

Potential Pathways for Expanded Habitat Mitigation in the Commonwealth of Virginia



William Reach, J.D. 2023
Virginia Coastal Policy Center
William & Mary Law School

Chelsey B. Noble, J.D. 2023
Virginia Coastal Policy Center
William & Mary Law School

Claire M. Gaposchkin, J.D. 2023
Virginia Coastal Policy Center
William & Mary Law School

Michael B. Davis, J.D. 2023
Virginia Coastal Policy Center
William & Mary Law School



This project, Task #91.01, was funded in part by the Virginia Coastal Zone Management Program led by the Virginia Department of Environmental Quality through Grant FY22 # NA22NOS4190187 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended. The views expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Department of Commerce, NOAA, or any of its subagencies.

May 2023

INTRODUCTION

In Fall 2022, students with the Virginia Coastal Policy Center (VCPC) researched options for expanded habitat mitigation in the Commonwealth of Virginia under an ongoing Virginia Coastal Zone Management Program (Virginia CZM) grant. Following that effort, a Spring 2023 student team (“team”) engaged with stakeholders to determine the stakeholders’ interest in expanding compensatory mitigation and the potential development of a new or expanded in lieu fee (ILF) program within the Commonwealth of Virginia. During these communications with stakeholders, the team gathered information on which natural resources are of the utmost importance for potential inclusion in compensatory mitigation programs, permitting system preferences, and the level of interest in creating a new ILF program as the mitigation structure for these expanded impacts.

This Report aims to help policy makers, should they decide to expand the current compensatory mitigation program, to find the most effective and efficient way a new ILF program could be used to further the goals expressed by stakeholders. For ease of use, this Report is broken down into three sections. The first section covers general background knowledge regarding the scope of the current compensatory mitigation system in Virginia. The second portion examines the process that VCPC student teams have used to try to find consensus on implementing a new ILF program. The final section considers options if the State were to decide to pursue a new ILF, and provides recommendations based on stakeholder feedback.

I. BACKGROUND

The U.S. Environmental Protection Agency (EPA)’s 2008 Compensatory Mitigation Rule (2008 Mitigation Rule) prevents the net loss of wetland acreage or function from human-driven activities.¹ At the federal level, the U.S. Army Corps of Engineers (USACE) and the EPA work jointly to regulate wetlands and aquatic resources.² Since 2000, it has been codified in Virginia’s environmental laws that there can be no-net-loss of nontidal wetland acreage or function.³ Within Virginia, the Virginia Water Protection (VWP) permit program is used to achieve the no-net-loss wetland mitigation requirement.⁴ This state permit requirement used to enforce this rule comes from both federal authority (Section 401 of the Clean Water Act) and independent state authority.⁵ Mitigation requirements are imposed on applicants by attaching conditions to a VWP individual

¹ Compensatory Mitigation for Losses of Aquatic Resources, 40 C.F.R. §§ 230.91 et seq.

² See *Enforcement under CWA Section 404*, ENV’T PROT. AGENCY, <https://www.epa.gov/cwa-404/enforcement-under-cwa-section-404> (last visited Apr. 20, 2022) (describing how, “[w]hen the [Corps] is the permitting authority, EPA and the Corps share [Clean Water Act] Section 404 enforcement authority”); see also Interview with Dave Davis, Director, Office of Wetland and Stream Protection, Va. Dep’t of Env’tl. Quality (Nov. 1, 2022) (on file with authors).

³ See VA. CODE § 62.1-44.15:16.

⁴ VA. CODE § 62.1-44.15:21(B), <https://law.lis.virginia.gov/vacode/title62.1/chapter3.1/section62.1-44.15:21/> (“Permits shall contain requirements for compensating impacts on wetlands. Such compensation requirements shall be sufficient to achieve no net loss of existing wetland acreage and functions”); 9 VAC 25-210-116, <https://law.lis.virginia.gov/admincode/title9/agency25/chapter210/section116/>; see also 40 CFR §§ 230.91 et seq.; Interview with Dave Davis, *supra* note 2.

