-1305:3 (Kovach))

211. Rather, the Commission relies on NJDEP for its protocols for dredging projects in New Jersey waters, including sediment sampling. (Tr. 1304:11-14))

212. NJDEP's Dredging Manual (DRP-39), which is incorporated into New Jersey's Coastal Zone Management Rules, provides comprehensive policies and procedures for

- proposed dredging activities in New Jersey's waters, such as the Dock 2 Project. (DRP-39, p. 8 (Dredging Manual); DRP-131, p. 4))
213. The Dredging Manual provides NJDEP staff and project applicants with specific guidance and criteria for, among other things, the sediment sampling and testing that is required for proposed dredging projects. (DRP-39, p. 8 (Dredging Manual); DRP-131, p. 4)
214. The Dredging Manual states that an applicant must coordinate with NJDEP "to develop the sampling and testing plans needed to obtain the data required by the Department to properly characterize the sediments to be dredged (which will, in part, be used to evaluate the potential impacts of the dredging operation and the applicant-selected dredged material management alternative)." (DRP-39, p. 6)
215. Most of the Site is situated on naturally acid-producing soils, which may release various metals such as aluminum and arsenic into solution. (DRP-131, p. 5) (DRN-14, p. 6)
216. The results of an engineering characterization indicated that the sediments are predominantly fine-grained material (silt and clay), with some fine sand and trace gravel. (Exhibit J-6, AR000550)
217. On December 4, 2018, Ramboll, on behalf of DRP, submitted a Sediment Sampling and Analysis Plan ("SSAP") to NJDEP for the characterization of sediments in the dredging area for the Dock 2 Project. (JS ¶ 7)
218. The primary goal of an SSAP is not necessarily to determine the extent or concentration of potential water quality contaminants at a dredging site; rather, it is to

- facilitate the selection of an appropriate disposal location for dredged sediments. (DRP-131, p. 5)
219. As a default proposition for dredging projects greater than 64,000 cy, the NJDEP recommends one sample of the material to be dredged for every 8,000 cy of proposed dredging. (DRP-131, p. 5)
220. The SSAP for Dock 2 called for a sampling frequency of 1 core/15,000 cy of sediment. (DRP-140, ¶ 24)
221. The SSAP specified that 64 sediment cores and 22 composite samples would be collected in the area of the sediments to be dredged. (DRP-140, ¶ 24)
222. The SSAP provided for 3 core locations per composite, except for 2 composites that would be made from 2 cores each. (DRP-140, ¶ 24, fn. 8)
223. On December 24, 2018, NJDEP approved DRP's SSAP for the Dock 2 Project. (JS ¶ 7)
224. Subsequent to the submittal of the SSAP to NJDEP, the design of the dock and berths for Dock 2 was refined to reduce the dredging footprint from 52 acres to 45 acres, with a corresponding reduction in dredging volume from approximately 965,000 cy to approximately 665,000 cy. (DRP-140, ¶ 25)
225. Due to the reduction in the footprint, Ramboll adjusted the number of cores to 50 locations based on a frequency of one core per 13,300 cubic yards, from which cores a total of 17 composites were prepared. (DRP-140, ¶ 26)
226. Between January 26, 2019 and February 5, 2019, pursuant to the USACE and NJDEP permits, Ramboll conducted sediment sampling for the Site. (DRP-140, ¶ 23)

227. For engineering characterization purposes, DRP collected 50 sediment “cores” in accordance with the coordinates and depths of the dredge area to determine the nature of the sediments to be dredged. (Exhibit J-6, AR000550)
228. For environmental characterization purposes, DRP grouped the 50 sediment cores to form 17 composite samples¹⁸ for chemical analyses in accordance with approved SSAP. (Exhibit J-6, p. 550; DRP-140, ¶¶ 26-27)
229. The data were then compared to New Jersey Residential and Non-Residential Direct Contact Soil Remediation Standards. (JS ¶ 8)
230. All parameters sampled for were either not detected in the sediment, or were detected at concentrations below the Residential Direct Contact Soil Remediation Standards, which are the most stringent cleanup standards for soils in New Jersey (i.e., those for residential areas that assume direct human contact to the soils). (DRP-140 ¶ 27; DRP-12 (Composite Sample Bulk Sediment Chemistry Results))
231. The 17 composite samples were analyzed for bulk sediment chemistry, with laboratory analysis performed for metals, pesticides, semi-volatile organic compounds and polychlorinated biphenyls (“PCBs”). (DRP-140, ¶ 27)
232. The *Application* provides a summary table of Bulk Sediment Chemistry for the 17 composite samples, but the summary table omits the individual PCB cogener listings. (DRN-10, p. 2)

¹⁸ When the material is classified as a single unit, samples from the entire length of the multiple core were composited (mixed) into a single sample for analysis. (DRN-11, p. 15)

233. All parameters sampled for in the testing of the composites were either not detected or were detected at concentrations below NJDEP's Residential Direct Contact Soil Remediation Standards. (DRP-140, ¶ 27)
234. The sampling results were presented to the NJDEP in DRP's DMMP for the Project. (DRP-140, ¶ 28)
235. The DMMP provided for a number of Best Management Practices ("BMPs") to be employed in the course of the dredging, including use of a closed clamshell environmental bucket. (DRP-140, ¶ 29)
236. The NJDEP approved the DMMP as part of the Waterfront Development Individual Permit issued on May 20, 2019. (DRP-140, ¶ 30)
237. In addition to the analyses described above, a modified elutriate analysis was performed on the 17 composite samples to predict how the dredged material, if it were transported directly to a dredged material confined disposal facility, could impact surface water quality through surface runoff. (DRP-140, ¶ 31)
238. In addition, based on DRP's desire to potentially reuse some of the dredged material, Portland cement was added to 8 of the composite samples to create "amended" composite samples in a test to determine whether constituents present in the dredged material will leach into the underlying groundwater after being redeposited outside the dredged area. (DRP-140, ¶ 31)
239. Ultimately, DRP decided not to pursue a beneficial reuse for the dredged material, and instead identified two possible off-site disposal locations (White's Basin and Fort Mifflin). (DRP-140, ¶ 33 - 34)

240. Based on the composite sampling and elutriate data, both White's Basin and Fort Mifflin issued documents to DRP indicating that the dredged material were acceptable for disposal at their respective sites. (Exhibits J-8, J-9)
241. The SSAP and DMMP, including the bulk sediment chemistry results, were submitted to DRBC for review in conjunction with the Dock 2 Application. (DRP-140, ¶ 35)
242. DRN contended that the Dock 2 sediments should have been sampled for "volatile organic compounds" ("VOCs"), but the record indicates that VOCs are volatile by nature; when disturbed, they are released into the air and so they are not typically found in sediments in the Delaware River. (Tr. 1864:6-1865:2, 1865:17-25 (Pasquale); 1418:2-18 (George))
243. DRBC does not have any specific rules or requirements as to the target analytes that must be tested as part of a sediment investigation for a dredging project. (Tr. 1303:22-1305:3 (Kovach))
244. NJDEP does have specific rules and requirements as to the target analytes that must be tested, but typically does not require analysis of sediment samples for VOCs unless they are already known to exist at the site. (DRP-39, p.91 (Appendix B)).
245. There is no evidence of a known or suspected discharge of VOCs in the dredging footprint for the Dock 2 Project, and so NJDEP did not require testing the sediments for VOCs. (Tr. 1417:2-1418:5 (George); Tr. 1866:1-22 (Pasquale); J-7, AR000592 (SSAP))
246. The detected concentrations in the bulk sediment data for the Dock 2 Project are typical of sediments for this section of the Delaware River, according to Mr. Pasquale,

- based on his experience with USACE performing and overseeing sediment sampling in the Delaware River for “dozens” of dredging projects. (Tr. 1887:8-24 (Pasquale))
247. The bulk sediment data’s detected concentrations of metals, including cadmium, chromium, copper, lead, nickel, and zinc, are similar to what has been observed in other data sets collected by USACE. (DRP-127, p. 5)
248. Based on previous studies by USACE, which involved monitoring water quality both at the point of dredging and at dredged material disposal facilities, the detected concentrations of metals in the bulk sediment data for the Project do not present any water quality concerns. (DRP-127, p. 9).
249. Properly executed dredging, removal and disposal of PCB-contaminated sediments is a net benefit to water quality in the River. (DRP-130, p. 6)
250. None of DRP’s materials contained modeling of total suspended solids (“TSS”) concentrations and the effects of TSS on organisms, such as freshwater mussels. (Tr. 182:19-24 (Silldorff))
251. DRP did no such modeling; rather, the 328 foot, 120 mg/L TSS radius shown in DRP’s Sturgeon Impact Assessment was taken from a research study conducted in the Arthur Kill Waterway next to Staten Island, in an entirely different river basin. (J-37, p.77)
252. DRP did not use any data from the Delaware River or from Dock One to determine turbidity, TSS levels, or contaminant suspension and transport. (DRP-6, *passim*)
253. The comparability of the ambient, waterway, and project conditions from the Arthur Kill study as compared to the Dock 2 site is not specifically set forth in the record of this case. (Exhibit J-37, p.77)

254. DRP did not demonstrate how the Arthur Kill data was comparable to the Dock 2 setting in the Delaware River. (DRP-6, *passim*)

H. Stormwater control at the Site

255. Prior to DRP's acquisition of the Site, stormwater conveyance occurred through overland flow and direct discharge into the River. (DRP-130, p. 7)

256. In conjunction with the Dock One Docket application, DRP prepared stormwater plans for the GLC, NJDEP approved them as complying with NJDEP's stormwater management requirements, and DRP submitted them, as approved, to DRBC in December 2018. (Tr.1460:13-1461:13, 1476:1-1477:7, 1490:4-23, 1502:10-23 (George))

257. Where the State has reviewed an applicant's stormwater control measures, it is reasonable for the Commission to defer to the State's expertise and decision. (Tr. 465:8-13 (Schmid))

258. Since issuance of the 2017 Docket, DRP obtained from NJDEP a stormwater permit for the land-side construction associated with the GLC and Dock One. (Exhibit J-14)

259. DRP also obtained from NJDEP an operational stormwater permit for discharges associated with industrial activity at the GLC. (Exhibit J-56; JS ¶22)

260. DRP employed stormwater protocols during construction of Dock One, including deployment of silt fencing and hay bales to reduce runoff velocities which increase the likelihood of sediment transportation during construction activities. (DRP-130, p. 7)

261. During construction of Dock One, DRP also installed temporary swales and berms to convey stormwater to retention ponds. (DRP-130, p. 7)

262. Current construction plans include placement and grading of approximately 3 – 7 feet of certified clean fill throughout the redevelopment area to raise the elevation above floodplain levels. (DRP-130, p. 3)
263. Increased clean fill provides increased separation between any contaminated soils and the surface subject to stormwater runoff. (Tr. 2330:1-4 (Martin); Tr. 1024:17-21 (Henderson))
264. During the construction of Dock One, to the extent that clean fill was placed on top of any asphalt cap, such additional fill provides additional protection of the asphalt cap. (Tr. 2415:11 – 13 (Martin))
265. Asphalt capped areas at the GLC site do not contain any features like a drain or stormwater inlet that could be negatively impacted by the clean fill. (Exhibit J-42, pp. 70-98 (as-built engineering control drawings); Tr. 2466:22-23 (Martin))
266. DRP is installing new stormwater collection, conveyance and treatment systems to capture and control stormwater runoff prior to discharge into the River. (DRP-140. ¶ 7)
267. Since most of the Dock 2 structure is over water and the landside connection is already accounted for in the overall GLC stormwater management plan, Dock 2 does not require any additional or different stormwater outfalls or controls. (Tr. 1404:11-17, 1476:1-1477:7 (George))
268. To address stormwater runoff during the construction of Dock 2 as well as the broader redevelopment of the GLC, DRP prepared a Soil Erosion & Sediment Control Plan that was submitted to and approved by Gloucester County. (DRP-119 (Gloucester County Soil Conservation District Certification))

269. DRP also obtained two construction-related stormwater permits from NJDEP to address potential stormwater runoff during the construction of Dock 2 as well as the construction of Dock One and the GLC. (Exhibit J-55; Exhibit J-14)
270. The construction on the upland, i.e. landside, portion of the Dock 2 project is limited to temporary earth disturbance of less than an acre necessary to build the abutment that connects the access trestle for Dock 2 to the land. (J-52, p. 11 (Soil Erosion and Control Plan at Sheet CE101))
271. This temporary disturbance is it is not expected to exceed 0.8 acres. (Exhibit J-1, p. 3; Exhibit J-52, p. 11; DRP-133 at Figure 2))
272. Stormwater outfalls that are currently being constructed within the redevelopment area will be sampled in accordance with the PCB Sampling and Analysis Plan once the outfalls become operational and will evaluate PCB discharges to determine the potential need for a PMP for the redeveloped portion of the site.. (DRP-140, ¶¶ 65-66)
273. The construction and operation of Dock 2 does not require any changes to the footprint of the facility that the Commission approved in 2017, nor does it require any additional or different stormwater outfalls or controls. (Tr. 1404:11-17, 1476:1 to 1477:7 (George))
274. Stormwater control plans for the entire site have changed as the GLC has developed; the changes have been characterized as “minor.” (DRN-78; DRN-79; Tr. 1960:18-25; 1918:17-25, 1919:1-7 (Cavallo))

I. Sturgeon and other anadromous fish

275. For purposes of addressing potential impacts of the Dock 2 Project on federally threatened and endangered species, the Commission deferred to the expertise of NMFS, the federal agency responsible for the protection of marine species and anadromous fish like shortnose sturgeon and Atlantic sturgeon. (J-15, p. 7-8 (DRBC Comment and Response Document)).
276. When a species is State-listed – i.e. identified as by a state as a threatened or endangered species – the populations of that species have declined relative to historic levels and are threatened with extinction or endangered with extinction. (Tr. 208:7-17 (Silldorff))
277. Endangered status is designated to a species that has a 50% chance of going extinct. (DRN-12, p.2)
278. Both Atlantic sturgeon and shortnose sturgeon are federally-listed endangered species, and NMFS has designated critical habitat for the Atlantic sturgeon. (DRN-111)
279. The Delaware population of Atlantic sturgeon is genetically unique and irreplaceable if lost to extinction. (DRN-12, p.2)
280. In designating the Atlantic sturgeon critical habitat, NMFS noted that “[c]ritical habitat designations do not create refuges or preserves where activities cannot occur.” (DRN-111, p. 39180)
281. Projects in critical habitat may proceed as proposed if NMFS agrees that “the anticipated effects are insignificant, discountable, or wholly beneficial” or that “a proposed action is likely to adversely affect critical habitat, but will not destroy or adversely modify critical habitat.” (DRN-111, p. 39180)

282. Agencies such as NMFS have established regulatory programs that provide protections for endangered species beyond those afforded to aquatic life in the *Comprehensive Plan* and the Commission’s regulations. (DRBC-001 (Kovach Am. Dec.) ¶ 11.e; see generally *Compact*; *DRBC Water Code and Water Quality Regulations* (18 C.F.R. Part 410); Tr. 437:17-21, 438:23-439:1-8 (Fisher))
283. As a prerequisite for the issuance of DRP’s USACE permit for the GLC, NMFS and USACE engaged in a consultation process through which NMFS was to evaluate potential impacts of the GLC to sturgeon pursuant to its duty under Section 7 of the federal Endangered Species Act. (Exhibit J-1, p. 7; J-15, p. 8)
284. As a result of the consultation process for Dock One, NMFS issued a Biological Opinion (“BO”) on December 8, 2017, reviewing all aspects of the Project related to the shortnose sturgeon and Atlantic sturgeon. (Exhibit J-38)
285. Condition C.8 of the Dock 2 Docket requires DRP to obtain all applicable federal, state, and local approvals for the project, including approval from NMFS. (Exhibit J-1, p. 9; J-15, p. 7)
286. NFMS concluded that dredging and construction for the Dock 2 project will not adversely impact shortnose sturgeon or Atlantic sturgeon or result in any significant adverse impacts to critical habitat for Atlantic sturgeon. (Exhibit J-38, p. 197 (2017 NMFS Biological Opinion for Dock One); Exhibit J-53, 2 (2019 NMFS Letter of Concurrence for Dock 2); DRP-129, p. 2; DRP-6 (Ramboll Sturgeon Assessment))
287. In connection with its Permit for the Dock 2 project, USACE reinitiated consultation with NMFS about potential impacts to federally-endangered species, as a result of which NMFS issued a Letter of Concurrence for the Dock 2 project on November

19, 2019, which “serves as an amendment” to the 2017 BO and incorporates the entirety of the 2017 BO by reference such that no further action was required. (Tr. 440:16-19, 462:10-20 (Fisher))

288. As part of its 2017 BO, NMFS considered a wide range of potential climate change impacts at the GLC related to climate change, including upriver salinity excursion. (Exhibit J-38, p. 125-129)

289. The combined effects of climate change and the cumulative impacts of dredging from multiple projects, including but not limited to the GLC project, may result in the salt line moving upriver, which is termed saltwater incursion. (DRN-12, p. 3)

290. Dredging in the Delaware River causes the salt line to move upriver because more water volume is needed to occupy the area of the removed sediments and that water come from the open end of the system, the Atlantic Ocean. (DRN-12, p. 4)

291. NMFS ultimately concluded that salt water incursion linked to climate change would not significantly impact sturgeon migration and spawning or juvenile habitat. (Exhibit J-38, p. 129)

292. Although NMFS acknowledged that climate change alone might result in the upstream movement of the salt line, deepening of the Delaware River Federal Navigation Channel to 45 feet at Chester, Pennsylvania “has not influenced long term salinity trends” in the area. (Exhibit J-38, p. 127)

293. Since the Industrial Revolution, the Delaware River has had extreme issues with the dissolved oxygen sags because of the nutrients coming into the river from treated sewage and other land uses that fuel algae blooms. (DRN-12, p.2)

294. Dissolved oxygen has improved remarkably in the Delaware River, but dissolved oxygen sags below 3.5 mg/l still do occur in Atlantic sturgeon juvenile habitat. (DRN-12, p.2)
295. Recent dissolved oxygen sags have occurred from the Chester reach of the river upward to the Ben Franklin Bridge area and move through that area with the tide, which can move 6 to 8 miles each tidal cycle. (DRN-12, p.2)
296. With regard to increased turbidity from the Dock 2 dredging or other turbidity-increasing factors, NMFS confirms that “Atlantic sturgeon are known to avoid areas with conditions that would cause physiological effects (e.g., low dissolved oxygen, high temperature, unsuitable salinity)” and found that “it is reasonable to anticipate that sturgeon would also readily avoid” areas that could cause physiological stress such as construction areas. (Exhibit J-38, p. 155)
297. Only a few inches in length, juvenile sturgeon mostly hold to the bottom, so they cannot simply swim to better conditions if habitat conditions deteriorate. (DRN-12, p.2)
298. Sturgeon are squeezed by the salt line during periods of drought that bring non-preferred habitat of 0.5 parts per thousand (ppt) salinity up to the Chester area. (DRN-12, p.2)
299. Salt line incursion and dissolved oxygen sags can occur at the same time, leaving sturgeon squeezed with no refuge. (DRN-12, p.2)
300. The loss of freshwater Atlantic sturgeon juvenile critical habitat due to dredging and resulting salt-water incursion, particularly in light of climate change and the dissolved oxygen condition in the Delaware River, is addressed as insignificant in the NMFS

Biological Opinion and resulting clarification letter for the Gibbstown Dock 2 Project.
(DRN-12, p.4)

301. On the subject of spills of liquid energy products, NMFS found the risks to sturgeon to be insignificant, noting that in light of the already substantial amount of cargo and tanker activity in the Delaware River and Bay (31,114 in- and out-bound trips in 2015), the risk of major oil spills is relatively low. (Exhibit J-38, p. 161)
302. NMFS further noted that the proposed marine terminal will handle up to 133 vessels per year, of which approximately 31 vessels will carry liquid energy products that are expected to be redistributed from other terminals and will not result in an increase in tanker vessels on the Delaware River or in the Delaware Bay. (Exhibit J-38, p. 161)
303. NMFS concluded that the increase in vessel activity, and consequent risk of accidents causing spills, when added to baseline vessel activity is small.
(Exhibit J-38, p. 161)
304. Because liquid LNG and LPG vaporize upon release, they do not combine with water; thus any spills of these substances would have no impact on water resources or aquatic life. (DRP-132, pp. 5 -8)
305. As to potential adverse effects on sturgeon due to turbidity resulting from Dock 2 dredging, NMFS found that TSS levels expected for all activities are lower than those that have been found to adversely affect juvenile and adult estuarine fish, that only benthic invertebrates in a narrow zone near the edge of the dredged area may be negatively affected by suspended sediment, that ample foraging habitat exists in the river channel at the Project site, that any avoidance of turbidity plumes by sturgeon will be small and not hinder normal, essential behaviors, and that therefore the effects of suspended sediment on

sturgeon resulting from proposed activities when added to baseline conditions will be so small that effects cannot be meaningfully detected, evaluated, or measured. (Exhibit J-38, pp. 137-138)