⁵ See VA. CODE § 62.1-44.12:21(B); *Basic Information about Assumption under CWA Section 404*, ENV’T PROT. AGENCY, <https://www.epa.gov/cwa404g/basic-information-about-assumption-under-cwa-section-404> (last visited May 14, 2023); see also Interview with Dave Davis, *supra* note 2.

permit or through a State Program General Permit.⁶ The Joint Permit Application (JPA) is the device in place to review projects that impact wetlands or streams.

The Virginia Department of Environmental Quality (DEQ), the Virginia Marine Resources Commission (VMRC), and the USACE review each JPA submitted.⁷ Additionally, other agencies, such as the Virginia Department of Wildlife Resources (DWR), can comment and make recommendations on permit applications.⁸ However, some agency comments (such as DWR's comments) are not required to be implemented or responded to; potentially closing this communication loop is further discussed below.

A proposed project requires mitigation conditions if it may impact wetlands or streams to an extent that triggers permits. The applicant must provide a conceptual compensatory mitigation plan with the JPA.⁹ The first step of mitigation is to design the project to have as minimal an environmental impact as possible (i.e., to avoid wetland impacts if possible), and the permitting agencies can require the permittee to alter the development plan if they believe it to be too impactful or more impactful than is necessary (i.e., to minimize wetland impacts).¹⁰ If the project as proposed is projected to have impacts on wetlands, streams, or other adjacent aquatic features, the project must and will require mitigation; the burden to mitigate is on the applicant.¹¹

The permittee can mitigate the project's impact in one of the three following ways, listed in the order of DEQ's preference: (1) by buying credits from a privately operated mitigation bank;¹² (2) by paying into the ILF fund (essentially, buying credits from the fund);¹³ or (3) by performing the mitigation itself (referred to as "permittee-responsible mitigation").¹⁴ If the permittee uses a mitigation bank or pays into the ILF fund, the permitting agencies do not tell the permittee that they must pay a certain amount—rather, they tell the permittee the number of credits necessary to offset the impact.¹⁵ If a permittee needs to purchase credits, they will then go directly to a third-

⁶ See 9 VAC 25-660-100, <https://law.lis.virginia.gov/admincode/title9/agency25/chapter660/section100/>; see also *Wetlands & Streams*, VA. DEP'T OF ENV'T QUALITY, <https://www.deq.virginia.gov/permits-regulations/permits/water/wetlands-streams> (last visited Dec. 15, 2022).

⁷ See *Regulatory Branch – Joint Permit Application*, U.S. ARMY CORPS OF ENG'RS, NORFOLK DIST., <https://www.nao.usace.army.mil/Missions/Regulatory/JPA.aspx> (last visited Dec. 15, 2022).

⁸ See generally Va. Code § 28.2-1205.1; see also Interview with Becky Gwynn, Executive Deputy Director, Virginia Dep't of Wildlife Res. (Oct. 20, 2022) (on file with authors).

⁹ See STANDARD JOINT PERMIT APPLICATION, U.S. ARMY CORPS OF ENG'RS 3, 5, <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll7/id/12641> (last visited Dec. 15, 2022). The scope of the conceptual compensatory mitigation plan is defined by 9 VAC 25-210-80(B). See also Interview with Karen Johnson, Director of Wetland and Stream Mitigation, Va., The Nature Conservancy (Nov. 11, 2022) (on file with authors).

¹⁰ 9 VAC 25-210-90(C), <https://law.lis.virginia.gov/admincode/title9/agency25/chapter210/section90/>, describes the permittee's duty to avoid and minimize impacts: "[t]he permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the VWP permit that may have a reasonable likelihood of adversely affecting human health or the environment." See also Interview with Karen Johnson, *supra* note 9.

¹¹ See 9 VAC 25-210-90(C); see also Interview with Karen Johnson, *supra* note 9.

¹² See 9 VAC 25-210-116(C)(2)(a), <https://law.lis.virginia.gov/admincode/title9/agency25/chapter210/section116/>.

¹³ See 9 VAC 25-210-116(C)(2)(b), <https://law.lis.virginia.gov/admincode/title9/agency25/chapter210/section116/>.

¹⁴ See 9 VAC 25-210-116(C)(2)(c)–(e), <https://law.lis.virginia.gov/admincode/title9/agency25/chapter210/section116/>.

¹⁵ *Id.*

party mitigation bank or The Nature Conservancy (TNC) for Virginia Aquatic Resources Trust Fund (VARTF) credits (the VARTF system will be described in-depth below).¹⁶

Mitigation bank and VARTF credits are the preferred methods of mitigation because an expert third-party is doing—or already has done—the mitigation.¹⁷ Mitigation banks are run by companies that specialize in creating and overseeing these environmental restoration areas.¹⁸ The banks receive approval to sell credits from the state based on ecological factors such as acreage and ecosystem function, and permittees can then buy the credits (or fractions thereof) that they need.¹⁹ Credits are for specific functions or ecosystem types, which may include endangered species habitat.²⁰

ILF funds are similar to mitigation banks in that they are used for projects to restore an ecological area; the permittee is paying a third party to offset a development project's impacts.²¹ In Virginia, the ILF fund for wetlands and stream mitigation is VARTF, which is run by TNC—the “program sponsor” of VARTF—as a non-profit partner of the State.²² ILF payments must be applied to “in-kind” mitigation; similar to how a permittee must buy credits for the particular type of impact, TNC credits may only be applied to the same “type” of habitat for which the permittee is seeking to offset impacts.²³

VARTF is state-wide, but not state-run.²⁴ The instrument establishes an inter-agency review team (IRT) that DEQ and USACE administer to oversee the trust's operation, but funds go directly to TNC, and TNC then manages and pays for the mitigation projects.²⁵ TNC sets the price for their “credits” (using the same terminology as the mitigation banks).²⁶ The same VARTF system is used

¹⁶ Interview with Dave Davis, Director, *supra* note 2; see *Compensatory Mitigation*, VA. DEP'T OF ENV'T QUALITY, <https://www.deq.virginia.gov/water/wetlands-streams/compensatory-mitigation> (last visited Dec. 15, 2022).

¹⁷ See *Mitigation Banks Under CWA Section 404*, ENV'T PROT. AGENCY (Feb. 17, 2023), <https://www.epa.gov/cwa-404/mitigation-banks-under-cwa-section-404>.

¹⁸ See *Mitigation Banking 101: How Does Mitigation Banking Work?*, THE MITIGATION BANKING GRP., INC., <https://mitigationbankinginc.com/mitigation-banking-101-how-does-mitigation-banking-work/> (last visited Dec. 15, 2022).

¹⁹ See *Compensatory Mitigation: How Do I Become A Mitigation Bank Sponsor?*, VA. DEP'T OF ENV'T QUALITY, <https://www.deq.virginia.gov/water/wetlands-streams/compensatory-mitigation> (last visited Dec. 15, 2022).

²⁰ See *Compensatory Mitigation: How Do I Calculate Compensatory Mitigation Credits?*, VA. DEP'T OF ENV'T QUALITY, <https://www.deq.virginia.gov/water/wetlands-streams/compensatory-mitigation> (last visited Dec. 15, 2022).

²¹ See VIRGINIA AQUATIC RESOURCE TRUST FUND (VARTF): 2019 – AMENDED AND REINSTATED PROGRAM INSTRUMENT, THE NATURE CONSERVANCY at 19, https://www.nature.org/content/dam/tnc/nature/en/documents/VARTF_Program-Instrument_2019.pdf [hereinafter “VARTF Instrument”].

²² See *id.* at 4. There is also a minor ILF in Virginia called the Living River Trust that operates in and around the Elizabeth River. The Living River Trust was not analyzed for this project because it is not a state-wide program.

²³ See, e.g., the VARTF Account Summary table describing credit balances for different credit types, including tidal wetlands, non-tidal wetlands, and streams. VIRGINIA AQUATIC RESOURCES TRUST FUND ANNUAL REPORT – 2021, THE NATURE CONSERVANCY 4 tbl.1 (June 2022), https://www.nature.org/content/dam/tnc/nature/en/documents/2021_VARTF-Annual-Report_FINAL.pdf.

²⁴ This point was emphasized by Karen Johnson. Interview with Karen Johnson, *supra* note 9.

²⁵ See VARTF Instrument, *supra* note 21, at 11 (“7. Transfer of Responsibility for Compensatory Mitigation”); see also Interview with Karen Johnson, *supra* note 9. All of this money is 404/401 permitted and directly tied to wetland and stream impacts.