J. Total Suspended Solids (“TSS”)

306. TSS levels are among the most variable of all water quality parameters, and background levels of TSS in the Delaware Estuary are especially variable due to storms and tidal cycles, among other natural forces, which churn up and resuspend sediments, creating their own sediment plumes. (Tr. 183:14-18 (Silldorff); 1738:8-11 (DePasquale); 466:11-15 (Schmid))
307. With respect to the potential TSS impacts of drainage from a closed clamshell dredge bucket, elevated TSS concentrations would likely extend only 100-330 feet down current of the dredge and only within 5 to 10 feet below the surface. (DRP-6, p. 17; DRP-7, Fig. 2; Tr. 1562:23 – 1563:8 (George); 1845:12-1846:3, 1891:3-1892-7 (Pasquale))
308. Elevated TSS levels from the dredge bucket are expected to return to background levels within “minutes.” (DRP-6, p. 17; DRP-7 (Fig. 2); Tr. 1562:23 – 1563:8 (George); 1845:12-1846:3, 1891:3-1892-7 (Pasquale))
309. NMFS and the USACE both concluded that the estimated TSS levels of 120 mg/L above background is below the threshold level of 350 pg/L known to elicit harmful effects in aquatic life. (Exhibit J-51, p. 19; Exhibit J-53, p. 3)
310. DRP is not required by any permit condition to release decant water during dredging operations. (Tr. 274:8-11 (Crouch))

311. Rather, the Waterfront Development Permit merely allows DRP to release decant water after certain conditions are met, if necessary. (Exhibit J-3, AR000023-24 (Waterfront Development Permit))
312. Specifically, DRP may release decant water only after a “minimum of 24 hours after the last addition of water to the decant holding scow,” and no discharge of decant water is permitted until testing demonstrates that the decant water meets a “TSS background level of 30 mg/L.” (Exhibit J-3, p. AR000023 – 24; Exhibit J-57, p. 2 (USACE Permit) (also authorizing release of decant water))
313. It is unlikely that there would be any need to decant water from the dredged sediments because the primary purpose of decanting is to reduce water when stabilization of the sediments is necessary. (Tr. 1429:15-1430:11 (George); DRP-127, p. 9)
314. Stabilization of the dredged sediments from the Dock 2 Project is not required under the NJDEP, USACE, or DRBC approval so decanting “would be a waste of time and money” and therefore unlikely. (DRP-127, p. 9; Tr. 1751:12-1753:2 (DePasquale))
315. During the dredging operation, DRP is authorized by the USACE permit to allow water to drain from the dredge bucket before placing dredged sediments in the barge. (Exhibit J-57)
316. Any sediment resuspension and associated elevated turbidity is expected to be a short-term event. (Tr. 388:18 - 389:3, Tr. 443:2-9, Tr. 466:11-15, 467:2-5 (Schmid))
317. Neither the Commission nor NJDEP have any specific rules or requirements that would require DRP to sample sediments located outside of the dredging footprint for the Dock 2 Project, such as near-shore sediments. (Tr. 1303:22-1304:10, Tr. 1304:17-1305:3 (Kovach); Tr. 1970:19-22 (Cavallo); DRP-39 *passim*)

318. The Dock 2 Docket includes as enforceable conditions measures that the Project Review staff deemed reasonable for minimizing the resuspension of sediments during dredging, as well as a seasonal restriction on in-water work from March 15 to June 30 of each year to minimize impacts to migration and spawning of anadromous fish. (DRBC-001 (Kovach Am. Dec.) ¶ 20; J-1, §§ B.1-2, AR-000004-07 & C.2, AR000008)
319. Under the Docket, the DRBC Executive Director is authorized to suspend operations if these measures are not being followed, or if operations are otherwise adversely affecting water quality or impeding the passage of anadromous fish. (Exhibit J-1, ¶ C.6, AR000008-09)
320. The Executive Director is also authorized to modify or suspend the Docket if in his judgment such modification or suspension is required to protect the water resources of the Basin. (Exhibit J-1, ¶ C.13, AR000009)
321. NMFS' 2017 Biological Opinion states, in part, "studies of berthing areas and docks show that vessels maneuvering at docks commonly result in substantial scouring [of] the riverbed and increased total suspended sediment in the water column." (Exhibit J-38, p. 165)
322. NMFS issued its approval for the Project despite its awareness of this scouring effect. (Exhibit J-38)

K. Freshwater Mussels

323. The tidal Delaware River, and its tidal tributaries are regional hotspots for a unique group of bivalves (clams) known as freshwater or "pearly" mussels. (DRN-19, p.2)
324. Freshwater mussels play a key role in the diversity and function of the freshwater ecosystems in which they live. (DRN-19, p.3)

325. As filter feeding organisms with large biomass, freshwater mussels are both important primary consumers in the broader food web, and they have the ability to remove particulates from the water column and help maintain overall water quality. (DRN-19, p.3)
326. Primary exposure to particulates occurs as ambient water is drawn into the mussel and passes through the gill surfaces, with particulates captured on the outer surface of the gills for sorting and possible feeding. (DRN-19, p.5)
327. The mussel is also exposed to dissolved constituents as water passes into and through the gills' surfaces, and then exits through the exhalent aperture. (DRN-19, p.5)
328. Freshwater mussels serve as food for both aquatic and terrestrial predators. (DRN-19, p.3)
329. Mussel shells help to anchor a river's substrate in place, maintaining habitat stability and increasing the diversity of habitat conditions on the river bed. (DRN-19, p.3)
330. Mussels' biological activity enhances biogeochemical cycles in the immediate vicinity of their mussel beds, and increases stream insect abundance and diversity, further increasing the base of the food web and improving the ecosystem functions of the river. (DRN-19, p.3)
331. Since no specific studies have been done, no freshwater mussels are confirmed to exist within the area to be dredged for Dock 2. (Tr. 52:3 – 12 (Silldorff))
332. No relocations of freshwater mussels have been specified or discussed by DRBC or any of its partner agencies at the state or federal level. (DRN-19, p.3)
333. DRP did not conduct any surveys for freshwater mussels for Dock One or Dock 2. (Tr. 1536:23-25; T. 1537: 1-8 (George); Tr. 206:13-18 (Silldorff))

334. Recent surveys in the “project reach” have documented six species of freshwater mussels, including three state-listed species (Tidewater Mucket, Eastern Pondmussel, Yellow Lampmussel. (DRN-19, p 2)¹⁹
335. The majority of the sampling in these surveys was conducted in waters of depths between 2’ and 4’. (Tr. 103:15-25; Tr. 104:1-5 (Silldorff); Exhibit J-36)
336. “Project reach” is a term employed by DRN expert Dr. Silldorff to describe the reach of the river close to the Project and similar in terms of the various environmental drivers of biological response, with similar depth ranges, water quality conditions, salinity, substrates and tidal ranges both up- and down-stream of the Project. (Tr. 90:11-23 (Silldorff))
337. Two of the more detailed shallow water collections from these surveys were conducted in the vicinity of the GLC Dock 2 proposal. (DRN-19, p.3)
338. The relationship between water depth and mussel population is unclear from the studies that have been conducted; such studies are difficult to undertake and accomplish in turbid waters where visibility at depths may be extremely limited and where SCUBA surveyors sometimes make their counts by locating mussels with their hands rather than their eyes. (Tr. 222:22 – 223:21 (Sildorff))
339. In a 2013 study, the Partnership for the Delaware Estuary (“PDE”) determined, based on its surveyed areas, that there was a statistically significant increase in mussel density as depth increased for three types of freshwater mussels: *L. ochracea* (tidewater

¹⁹ Corrected in hearing testimony (Tr. 50: 17-25; T. 51:1-8) from report which gave mistakenly gave common name as Eastern Lampmussel instead of Yellow Lampmussel.

muckets), *A. implicata* (alewife floaters), and *L. nasuta* (eastern pondmussels). (DRP-162, p.30; DRN-19, p.4)

340. PDE's 2013 study also noted that "at the deepest areas accessible by the snorkelers, they reported seeing seemingly even greater mussel densities outside their reach in deeper areas." (DRP-162, p.30)

341. Neither DRBC nor any state or federal agency has required the collection of data on the distribution and abundance of freshwater mussels in the project area. (DRN-19, p. 3)

342. Average mussel density figures contained in a 2015 PDE report would support a conclusion that up to 90,000²⁰ mussels could be killed or harmed as a result of the Dock 2 dredging. (DRN-19 p. 3)

343. The 2015 PDE data was collected from shallow waters less than six feet deep at sites with generally undeveloped or lightly developed shorelines, where mussel density and richness appeared to peak at depths of 4-6 feet below mean low water and where SAV was present. (Exhibit J-36, p. 38; Tr. 108:3-109:2, 70:24-71:14, 74:3-24, 85:3-13 (Silldorff))

344. The dredging for the Dock 2 Project will occur some 600 feet from an already developed shoreline, in waters that are approximately 20-40 feet deep and where no SAV is present. (DRP-117 at Sheet 5; Exhibit J-6 at § 3.2 (Dredged Material Management Plan); Tr. 59:5-12, 61:3-63:22, 74:3-24 (Silldorff))

345. Mussel density is negatively associated with fine-grained sediments such as those found at the Project site. (Exhibit J-6, § 3.2; Tr. 86:4-7, 219:22-220:6 (Silldorff))

²⁰ This number is the product of the average mussel density identified in the 2015 report, 0.5 mussels per square meter multiplied by 45 to reflect the entire 45-acre dredge area. (Tr. 105:1-107:13 (Silldorff))

346. Given the differences between the PDE study's sites and the Project site in terms of water depths, sediment textures, and shoreline development, the PDE study is of little utility in analyzing the risks to mussel mortality from dredging for Dock 2. (DRP-162, p. 38; Tr. 71:15-20 (Silldorff))
347. Under NJDEP regulations, applicants who propose waterfront development projects such as the Dock 2 Project must conduct an evaluation of the potential presence of State-listed endangered and threatened species in the project area to demonstrate that impacts to species and their habitat have been avoided and/or minimized. (DRP-140, ¶ 37; Exhibit J-4, AR000113; DRBC-001 ¶ 24)
348. In accordance with the New Jersey Coastal Zone Management Rules, this evaluation is initiated by submitting a search request to NJDEP's Office of Natural Lands Management's Natural Heritage Database, which yields a listing of occurrences of rare wildlife species or wildlife habitat within quarter mile of a given project area. (DRP-140, ¶ 38)
349. Ramboll submitted a Natural Heritage Database search request to NJDEP on November 20, 2018, specifying a search area that included the proposed dock structure and dredging area as well as the adjacent upland area. (DRP-140, ¶ 39)
350. NJDEP responded on November 29, 2018, providing search results for both the Natural Heritage Database and the New Jersey Landscape Project, a wildlife habitat mapping tool maintained by the N.J. Division of Fish and Wildlife's Endangered and Nongame Species Program. The results did not identify any threatened or endangered mussels in the project area or immediate vicinity. (DRP-140, ¶ 40; DRP-5 (Database Search Results); Tr. 1412:10-14 (George))