²⁶ VARTF Instrument, *supra* note 21, at 17 (“[TNC] will determine the funding needed to provide mitigation Credit. . . . The cost per unit of Credit must take into account the expected costs associated with the restoration, creation, enhancement and/or preservation of aquatic resources in a particular Service Area.”).

to offset impacts to tidal and non-tidal wetlands throughout Virginia, and it is active in all state watersheds except Big Sandy (in the western part of Virginia).²⁷ There are currently about 50 active VARTF mitigation projects, and TNC works to ensure they are progressing successfully.²⁸ Although rare, the fund has also been used for violations, where an entity was required to pay into the fund for violating a permit, rather than to offset a permitted impact.²⁹

Finally, there is the last-resort mitigation option of permittee-responsible mitigation. This method is disfavored by both the Commonwealth and developers, because it requires a high level of expertise and does not have the same level of financial predictability as either of the other options—most developers do not have the same level of expertise to restore impacted habitats as private mitigation banks and TNC.³⁰ Additionally, developers will be tied up in the project for years and may have to continue putting money into the mitigation project, while the cost of purchasing credits from a mitigation bank or VARTF is both easily determined and predictable.³¹

The IRT is composed of members of state and federal agencies and exclusively oversees mitigation banks and ILF funds in Virginia.³² The IRT consists of two co-chairs (from USACE and DEQ) and nine members (including VMRC, DWR, EPA, and the U.S. Fish and Wildlife Service (USFWS)).³³ While many of these agencies are also involved in mitigation through the issuance of wetlands permits, the permitting process and IRT decision-making are distinct and separate processes, although DWR contended that these processes should not be so separate.³⁴

The mitigation process works differently when the impact is caused by a federal agency project, rather than a private party. However, the federal agency must still comply with the policy of state law—in this case, that there be no net loss of wetland acreage or function.³⁵ To do so in the State’s coastal zone, the federal action will go through consistency review to ensure that the federal project is consistent with the State’s enforceable policies.³⁶ Similarly, an entity applying for a federal license or permit will have to submit a federal consistency certification and the project

²⁷ *Id.* at 2, 19 (“The Fund no longer accepts impacts from the Big Sandy but has remaining liabilities that are addressed through one project”); *see also* Interview with Karen Johnson, *supra* note 9.

²⁸ Interview with Karen Johnson, *supra* note 9.

²⁹ *Id.* (noting that this has been done perhaps twice).

³⁰ *See, e.g., Should You Purchase Credits from a Mitigation Bank or In-Lieu Fee Program?*, ENSAFE (Apr. 27, 2019), <https://www.ensafe.com/part-2-of-3-should-you-purchase-credits-from-a-mitigation-bank-or-in-lieu-fee-program/>.

³¹ *See id.*

³² Interview with Dave Davis, Director, *supra* note 2.

³³ *See generally Purchasing and Approval of Mitigation Credits*, THE NATURE CONSERVANCY (Apr. 24, 2023), <https://www.nature.org/en-us/about-us/where-we-work/united-states/virginia/stories-in-virginia/vartf-purchasing-mitigation-credits/>.

³⁴ *See* Comment from Amy Martin, Program Manager, Va. Dep’t of Wildlife Res. (Feb. 13, 2023) (on file with author) (“Available mitigation should influence permitting. For example, if we cannot effectively offset [] tidal impacts [], then we should not permit tidal impacts.”).

³⁵ Interview with Bettina Rayfield, Manager, Office of Env’tl. Impact Review, Va. Dep’t of Env’tl. Quality (Oct. 13, 2022) (on file with author).

³⁶ *See* VA. DEP’T OF ENV’T QUALITY, OFF. OF ENV’T IMPACT REV., FEDERAL CONSISTENCY INFORMATION PACKAGE FOR VIRGINIA COASTAL ZONE MANAGEMENT PROGRAM 10 (May 2021) (“All federal development projects inside the coastal zone are automatically subject to the consistency regulations and require a federal consistency determination”). This resource contains a list of the state’s enforceable policies as of 2021 at App. C. *See also* Interview with Bettina Rayfield, *supra* note 34.

will need to be consistent with the State's enforceable policies.³⁷ Note that the federal agency can still elect to buy mitigation bank credits or pay into VARTF.³⁸

The problem posed to VCPC was the inability of the current mitigation system in Virginia to address mitigation for species habitats outside of wetlands and streams (e.g., coastal habitats for threatened species such as shorebirds and sea turtles, or areas where sub-aquatic vegetation is present) when they are impacted by a development project. This dilemma became apparent after the National Aeronautics and Space Administration (NASA) disrupted endangered shorebirds and sea turtle nesting sites during a permitted beach stabilization project on Wallops Island. VCPC was asked to research mitigation programs in Virginia and across the country to determine whether and how mitigation requirements in Virginia could be expanded.