351. The NJDEP's Natural Heritage Database search results include a form indicating that information supplied by the Program does not substitute for any on-site surveys that may be required by a relevant agency. (DRN-29)
352. NJDEP did not ask DRP to conduct any on-site survey or additional investigation into the potential presence of any threatened or endangered species beyond the Natural Heritage Database desktop search. (Tr. 1614:12-22 (George))
353. Under Coastal Zone Management Rules, NJDEP has the express authority to require a permit applicant to conduct an additional assessment of potential impacts to threatened or endangered species or their habitat. N.J.A.C. § 7:7-9.36(d).
354. For Dock One, NJDEP did ask for additional information about certain threatened and endangered species but not about mussels. (Tr. 1614:23-1615:4 (George))

L. Other agency approvals

355. Forty-three State agencies, fourteen interstate agencies, and nineteen Federal agencies exercise a number of environmental regulatory powers and duties in the Basin. (Compact, Preamble, ¶ 5)
356. In addition to submitting comments to the Commission, DRN submitted them to NJDEP regarding the Dock 2 Project, on June 20, 2019. (Exhibit J-45 (DRN 6/20119 Comment Letter to NJDEP)).
357. The comments raised concerns about many of the same issues that are involved in this proceeding, such as water quality during dredging, potential impacts to sturgeon, SAV, state endangered or threatened wildlife, stormwater, groundwater and site remediation, and spills of LNG or other cargo. (Exhibit J-45)

358. NJDEP prepared a comment and response document in which it responded to the concerns raised by DRN and other public commenters regarding the Dock 2 Project, which responses included the following:

- a. DRP's sediment testing for Dock 2 indicated that the material meets NJDEP's standards, but nonetheless NJDEP required as a permit condition the use of a closed clamshell environmental bucket and other specified BMPs, noting that studies in the NY/NJ Harbor demonstrated that this type of bucket reduces TSS to roughly background levels. (Exhibit J-50, pp. 4, 8)
- b. To ensure that the Project will not impact marine fisheries, NJDEP included as a permit condition a seasonal work restriction from March 15 to June 30 each year. (Exhibit J-50, p. 3)
- c. The location of Dock 2 and the dredge area were moved to avoid existing SAV beds. (Exhibit J-50, p. 5)
- d. NJDEP reviewed the GLC site for potential impacts to state threatened and endangered species during the land use permit review process for Dock One and issued permits that impose conditions intended to minimize impacts to osprey and other threatened and endangered species. (Exhibit J-50, pp. 5-6)
- e. The stormwater management system for the upland portion of the GLC was previously approved by NJDEP as part of the WFD Permit authorizing the GLC and Dock 1. (Exhibit J-50, p. 10)
- f. The dredging and construction for the Project will not impact groundwater, and remediation of the Site by Chemours with oversight by NJDEP's Site Remediation Program is ongoing. (Exhibit J-50, p. 7)

- g. DRP is required to comply with NJDEP's Toxic Catastrophe Prevention Act ("TCPA") which mandates an extensive risk analysis and demonstration through a risk management plan prior to the introduction of LNG products on site. (Exhibit J-50, p. 12-13)
359. NJDEP's WFD Permit, as reinstated on September 5, 2019 without changes following the expiration of the public comment period requires the use of additional BMPs for the dredging operation besides those specified in the DRBC or USACE approvals, including a requirement for DRP to employ an independent dredging inspector to monitor dredging activities twice per week and submit reports on a weekly basis to NJDEP; additional restrictions on the movement of the bucket during dredging; and a prohibition against water overflowing from the barge into which dredged material is placed, among other additional precautions. (JS ¶ 20; Exhibit J-3, p. 2 (WFD Permit))
360. NJDEP also issued Tidelands Licenses (Dredging and Fixed Structure) for the Dock 2 Project on September 9, 2019. (Exhibit J-34 (Fixed Structure License); Exhibit J-35 (Dredging License))
361. With respect to stormwater for the Dock 2 Project, NJDEP obtained an authorization from NJDEP for NJPDES General Permit No. NJG0304042 on January 14, 2020 for stormwater discharges from landside construction activity for the Dock 2 Project. (JS ¶ 21)
362. The Gloucester County Soil Conservation District certified DRP's Soil Erosion and Sediment Control Plan on December 16, 2019. (DRP-119)
363. DRN submitted several comment letters to USACE in opposition to the Dock 2 Project, raising many of the same issues that are involved in this proceeding, including

water quality during dredging, sturgeon, SAV and freshwater mussel impacts, ballast water, stormwater, groundwater, and spills of LNG or other cargo. (Exhibit J-44 (DRN 6/14/19 Comment Letter); Exhibit J-49 (DRN 7/31/19 Comment Letter))

364. The USACE prepared a document in which it stated the following in response to the concerns raised by DRN and other public commenters regarding the Dock 2 Project:

- a. No adverse impacts to water quality are expected because BMPs will be implemented during construction, water quality impacts during dredging will be temporary and limited to a relatively small area, and sediment testing showed minimal contamination that would be available to spread in the waterway. (DRP-123, p. 21, 35, 39)
- b. NMFS concurred with USACE's determination that the Project was not likely to adversely affect sturgeon or Atlantic sturgeon critical habitat, but nonetheless USACE included as a permit condition a seasonal work restriction that prohibits in-water work between March 15 and September 15 each year. (DRP-123, p. 25-26)
- c. The Project will impact less than 0.1 acre of SAV, and USACE will continue to monitor the SAV mitigation site that was required for the Dock 1 Project. (DRP-123, p. 27)
- d. Vessels calling at Dock 2 will need to abide by applicable United States Coast Guard ("USCG") regulations to avoid adverse effects of non-invasive species that might be present in ballast water, with most ballast water exchanges being required to occur in off-shore marine waters. (DRP-123, p. 21-22)
- e. No freshwater mussels are known to exist in the area of the dredging. (DRP-123, p. 27)

- f. DRP has obtained or will obtain applicable NJPDES permits or authorizations for management of stormwater at the Site. (DRP-123, p. 22)
 - g. Soil contamination remediation activities at the Site are being performed by Chemours under the requirements of the NJDEP Site Remediation Program. (DRP-123, p. 22-23)
365. DRP is required to comply with state and federal laws, including USCG regulations and New Jersey's TCPA program, regarding the handling, storage, and release of hazardous materials. (DRP-123, p. 23-24)
366. Under Section 7 of the Endangered Species Act, 16 U.S.C. § 1536, USACE is also required to consult with NMFS to determine the effects a permit approval will have on threatened or endangered listed species or critical habitat. 16 U.S.C. § 1536
367. The USACE permitting process for Dock 2 included re-initiation of consultation with NMFS regarding the potential impacts of the project on species listed as threatened or endangered under the Endangered Species Act. (JS ¶ 26)
368. On September 26, 2019, USACE issued a Biological Assessment analyzing the impacts the Project would have on Atlantic or shortnose sturgeon. (JS ¶ 26; Exhibit J-51) (Biological Assessment).
369. USACE concluded that the Dock 2 Project was not likely to adversely affect Atlantic or shortnose sturgeon or Atlantic sturgeon Critical Habitat. (Exhibit J-51)
370. On November 19, 2019, NMFS issued a Letter of Concurrence for the Dock 2 Project, in which NMFS concurred with USACE that the Project was not likely to adversely affect Atlantic or shortnose sturgeon or Atlantic sturgeon Critical Habitat. (JS ¶ 27; Exhibit J-53, p. 2 (Letter of Concurrence))

371. On February 25, 2020, USACE issued the USACE Permit for the Dock 2 Project, authorizing construction of the new docking facility and dredging in the waterway. (JS ¶ 23; Exhibit J-57 (USACE Permit))
372. The USACE Permit contains certain special conditions that are not in either the NJDEP or DRBC approvals for the Project, including the following:
- a. DRP may not perform in-water work between March 15th and September 15th of each year to protect early life stages of Atlantic sturgeon. (JS ¶ 28; Exhibit J-57, p. 5)
 - b. To minimize impacts to fisheries resources, a “soft start” shall be employed for a minimum of 15 minutes. (Exhibit J-57, p. 5)
 - c. No pile driving can be performed until USACE receives and approves the design for a bubble curtain that will be used to minimize sound generated by the work in the waterway. (J-57, p. 6)
 - d. Trucks containing LNG shall not access the site other than from the Gloucester County Route 44 bypass, and if the development of the bypass were to be delayed or abandoned, DRP must notify USACE. (J-57, p. 6)
373. The Docket issued by the Commission for the Dock 2 Project called for eight local, state, and federal approvals (see Exhibit J-1 AR000007-8), all of which have now been obtained for the construction and dredging of Dock 2, including the following:
- a. NJDEP issued waterfront development permit 0801-16-0001.2 WFD190001, including a Section 401 Water Quality Certificate on May 20, 2019. (JS ¶¶ 18-20; Exhibit J-3 (Waterfront Development Permit))

- b. NJDEP issued a Tidelands License for Dredging on September 9, 2019. (Exhibit J-35 (NJ Tideland License Dredging))
 - c. NJDEP issued a Tidelands License for a Fixed Structure on September 9, 2019. (Exhibit J-34 (NJ Tideland License Fixed Structure))
 - d. USACE issued a Section 10/Section 404 permit (the “USACE Permit”) on February 25, 2020. (JS ¶ 23; Exhibit J-57)
 - e. On November 19, 2019, NMFS issued a Letter of Concurrence with USACE regarding Dock 2. (JS ¶ 27; Exhibit J-53 (Letter of Concurrence))
 - f. The Gloucester County Soil Conservation District (“GCSCD”) issued a Soil Erosion and Sediment Control Plan Certification on December 16, 2019. (DRP-140 ¶ 18(e); DRP-119 (Certificate from GCSCD))
 - g. The Planning Board of Greenwich Township granted Site Plan Approval on March 2, 2020. (DRP-126 (Greenwich Township Approval))
 - h. The Gloucester County Planning Board approved DRP’s application for Site Plan Approval for the Dock 2 Project on April 28, 2020. (DRP-138 (Gloucester County Approval))
374. In addition to the above-listed eight approvals, DRP has also obtained stormwater permits from NJDEP for the land-side construction associated with Dock 2 and for industrial activity at the Gibbstown Logistics Center. (J-55 (NJPDES²¹ General Permit No. NJG0304042); JS ¶ 21; J-56 (NJPDES Basic Industrial Stormwater General Permit No. NJ0088315DRP); JS ¶ 22)

²¹ New Jersey Pollution Discharge Elimination System.

375. Prior to commencing LHG and/or LNG operations at Dock 2, DRP will be required to obtain a Letter of Recommendation from the United States Coast Guard (“USCG”), as required by Coast Guard regulations.²² (Exhibit J-1 at AR000008; DRP-140, ¶ 19)
376. The Commission has broad authority under the Compact to rely on other agencies to the “fullest extent it finds feasible and advantageous.” Compact §§ 1.5, 3.9(b).

M. Groundwater

377. Groundwater both within the 184-acre redevelopment area and the broader 1630-acre Repauno Site has been subject to continued investigation efforts since the 1980s. (DRP-133, pp. 11-14)
378. Groundwater at the Site is the subject to an existing Classification Exception Area (“CEA”) to ensure that it is not utilized as a potable source of drinking water. (DRP-133, p. 11 and Figure 4; Tr. 914:11-19 (Demicco); Tr. 2449:19-2450:20 (Martin))
379. Contaminant levels in groundwater have steadily declined, with no existing human health risks associated with groundwater at the Repauno Site due to the capture and treatment of groundwater contaminants to prevent them from reaching a municipal well to the southeast of the Site. (DRP-33, p. 17-19; see also e.g., DRP-86 (2018 Annual Groundwater Report))
380. Active recovery and treatment of groundwater contamination is ongoing at the Site using an existing interceptor i.e. treatment well, I-W46, which is located approximately 5,000 feet from the River and more than a thousand feet away from the footprint of the

²² As noted *supra*, issues of contamination from LNG or LHG are not relevant to whether the Dock 2 Project will substantially impair or conflict with the Comprehensive Plan since neither substance combines with water upon release from a pressurized liquid state. DRP-109 at 2 (Ramboll Letter to USACE re: DRN Comments); Tr. 2047:10-13, 2050:16 to 2051:4 (Kichner Test.); 33 C.F.R. Part 127

redevelopment area. (DRP-165 (Map location of I-W46 treatment system well); DRP-133 at Figure 4)

381. Although aniline odors were detected during the drilling of T16I01L, a new interceptor well within the Site, data regarding aniline in groundwater at the Site in the wells located downgradient of the are all non-detect for aniline. (DRP-86, Appendix E – Historical Groundwater Results (Hits Only) and Appendix D – Well U09M01L (Former Well 34) (reflecting aniline non-detect), and Appendix C – Summary of Analytical Results (reflecting aniline non-detect); Tr. 875:14-16 (Demicco); Tr. 2265:20-2267:3 (Martin))

N. LNG and LHG

382. LHGs are gases existing in a liquid state as a result of high levels of pressurization. (DRP-132, p. 6)
383. LNG is a gas that exists in a liquid state under cryogenic conditions. (DRP-132, p. 7)
384. When released from their respective pressurized or cryogenic conditions, LHG and LNG immediately return to their gaseous state and do not combine with water. (DRP-132, pp. 6 -7)
385. Lacking a chemical ability to combine with water, these gases, of themselves, present no threat to water quality in the Basin. (DRP-132, pp. 6 – 7)

V. DISCUSSION

A. *Nature of the proceeding and the burden of proof*

This proceeding took place under the authority granted to the Commission by Section 3.8 of the Compact, which provides in relevant part that:

The Commission shall approve a project whenever it finds and determines that such project would not substantially impair or conflict with the comprehensive plan and may modify and approve as modified, or may disapprove any such project whenever it determines that the project would substantially impair or conflict with such plan.

Compact, § 3.8.

In the instant case, the Commission approved the Dock 2 Docket based on its finding that such project would not substantially impair or conflict with the Plan as long as the dredging and construction for the Project were subject to certain conditions as imposed in its Docket. Under the terms of Section 3.8 as quoted above, the Commission could not have denied DRP its permit application unless it found a substantial impairment or conflict with the Plan. Given the fact that the Commission is required to approve a project unless it impairs or conflicts with the Plan, an entity asking the Commission to alter a Docket approval may prevail if, and only if, it proves that a substantial impairment or conflict with the Plan is in fact presented by the project. Thus, when it filed the request for hearing that gave rise to this proceeding, DRN assumed that burden of proof.

The terms “substantially,” “impair” and “conflict with” are not defined by the Compact, and neither the Plan nor any of its regulations include definitions of these terms. It is axiomatic that undefined terms in regulations or statutes are to be given their plain meaning whenever issues of interpretation arise.²³ See *Bethlehem Steel Corp. v. OSHRC*, 573 F2d 157, 159 (3d Cir. 1978).

²³ Or, as DRN puts it, “the meaning of ‘substantially impair or conflict with the comprehensive plan’ under Section 3.8 of the Compact must be determined using the actual words of the Compact informed by legislative history, logic and common sense.” (DRN Final Reply Brief, p. 19).

In their Briefs, the parties cite various, commonly-used authorities (e.g. *Oxford University Press*, *Merriam Webster*) to define these terms to meet their respective purposes and, for the most part, their respective definitions are not substantively different. None of the participants argue that one vocabularic authority is superior to another or should be given deference over the others.²⁴

DRN uses the definitions it offers to assert that “‘conflict with’ addresses the fact that a project, on its face, may be prohibited by or contrary to the Plan, or otherwise conflict with an ‘express goal, other project or standard in the Plan,’” (DRN Brief, p. 148), while DRP asserts that the phrase means “to be incompatible or at variance [with]” or “[to] clash.” (DRP Brief/Response to Questions, p. 10). To attempt to find a meaningful distinction between these asserted definitions would be an intellectual exercise of little practical utility in this case. Similarly, DRN’s position regarding a workable definition of “impair” is not significantly different from DRP’s “to weaken or damage something.” (DRP Brief/Responses to Questions, pp. 10 - 11).²⁵ The parties do disagree, however, as to whether the term “substantially” modifies both “impair” and “conflict with” or only “impair.”

Citing Federal Circuit Courts of Appeals and various State cases, DRP argues that when an adverb is used before the first verb in a string, with the disjunctive “or” between the last two verbs, it “shows quite plainly that the adverb is to be interpreted as modifying them all.” (DRP Brief, p. 11, quoting *Long v. United States*, 199 F.2d 717, 719 (4th Cir. 1952)). Citing the notes of attorney William Miller in drafting the Compact, DRN argues that “substantially” modifies only “impair” and that even an insubstantial “conflict with” the Plan may be cause for the Commission to deny approval to a project. (DRN Brief. Pp. 146 – 47). While the depth of research conducted by DRN

²⁴ Indeed, to have initiated an argument about whether *Webster* is more authoritative than *MacMillan* or *Cambridge* would have been a needless digression in an already extensive record.

²⁵ DRBC Staff’s Brief uses the same definitions as DRP does. (DRBC Brief, p. 2)

Counsel to obtain copies of Mr. Miller’s notes may be impressive, common rules of usage and grammar as noted in *Long* must be counted superior to those notes and, accordingly, will be followed in this case. As DRBC Staff observes, “[i]n practice, a project that is in conflict with the Comprehensive Plan will likely also impair it and a project that impairs the Plan is surely incompatible (if not necessarily in direct conflict) with it.” (DRBC Brief, p. 2). Moreover, “the staff is aware of no instance in which the Commission has articulated or relied on a distinction between the two terms, and for purposes of Section 3.8 review, has not found need to make such a distinction.” (DRBC Brief, p. 2).

In the Briefing schedule set for this case, DRN had the opportunity to refute DRBC Staff’s historical observation, but did not do so. There is no compelling reason in this case to diverge from the Commission’s historical interpretation of “substantially” as modifying both “impair” and “conflict with.” Accordingly, such interpretation will be used in this *Report* to determine whether DRN has proven by a preponderance of evidence²⁶ that the Project will substantially impair or substantially conflict with the Plan.

As to the modifier “substantially,” the Participants again generally cite commonly used dictionaries to obtain a workable definition. Commission Staff cites the Oxford University Press for its definition of “substantial” as meaning “to a great or significant extent” or “for the most part, essentially.” (DRBC Brief, p. 2). Definitional phraseology cited by the parties does not differ greatly from the DRBC Staff’s definition. DRBC Staff goes on to assert that, in the context of

²⁶ There is no dispute in this case that the applicable standard of proof is the “preponderance of evidence” standard, which is commonly defined to be that quantity and quality of evidence tending to prove that an allegation is more likely to be true than false, or, if evidence could be literally “weighed” on a balance scale, it would tip the scale, however slightly, in favor of the party bearing the burden of proof. See *United States v. Santos*, 932 F.2d 244 (3d Cir. 1991).

Section 3.8, “whether a conflict or impairment is substantial depends upon the resource or use to be affected and the extent, location, duration and nature of the impact.” (DRBC Brief, p. 2).

DRBC Staff posits that to substantially conflict with or impair the Plan, a project in the Estuary would need to imperil or reverse the trend of improvement that the Basin has seen in its water quality since the birth of the Commission. Neither party presents any compelling reason to find fault with the Staff’s proposed working definition.²⁷

Before applying this definition to the evidence in this case, it is essential to note that, as to whether DRN has borne its burden of proving a substantial impairment or conflict, DRN’s own Brief effectively admits failure, stating, “[t]here is simply insufficient data on key impacts to make a determination as to whether the Dock 2 Project will substantially impair or conflict with the Comprehensive Plan.” (DRN Brief, p. 149, bold added). DRN goes on to fault the Commission for having approved the Project without sufficient data, and thereby argues that the Docket should be “overturned” because it was “contrary to law and an abuse of discretion.” (DRN Brief, pp. 149 – 50).

DRN makes an impassioned argument that the language of the Compact implicitly allows for a second basis to determine that a Project should not be approved, which basis is an insufficiency of information in a Docket application. DRN argues that the Commission’s consideration of a Docket application should be more nuanced than a formulaic approach in which a collection of State and Federal agency approvals will equal success. DRN argues that “context

²⁷ However, DRN does note that “the Commission’s Administrative Manual, Rules of Practice and Procedure repeatedly omit the word ‘substantially’ when discussing Section 3.8 project review. For instance, RPP 2.3.4 states: ‘[a]ny project which may have a substantial effect on the water resources of the Basin ... shall be submitted to the Commission for a determination as to whether the project impairs or conflicts with the Comprehensive Plan. RPP 2.3.4. (emph. added); see also RPP 2.3.5.B.’” (DRN Reply Brief, p. 30). While the use of the Compact’s phrase “impairs or conflicts with” without the Compact’s accompanying adverb is curious, it is axiomatic that “[a]n administrative regulation ... cannot alter the terms of a statute,” including an agency’s enabling legislation. *Keeley v. Loomis Fargo & Co.*, 183 F.3d 257, 260 (3d Cir. 1999). Accordingly, the language of the Rules of Practice and Procedure cannot supplant the language of the Compact.

matters” in terms of such factors as “where the project is located” and “existing River conditions.” (DRN Reply Brief, p. 2). It further argues that “data ... matters” and that “assumptions are not evidence of lack of harm” *Id.* According to DRN:

[t]here is what is DRN’s burden in this case, and there is what the Commission’s burden is when it is making a decision under Section 3.8 of the Compact. The Commission has the burden of determining whether a project substantially impairs or conflicts with the Comprehensive Plan, which necessarily means having sufficient information to determine what the impacts are going to be, their substantiality, and other factors that DRN has already discussed in its initial brief.