II. THE VCPC RESEARCH PROCESS

With this goal in mind, the Spring 2023 team was able to review the previous research completed which included the work of two previous VCPC student teams. The first VCPC ILF student team created a survey of a few states who have implemented various styles of ILF programs within their borders with varying degrees of success.³⁹ The Fall 2022 VCPC student team interviewed stakeholders in state government agencies, federal agencies, and academia in order to better understand the limitations in the existing Virginia ILF-framework and stakeholders' goals for and concerns about a new ILF.⁴⁰ The full scope of the Fall 2022 interviews can be found in Appendix A of this Report.

The Spring 2023 student team's task was to determine the best way for the Commonwealth to require mitigation outside of the wetland and streams framework, should the state natural resources agencies decide to do so. During the Fall 2022 interview process, significant positive feedback was collected about the current mitigation framework.⁴¹ Many stakeholders voiced their confidence in TNC and the existing ILF program, VARTF.⁴² Additionally, stakeholders stated that the communication in place between stakeholders, TNC, and the IRT has been very effective for administering VARTF.⁴³ While considering a potential new program, these positive attributes should be kept in mind to ensure that they are adequately incorporated.

In addition to the positive feedback collected regarding the existing program, some stakeholders did voice concerns in Fall 2022 interviews. The primary concern raised was the limited scope of the current ILF program.⁴⁴ This is the main concern that this Report aims to

³⁷ See *Applying Federal Consistency*, OFF. FOR COASTAL MGMT., NAT'L OCEANIC & ATMOSPHERIC ADMIN., <https://coast.noaa.gov/czm/consistency/applying/> (last visited Dec. 15, 2022).

³⁸ See Interview with Bettina Rayfield, *supra* note 34. The Corps will usually pay for credits if they exist. Interview with David O'Brien, Deputy Director, Nat'l Oceanic and Atmospheric Admin. Fisheries (Oct. 14, 2022) (on file with author).

³⁹ See ERIKA BOSACK & LUKE MILLER, VA. COASTAL POL'Y CTR., IN-LIEU FEE PROGRAM CASE STUDIES: LESSONS LEARNED FOR POTENTIALLY EXPANDING IN-LIEU FEE HABITAT COVERAGE IN VIRGINIA (Spring 2022), https://law.wm.edu/academics/programs/jd/electives/clinics/practicum_list/vacoastal/reports/ilf-paper-1_final_508-compliant.pdf.

⁴⁰ See generally Appendix A.

⁴¹ See *id.* at 2-3.

⁴² See *id.*

⁴³ See *id.* at 3.

⁴⁴ See *id.* at 4-10.

address. However, other concerns were also raised such as: (1) limitations on accepting funds and applying mitigation money to address impacts outside of the scope of VARTF;⁴⁵ (2) concerns regarding the balancing of in-kind mitigation requirements, flexibility, and siting issues;⁴⁶ and (3) improvement of communication about the recommendations provided by state agencies during the permitting process.⁴⁷ The Spring 2023 team heard similar critiques of issues of scope, monetary limitations, balancing, and communication during their stakeholder outreach.⁴⁸ To address these concerns, the team broke the problem down and made some simple suggestions found further along in this Report regarding expanding the scope of habitats that could potentially be protected and improving the communication gap with an additional guidance document or memorandum of understanding.