Id.

Based on this theory, DRN goes on to assert that its burden in this matter is “to show that the Commission’s decision ‘should be changed,’ meaning that it should be changed because, more likely than not: 1) information material to the Commission’s decision was absent or insufficient, and thus the Commission determined that there would be no substantial impairment or conflict without a basis for doing so; and/or 2) the proposed project would substantially impair or conflict with the Comprehensive Plan.” *Id.* DRN then asserts that it “has demonstrated, that, more likely than not, information material to the Commission’s decision was absent or insufficient.” *Id.*

While DRN’s assertion is well-argued, it is fatally flawed in light of the fact, which DRN expressly acknowledged in filing its *Request for Hearing*, that this proceeding takes place exclusively under Section 3.8, the language of which provides one and only one basis for reversal of a Docket decision – a preponderance of evidence that a previously approved Docket will, in fact, substantially impair or conflict with the Plan. DRN simply cannot create from whole cloth a new regulatory basis for Docket disapproval. As DRP argues, to allow DRN to do so would effectively allow it to usurp the role of the Commission.

It is the Commission that is appointed under the terms of the Compact and vested with the authority to determine whether or not it has sufficient information on which to make a decision

about a Docket application. Obviously, it is easy to assert that some random piece of precise prognosticative data about a future event has not been produced by a Docket proponent; but to expect a Docket application to address any indeterminate number of possible contingencies that might be identified by a Docket objector would be to expect a docket application to be filed in the form of a crystal ball. Again, proof of reasonable probabilities about reasonably expectable impairments to or conflicts with the Plan is what Section 3.8 requires, not expressions of concerns, however heartfelt, about future risk factors.

In sum, regardless of whether, in fact, the Commission did or did not have sufficient information on the date of the Docket approval, under Section 3.8, there is simply no “abuse of discretion” standard for “overturning” a Docket approval. The singular basis under the Compact for reconsideration of a Docket decision is proof of a substantial impairment or conflict with the Plan, and that is the singular burden that DRN assumed when it filed its request for a hearing. It cannot effectively create its own statutory or regulatory basis for success in its case.²⁸ Accordingly, it could be appropriate to end the discussion of the evidence here, without consideration of its substantive merits, based on DRN’s admission that its evidence is wanting.

Implicitly recognizing that fact, DRN argues alternatively that its evidence does in fact prove a substantial impairment or conflict with the Plan. DRN’s substantive arguments will be discussed in detail below. But first the significance of the phrase “would not” in Section 3.8 must be recognized.

²⁸ Similarly, DRN argues that failing to consider the Dock One and Dock 2 Projects together despite their commonalities “is the very definition of arbitrary and an abuse of discretion,” thus requiring DRBC to reconsider the Docket. The instant proceeding is not an appellate one, where the findings or conclusions of a trier of fact are reviewed under an abuse of discretion standard. Therefore, again, DRN cannot unilaterally create and impose into the Compact a basis for the Commission to reverse itself with regard to a Docket approval.

“Would” is generally understood to be the past tense of the auxiliary verb “will.” <https://www.merriam-webster.com/dictionary/would> (last visited July 15, 2020). In common usage, it is also a modal or auxiliary verb like “can,” “could,” “shall” or “should” which is “used with another verb to express ideas such as possibility, necessity and permission.” *Id.* In one usage, “should” is a synonym for “would,” e.g. “I knew I would enjoy the trip.” *Id.* “Should,” in turn, is “used in auxiliary function to express what is probable or expected” in the future. Thus, in the context of the phrase “would not substantially impair...,” “would” is used to express the present probability or expectation of a substantial *future* impairment of a project. In other words, in recognition of the fact that no project proponent could *guarantee* that its project will not impair the Plan, the drafters of the Compact did not require the Commission to obtain a guarantee before approving a Docket application. Rather, the drafters called for the Commission to make a finding in terms of probabilities. In short, if the information available at or around the time of the application indicates that the project should present no danger of impairment to the Plan, then it is to be approved.

As discussed in further detail below, DRN has presented a great deal of testimony and expert speculation as to what *might* happen to water quality if DRP proceeds with the project. However, given the use of the word “would” in Section 3.8 instead of “might,” it was DRN’s burden to prove *probabilities* or *expectations* of substantial impairment or conflict.²⁹ Accordingly, for purposes of the instant Report of Findings and Recommendations, it was DRN’s burden to

²⁹ As the Order on DRP’s *Motion in Limine* noted with regard to DRN’s ability to adduce evidence regarding the potential for water contamination through accidental spills of LNG or LHG at Dock 2, “reasonable probabilities must play a role in determinations” of whether evidence is reasonably probative of an issue. (January 30, 2020 *Memorandum Order*, p. 7). Reasonable Probabilities also are at the crux of the “preponderance of evidence” standard which DRN must meet.

prove reasonable probabilities or expectations that the Dock 2 Project may reasonably be expected to substantially impair or conflict with the Plan if permitted to proceed.³⁰

B. DRBC's duties/role in the Docket process

In conjunction with its arguments regarding the lack of substantive information (e.g. TSS modeling from the Site) within the Docket Application itself, DRN also asserts that DRBC acted prematurely in approving Dock 2 in that certain approvals from State and Federal agencies were still outstanding when the Docket was granted. DRP and DRBC staff concede that not all State and Federal approvals were in place in June 2019 when the Docket was approved, but they argue that the Compact gives the Commission the authority to approve a project pending review and approval from other authorities.

The Compact recognizes the DRBC as “essential for effective and economical direction, *supervision and coordination* of efforts and programs of federal, state and local governments and of private enterprise.” Compact, § 1.3(c) (italics added). In the text of the Compact, the Signatory parties explicitly stated that it “is the purpose of the signatory parties to preserve and utilize the functions, powers and duties of existing offices and agencies of government to the extent not inconsistent with the compact.” Compact, § 1.5. The Compact further directs DRBC to “employ [federal and state] offices and agencies for the purpose of this compact to the fullest extent it finds

³⁰ DRP duly noted a more precise phrasing of the overarching issue in this case:

DRN has not alleged that the Dock 2 Project will impair or interfere in any way with any of the public or private projects listed in the Comprehensive Plan. Thus, the question in this case is whether the Dock 2 Project will substantially impair or conflict with the Commission’s Water Code, and in particular, the Commission’s Water Quality Standards at Article 3 of the Code. More precisely, will dredging and construction of Dock 2 substantially impair the designated water uses to be protected in Zone 4 of the Delaware Estuary, or substantially conflict with the stream quality objectives established by the Commission to ensure that those uses are met[?]

DRP Brief, p. 28, ¶ 190)

feasible and advantageous.” *Id.* By specifically directing it to employ the functions of its members “to the fullest extent” the Commission “finds feasible and advantageous,” the Compact expresses the intention that the DRBC was not created to duplicate efforts of state and federal authorities, but rather to exercise its jurisdiction only where the signatory parties do not or cannot ensure the effective or efficient management of the water resources of the Basin in accordance with the Plan. As DRN itself acknowledges, when former Executive Director James Wright testified before the U.S. House of Representatives in 1963, he specifically emphasized that “as to its water quality division and development of a Basin-wide water quality program and standards,” the Commission intended “to work together with signatory parties due to the Commission’s limited resources.” (DRN Brief, 100, fn. 11).

In a letter to the Riverkeeper regarding the Dock 2 Project, DRBC Executive Director Steven Tambini, P.E., observed that the DRBC “routinely approves projects either before state and federal agencies have acted or afterward, generally based on the preferences of the host state under the particular circumstances.”³¹ DRN argues, however, that such approvals are “based on a misapplication of 18 C.F.R. § 401.37, which only pertains to the timing of project review relative to state or federal approvals when an Administrative Agreement is applicable to the project.” (DRN Brief, p. 155). Section 401.37 states that “[a] project will be considered by the Commission under Section 3.8 of the Compact either before or after any other state or federal review, in accordance with the provisions of the Administrative Agreement applicable to such project.” 18 C.F.R. § 401.37. DRN argues that section 401.37 did not authorize the Commission to grant the Docket while state and federal agency reviews were still pending because no Administrative

³¹ Exhibit J-10, p.1.

Agreements exist with New Jersey or federal government agencies as to the Dock 2 Project and that in this case “the Commission [was] relying, sight unseen, on other agencies to protect the long-range vision for the Basin ...” as set forth in the Plan. (DRN Brief, p. 156, fn. 38). Thus, DRN asserts that 18 C.F.R. § 401.39 applies instead.

Section 401.39 provides, in relevant part that “[w]here a project does not require approval by another other State or Federal agency, or where such approval is required but an Administrative Agreement is not in force, the project shall be submitted directly to the Commission for review and determination of compatibility with the Comprehensive Plan, in such form of application, with such supporting documentation, as the Executive Director may reasonably require....” 18 C.F.R. § 401.39.

Intended to address the “*Form* of submission of projects...” to the DRBC, section 401.39 does not contain language *prohibiting* the Commission from approving a Docket application contingent on all necessary State and Federal approvals. Rather, section 401.39 merely authorizes the Executive Director to exercise discretion in creating a form of application for DRBC approval of a project in the Basin. While the section goes on to require certain exhibits to accompany the form of application ultimately created by the Executive Director (such as maps, cost estimates, and analyses of water supply and wastewater investigations), it notably does not number among them any state or federal agency approvals. If the drafters’ intent for section 401.39 was to require State and Federal approvals to be secured by a Docket proponent before applying to the Commission, they would presumably have expressly required proof of those approvals to accompany the prescribed application form. Accordingly, DRN’s argument that DRBC acted contrary to section 401.37 in approving the project without any Administrative Agreements being in place with New Jersey does not withstand scrutiny.

Even accepting DRN's premise that DRP was required to have all necessary governmental approvals in hand before filing its Docket application for Dock 2, the evidence in this case demonstrates that all such approvals have now been issued by relevant authorities. Thus, DRN's argument provides no practical reason to somehow invalidate the Docket decision or to compel the Commission to revisit the decision.

C. Information allegedly lacking in the record

In its Brief, DRN avers that the record contains none of the following:

- any evaluation of the effect on water quality due to sediment deposition on any submerged vegetation downriver from and outside the dredging area.
- any estimates of water quality, either during dredging operations or at any other time.
- any estimates of the release rate of sediment during dredging.
- any evaluation of the length and concentration level of sediment in the plume from dredging.
- any quantitative estimate of the potential effects of proposed mitigation measures.
- any adequate measurement of contaminant concentrations in sediment.
- any correlation between contaminant concentrations and the dredging schedule (e.g. by depth and location).
- any evaluation of the effect on water quality of contaminants in the sediment solids in the plume(s) from dredging (e.g. comparison with NJDEP Ecological Screening Criteria, DRBC water quality standards, and EPA water quality standards).
- any evaluation of the effect on water quality of dissolution of contaminants from the sediment in the plume(s) from dredging (e.g. comparison with NJDEP Ecological Screening Criteria and DRBC water quality standards, and EPA water quality criteria).

(DRN Brief, pp. 35 – 36, referencing DRN-10, pg. 3)

In conjunction, DRN asserts that if DRBC makes a determination “without the requisite information to actually say that there is no substantial impairment or conflict, the DRBC’s approval is contrary to law, i.e., the Compact, and an abuse of discretion.” (DRN Brief, pp. 105 - 06). DRN argues that the Compact “intends that the Commission make informed decisions that account for and understand, *inter alia*, the magnitude of any impairment, the nature of any substantial impairment or conflict, and the like.” (DRN Brief, p. 106). Therefore, it argues that

“[a]ttempting to analyze such factors without data and information on water quantity and quality impacts, aquatic resources, and recreation (among other items), is simply a guessing game, arbitrary, and an abuse of discretion.” (DRN Brief, p. 106).

In response, DRP argues that the Commission’s conclusion that it had sufficient information to assess the Dock 2 Project under Section 3.8 “must be afforded significant deference ... because, in the absence of explicit rules or requirements, whether more data or information is needed is a question of technical and professional judgment best left to experienced staff members.” (DRP Brief, p. 8). DRP posits that otherwise “third-party objectors like DRN could commandeer the Commission’s Section 3.8 project review process in future administrative proceedings simply by demanding more data and information from an applicant.” (DRP Brief, p. 8). DRP’s argument is meritorious. As DRP goes on to point out, the Commission’s staff duly reviewed DRP’s application materials, including the SSAP and DMMP, both of which were ultimately approved by NJDEP. Commission staff can hardly be faulted for correctly assessing the sufficiency of both the SSAP and DMMP and accurately predicting NJDEP approval.

As quoted at the outset of this Discussion, Section 3.8 requires the DRBC to approve a project as long as it would not substantially impair or conflict with the Plan. What DRN argues is that it has adduced proof that the Dock 2 Project *may* impair the Plan, not that it *would*. Under the language of Section 3.8, DRN’s arguments for more information do not prove that the Dock 2 Project *would* impair the Plan. While the information that DRN demands might certainly provide further enlightenment to the Commission about potential environmental concerns arising from the work, the lack of such information is not proof sufficient to allow the reversal of the Dock 2 approval.

D. DRN's substantive arguments and evidence regarding environmental impacts of the Project.

Within the four corners of its *Request for Hearing*, other than its argument that the Docket application lacked necessary information, DRN set forth the following issues pertaining to impairment or conflict with the Plan: 1) that bulk sediment data, as used by DRP as evidence that contaminated sediments will not be released during dredging, was not appropriately gathered; 2); that the dredging process will result in unacceptably increased turbidity in the water, the release of contaminated sediments into suspension in the water, or penetration of River water into an underlying groundwater aquifer; 3) that SAV will be killed or its habitat will be reduced, in violation of the Plan; 4) that the risk of the release of PCBs into the water as a result of dredging, or from stormwater during construction or operation of Dock 2 is unacceptable; 5) that the habitat of certain threatened or endangered species, or the species itself, will be substantially disturbed as a result of dredging, construction or operation of Dock 2. Each of these issues will be addressed in turn.

1. and 2. Bulk sediment data, contaminated sediments, TSS and groundwater

DRN complains that in preparing its application, DRP did no modeling of sediment suspension and contaminant transport for any aspect of the Dock 2 Project, but instead relied on sediment turbidity numbers from a single research paper dealing with an entirely different river basin and waterway (the Arthur Kill waterway by Staten Island). DRN's expert witnesses questioned the accuracy and reliability of the 328' circular limits that, DRP claims, will be the extent of higher turbidity from dredging for the Project. DRP's position is that the Commission does not have specific protocols or standards such as a site-specific model of sediment transport and resuspension for how to prepare a sediment sampling plan for a dredging project, and that

therefore DRN cannot now create and impose such protocols or standards for this Project. (DRP Brief p. 29, ¶ 194)

To an uneducated observer, predicting the behavior of turbidity in one moving current by comparing it to a moving current in a different waterway might seem to be a comparison of incomparables. However, the expert governmental agencies on which the Commission relies - the USACE and the NMFS - accepted DRP's turbidity analysis under the Arthur Kill study. DRN presented no evidence to impugn the work or expertise of these respected agencies. While the DRBC may not be bound by USACE and NMFS conclusions, nothing in the Compact or the Water Code requires it to conduct an independent inquiry or to compel DRP to produce a different study. Thus again, DRN has raised an issue that *might* give rise to evidence of substantial impairment to the Plan, but it has not crossed the threshold into proof that increased turbidity from dredging *would* substantially impair the Plan. DRN is free to argue, as it does, that DRBC has abdicated its duty by simply relying on these governmental authorities and experts rather than conducting its own inquiry. However, such argument would be merely based on DRN's unique interpretation of the Compact, which differs from the Commission's interpretation.

In granting the Dock 2 Docket, the Commission also relied on NJDEP expertise in certain areas related to toxic contamination of the River at or near the site of dredging. NJDEP reviews dredging projects in its tidal waters, including the tidal Delaware River, through the Waterfront Development Individual Permit ("WDIP") process. DRBC-001 ¶11(d) (Kovach Am. Dec.). NJDEP's Coastal Zone Management Rules, which govern the agency's issuance of a WDIP, require consideration of a broad scope of issues, including but not limited to water quality.³²

³² The WDIP process also requires NJDEP to consider the presence of SAV (N.J.A.C. 7:7-9.6), Endangered or Threatened Wildlife or Plant Species Habitats (N.J.A.C. 7:7-9.36), Critical Wildlife Habitats (N.J.A.C. 7:7-9.37), Marine Fish and Fisheries (N.J.A.C. 7:7-16.2),

N.J.A.C. 7:7-16.3. In preparing its Dock 2 *Application* with regard to Coastal Zone Management Rules, DRP duly performed certain sediment testing and analysis of the sediments to be dredged for Dock 2. These analyses indicated that the material to be dredged is not contaminated under NJDEP criteria. However, as further precaution, NJDEP required as a WDIP permit condition the use of a closed clamshell environmental bucket and other specified BMPs to minimize sediment resuspension during dredging to comply, as closely as possible, with water quality parameters. Studies in the NY/NJ Harbor demonstrated that this type of bucket reduces TSS to roughly background levels. (Exhibit J-50 at pp. 4, 8). The Commission's reliance on NJDEP's issuance of a WDIP for Dock 2 was appropriate and well within its powers as granted by the Compact. Nothing in the record of the instant matter would require the Commission to reconsider the Docket based on water quality concerns from contaminated dredged sediment.

DRN also argues that the removal of silt and clay bottom sediment from the River could open a conduit for river water to enter directly into the primary regional aquifer system altering flows in the aquifer. It further asserts that, from there, construction will create impervious cover, storm water management facilities, and other impacts from site remediation that could further alter ground water flow. (DRN-11, p.1). In response, a DRP expert witness testified that the movement of water from the Delaware River towards the Site and into the regional aquifer is a natural phenomenon that would occur absent any dredging or construction activity at the Site. (Tr. 893:25-894:4 (Demicco Test)). The record further indicates that all such groundwater considerations were duly analyzed by NJDEP prior to issuing its groundwater-related permits.

DRN further complains that the sediment sampling on which NJDEP relied was inadequate to show whether, and to what extent, contaminants may be present within the plumes of sediment created by dredging (in addition to construction and operations.) DRN asserts that, "based on

what is known, there is a reasonable basis to believe there could be a substantial impairment or conflict with the Plan – harm to aquatic life in the short-term or long term, [and] potential violations of Commission water quality standards” (DRN Brief, p. 168). DRN insists that “due to that lack of data, the Commission cannot (and did not) make an informed decision on whether the project will comply with the Commission’s water quality standards that are part of the Comprehensive Plan. Instead, it made an assumption as to what the impact would be.” (DRN Brief, p. 153).

As with many of its other arguments, DRN’s concerns about what “could-be” do not reflect the language of the Compact or satisfy the “*would-be*” standard by which a project may be denied approval. As to the argument that DRBC made unsupported “assumptions” about the Project’s compliance with water quality standards, the quoted term is used in an unfair and pejorative manner. The “assumption” that DRBC made was not about water quality data, but about the reasonably expectable exercise by NJDEP and other agencies of their duties to protect environmental conditions charged to their care. DRBC appears to have reasonably assumed that if some part of the Project failed to meet some requirement or regulation enforced by a federal or state environmental agency, such agency would not approve the applicable permit. DRBC’s disinclination to duplicate the work of other agencies or to doubt their integrity was a reasonable exercise of its discretion under Section 3.8.

Much of DRN’s dissatisfaction with the sediment sampling that DRP conducted is based on the testimony of Dr. Crouch who contended that, in order to assess the water quality impacts of the Dock 2 Project, DRP should have taken samples of sediment from each depth-location across the dredging footprint, roughly corresponding to each anticipated “bucket” scoop of sediment. (DRN-11, p. 3). However, as DRP points out, Dr. Crouch does not cite any rule, regulation,

standard, or protocol in support of his proposed sampling methodology, nor is it based on NJDEP's regulations or guidance, which Dr. Crouch admitted he did not "examine in detail." (Tr. 259:17-260:11, 250:21-22 (Crouch)).

As indicated in the Findings of Fact, the SSAP on which the WDIP was based was taken from 50 core samples that were combined into 17 composites for purposes of testing. Contesting the validity of the WDIP itself for purposes of on-site sediment contamination, DRN contends that NJDEP's Coastal Zone Management Rules (which set the criteria for the WDIP) are concerned solely with characterizing sediments for the purpose of selecting an appropriate disposal option and not for the purpose of determining whether the dredge site is contaminated. However, as DRP points out, the NJDEP's Dredging Manual provides that an applicant's sediment sampling plan is to be used by NJDEP "to evaluate the potential impacts of the dredging operation" as well as to assess the applicant's "dredged material management alternative." (DRP Brief, p. 29, ¶¶ 196 - 97 (quoting DRP-39, p. 6)). While DRP concedes that bulk sediment data is primarily used to characterize dredged sediments for disposal purposes, its experts were in accord that the data also contains useful information about contaminants that might resuspend during dredging. Where contaminant concentrations in sediments are low, as for Dock 2, less resuspension of contaminated sediments is expected. (DRP Brief, pp. 30, 32, ¶¶ 205, 214).

With regard to DRP's SSAP, DRN points out that more individual samples were taken and individually analyzed with regard to Dock One. DRP contends that it was appropriate to take more samples for Dock One because the results of previous studies in the Dock One dredging area identified relatively high levels of contamination, and those studies were confirmed by the sampling taken for Dock One. (See DRP-63 (Dock One DMMP)). In contrast, the bulk sediment data for Dock 2 did not identify levels of contamination warranting concern. When DRN's

concern is about the compositing of samples when testing of individual samples would have been more enlightening as to site-specific or hotspot contamination, DRP's self-serving rejoinder that composite sampling was appropriate because composite sampling showed no contamination is somewhat unsatisfying. Nonetheless, again, the SSAP under which the testing took place had been reviewed and approved by NJDEP, whose authority over and interest in the quality of its portion of the River is commensurate with the Commission's. Therefore, as with so many other concerns expressed by DRN, the quality of the SSAP provides no basis for the Commission to revisit its Dock 2 Docket approval.

3. SAV

DRN contends that sediment suspension negatively impacts SAV along with freshwater mussels and other aquatic species that rely on it for food or habitat. DRN points out that an increase in sediment suspension will result in less light, and that light is essential for SAV survival. DRN further points out that mussels dependent on SAV are relatively immobile, and so if SAV is lost then mussels are lost.

The record reveals that DRP undertook a number of steps to ensure, to the extent possible, that SAV will not be adversely impacted by the Dock 2 Project. First, as shown in the Findings of Fact, a visual survey of SAV in and around the intended Dock 2 site was commissioned and performed on DRP's behalf prior to its Docket *Application*. After the survey found an approximately 3.78-acre bed of wild celery in the area, Dock 2 was re-designed and repositioned to avoid the bed. (DRP-140 ¶ 50). Then, after the USACE and NMFS evaluated the Project's direct impacts to SAV caused by pile driving and indirect impacts caused by shading, DRP sought a follow-up survey in June 2019 focusing on the trestle footprint in the shallow depths where SAV can establish itself. The June 2019 survey revealed within the trestle footprint a .01-acre SAV bed

and random solitary plants that were part of a larger SAV complex extending east to west and including the 3.78-acre bed identified in September 2018. After consultation with the USACE and NMFS, the .01 acre SAV growth was transplanted away from the trestle's footprint in August 2019. (DRP-140 ¶ 53). Thus, the record indicates that construction and operation of Dock 2 will have little if any impact on SAV, in part because of measures specifically taken by DRP to avoid SAV.

As to the effect on SAV from an increase in TSS during dredging, the information obtained by DRP and accepted by NJDEP indicated that maximum concentrations would extend no further than about 328 feet down-current from the dredge bucket, and that such concentrations would dissipate relatively quickly. In its Brief, DRN conceded that there is “no line in the sand (or sediment)” to use to determine when a temporary increase in TSS would be so significant as to pose a substantial impairment to the Plan. (DRN Brief, p. 169). While DRN went on to cogently explain some of the factors (e.g. contamination concentrations, sensitivities of a given species of plants or animals, endangered or threatened status of an effected species) that might inform a determination that a temporary increase in TSS would be a substantial impairment, none of those factors clearly identified SAV as a potential “victim” of temporarily increased TSS to such an extent that it would be a substantial impairment of the Plan.

4. PCBs

Due to its complex and heterogeneous contamination history, the tidal Delaware River has been designated under the CWA as impaired for PCBs since the late 1990s. (DRP-130, p. 4). Other contaminants such as benzene, arsenic, lead, aniline, ammonia, cadmium have been detected at the site. As noted in the Findings of Fact, contaminated or potentially contaminated soils within the Site were either removed or capped, prior to the filing of DRP's *Application* for approval of

Dock 2, in accordance with applicable remediation standards. (See DRP-53, pp. 19 (Section 4.2.2 Remediation of Soils containing PCBs), and 20-21 (describing off-site disposal of PCB-impacted soils); see also Exhibit J-42, pp. 70-98 (depicting as-built engineering controls within redevelopment area)). As a result of CWA requirements, DuPont prepared and has maintained an approved PMP for the Repauno site. (DRP-130, p. 4)

Presumably as a result of these remediation efforts, the PCB concentrations detected in the bulk sediment data for the Dock 2 Project were below NJDEP's residential soil standards by "several orders of magnitude." (Tr. 1940:9-10, 1941:1-6 (Cavallo); DRP-130, pp. 5-6). Mr. Cavallo, DRP's PCB expert, testified that concentrations of PCBs in the bulk sediment data were "as low as some of the lowest concentrations" of PCBs he has seen elsewhere in the Delaware Estuary and "commensurate with background concentrations," based on previous sediments investigations he oversaw during his time on the staff of DRBC. (Tr. 1940:9-10, 1976:20-22 (Cavallo); DRP-130, p. 6). Accordingly, he testified that there is "little PCB mass" at risk of resuspension and release into the water column during dredging, such that the probability of PCBs contaminating water quality during dredging "is almost non-existent." (DRP-130, p. 6).

As to the potential for post-dredging release of PCBs at the Site, the Dock One Docket included a condition requiring site investigation and a sampling program for future PCBs in stormwater, but as DRN points out, information regarding such investigation and sampling program is not of record in the instant case. (DRN-14, p. 7). In addition, under its Basic Industrial Stormwater Permit, DRP is required to develop and implement an SPPP containing BMPs designed to ensure that stormwater from operations at the facility will not adversely affect River water quality. (DRP-140 ¶ 62). As to that requirement, DRN has noted that, as of the date of the hearing, DRP's SPPP was not yet fully developed. While an approved SPPP would

obviously be helpful at this point, the current absence of it does not negate the fact that a stormwater sampling plan to evaluate the potential conveyance of PCBs in stormwater is a condition of the Dock One Docket that the Commission could enforce to stop the Project if it were to find, for instance, that the SPPP was being delayed in bad faith or due to a new discovery of contamination that would render an SPPP impracticable. In addition, as part of its SPPP, DRP's sampling and analysis plan will become an enforceable condition of the industrial stormwater permit that NJDEP issued for facility operations. (DRP-130, p. 5). Finally, the Dock 2 Project will not result in additional stormwater outfalls being installed, and Chemours already has a PMP for managing pre-existing PCBs at the Site that covers discharges of stormwater from pre-existing outfalls at the property. (See Exhibit J-24, 5 (reference to Dupont existing PMP submission to DRBC in 2005); DRP-130, p. 4; DR-140 ¶ 63).

Accordingly, for all of the above-discussed reasons, no substantial impairment to the Plan is apparent from DRN's evidence regarding PCBs at the Site.

5. *Endangered species*

Both Atlantic sturgeon and shortnose sturgeon are federally-listed endangered species, and NMFS has designated critical habitat for the Atlantic sturgeon. (DRN-111). As a prerequisite for the issuance of DRP's USACE permit, NMFS and USACE engaged in a consultation process through which NMFS was to evaluate potential impacts of the Project to sturgeon pursuant to its duty under Section 7 of the federal Endangered Species Act. (Exhibit J-1, p. 7; Exhibit J-15, p. 8.) Condition C.8 of the Docket requires DRP to obtain all applicable federal, state, and local approvals for the project, including approval from NMFS. (Exhibit J-1, p. 9; Exhibit J-15, p. 7). As a result of the consultation process for Dock One, NMFS issued a BO reviewing all aspects of the Project related to shortnose sturgeon and Atlantic sturgeon. (Exhibit J-38). Later, NMFS

issued an updated document which concluded that dredging and construction for the Dock 2 project will not adversely impact these sturgeon or result in any significant adverse impacts to critical habitat for Atlantic sturgeon. (Exhibit J-38, p. 197; Exhibit J-53, p. 2; DRP-6). As authorized by the Compact, the DRBC deferred to NMFS expertise when it approved the Dock 2 Docket. In its work, NMFS considered not only current, possible threats to the sturgeon, but also the potential for future upstream movement of the salt line due to climate change. NJDEP reviewed the entire GLC site for potential impacts to state threatened and endangered species during the land use permit review process for Dock One and the upland marine terminal development, and the land use permits it subsequently issued contain specific conditions to minimize impacts to threatened and endangered species.

6. Summary of DRN's other substantive arguments

DRN raises, to various degrees, a number of other arguments relative to its position that the Dock 2 Project should be disapproved due to its threats to SAV, groundwater, mussels, and/or endangered species. As examples: it points out that a number of changes have been made to the GLC layout plan which could result in “site disturbance, disturbance to installed engineering controls for pollutant remediation, and a lack of oversight from DRBC and the public to prevent impacts to the Basin” (DRN Brief, p. 175); it avers a lack of coordination between the remediation to the Repauno site being conducted through Chemours and the redevelopment being conducted by DRP; it expresses repeated concerns about the possibility that the 3’ to 7’ of clean fill to be added landside will impair the efficacy of asphalt caps already in place. (DRN Brief, p. 173). Each of these concerns, like the others addressed above, are concerns that fall directly within the bailiwick of the several state and federal agencies that have issued approvals for the Project. DRBC cannot assume, based simply on DRN’s suspicions, that these agencies had insufficient

information on which to issue their approvals. DRBC is not compelled by the Compact to double check these agencies' work, and it would be wasteful of resources for it to attempt to do so. It is perhaps most telling that, according to Mr. Kovach's undisputed testimony, DRBC has *never* denied a project permit when all other relevant state and federal agencies have approved it.³³ (Tr. 1374 – 75 (Kovach)). With regard to endangered species protection as well as water quality protection in general, DRN's substantive evidence against the Project does not provide the Commission with cause to veer from this precedent.

VI. CONCLUSION and RECOMMENDATION

The evidence adduced by 13 experts and three fact witnesses in written and live testimony has not demonstrated any substantial impairment or conflict with the Plan from the Dock 2 Project. The seasonal restrictions and BMPs to be employed during the dredging and construction of Dock 2 are sufficient assurance that the impacts of these activities on water quality and aquatic life will be localized and transitory. Because DRP's proposed dredging of approximately 45 acres of the riverbed will also remove contaminated sediments from the system, the result will be a net benefit to the Basin. The redevelopment of a portion of the former DuPont Repauno site for the upland components of the GLC, approved by the Commission in 2017, will enhance measures taken by DuPont (Chemours) to remediate and contain legacy contamination of soils and groundwater.

³³ It is reasonable to assume that rejecting a project approved by all other relevant agencies would subject DRBC to accusations that it had politicized its consideration of the project.

Under the rulings on DRP’s *Motion in Limine* and rulings made during the hearing, DRN had a full and fair opportunity to demonstrate that Dock 2 would substantially impair or conflict with the Comprehensive Plan. (See e.g., January 30, 2020 Memorandum Order at 4-5 (“To the extent that the evidence about Dock [One] augments evidence addressing specific water quality or pollution-related concerns arising from the Dock 2 project (e.g., PCB levels, impacts of contaminants on protected species, etc.) it will not be excluded.”). As discussed above, DRN took full advantage of that opportunity, thoroughly and ably presenting its arguments and evidence. However, the effort and evidence were insufficient to carry the burden. Accordingly, it is recommended that the Dock 2 Docket should remain as previously approved by the Commission.

Respectfully submitted,

s/ John D. Kelly

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