The Spring 2023 team began by interviewing representatives from DWR regarding outstanding questions from previously conducted research.⁴⁹ During this interview, the student team was able to discuss in depth with DWR their concerns about the current capabilities regarding habitat and species protection within the Commonwealth. DWR voiced concerns about the limited nature of their fee and permitting capabilities.⁵⁰ Additionally, DWR talked about the lack of communication and feedback from the permitting authorities when DWR makes comments and recommendations on a permit application regarding potential species impacts.⁵¹ This lack of communication leads to uncertainty as to whether recommendations for mitigation were incorporated into the permit.⁵² The team also learned more about DWR's current abilities to protect Virginia's threatened and endangered (T&E) species via prosecution if a party is unwilling to take steps to prevent the harm to the species in question.⁵³

Next, the Spring 2023 team was able to develop three questions that were posed to a limited group of stakeholders⁵⁴ to resolve some outstanding questions in a meeting in March 2023 at DEQ's Central Office in Richmond, Virginia. These questions included: (1) What habitats should a new ILF program consider?; (2) Should we keep the JPA as the permit associated with mitigation requirements, or consider a new permitting system?; and (3) Should we use the current VARTF instrument or should an entirely new ILF be established? Each of these questions helped the student team identify areas of consensus on what the majority would find most beneficial for the Commonwealth. By going through each question slowly and having each stakeholder voice their opinion, the team was able to collect valuable feedback that helped form the conclusions discussed in more depth at the conclusion of this Report. The agreed-upon summary of the takeaways from each question at the March 2023 Stakeholder's meeting are briefly summarized in Appendix D and attributed to the related stakeholder. Based on this meeting, the team developed the

⁴⁵ See *id.* at 10.

⁴⁶ See *id.* at 10-11.

⁴⁷ See *id.* at 11-12.

⁴⁸ See generally Appendix D.

⁴⁹ Interview with Becky Gwynn, Executive Deputy Director & Amy Martin, Program Manager, Va. Dep't of Wildlife Res. (Feb. 13, 2023) (on file with author).

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

⁵⁴ See generally Appendix D.

recommendations below to align with the concerns and desires raised by the stakeholders. The recommendations are discussed below in correlation with the question they are associated with.

III. RECOMMENDATIONS

a. Which habitats should we prioritize for a new compensatory mitigation system?

During the March 2023 meeting with stakeholders, the team presented a PowerPoint slide which covered a list of habitats for consideration should the natural resources agencies wish to expand the compensatory mitigation program in the Commonwealth.⁵⁵ This included subaquatic vegetation (SAV), shallow water habitats, non-vegetated wetlands, coastal habitats for protected species (such as dunes and beaches where shorebirds and turtle habitats are present), surface waters with raw water intakes which impact anadromous fish, karst areas, high elevation forests and marshes, fisheries, locality-determined habitats, currently covered ILF habitats with further specifications required in order to mitigate, habitats of all state and federally listed threatened and endangered species, and coastal marshes.⁵⁶ This list of habitats was developed by reviewing the previous interviews completed by the Fall 2022 team and combining the suggestions that were made in those interviews. Additionally, the team pulled some suggestions from the VCPC white paper on other states' ILF programs and considered ways in which they attempted to protect species and habitats in their successful ILF programs.

While everyone at the meeting voiced a general desire to protect as many species and habitats as possible, there were certain habitats that stakeholders felt should be prioritized for protection and which also would be more likely to be easily covered by a new and/or expanded mitigation system. These habitats were (1) coastal habitats, which house protected species such as shorebirds and sea turtles, and (2) SAV. Considering this research originated from impacts to endangered shorebirds and sea turtle nesting areas, it makes sense that these habitats would be priority number one in creating or expanding a new ILF.⁵⁷ Additionally, the impact that redevelopment projects have on SAV and the long-lasting consequences of damaging SAV habitats make it an important resource to protect.⁵⁸ Thus, this SAV mitigation effort could have the most far-reaching positive impact when contrasted with other potential habitats.

Additionally, stakeholders discussed the limitations of the existing permitting program and the 2008 Mitigation Rule.⁵⁹ If the Commonwealth were to decide to expand mitigation requirements to additional habitats utilizing the current JPA and permitting program, the habitats protected would have to be limited to aquatic habitats. Therefore, without expanding to a new permitting program, SAV and coastal habitats of protected species seem to be the most impactful and easily implementable habitats to start with when considering an expansion of compensatory mitigation capabilities within the Commonwealth.⁶⁰ If the Commonwealth determines in the future

⁵⁵ See Appendix C.

⁵⁶ *Id.*

⁵⁷ See Letter from Va. Marine Res. Comm'n to The Nature Conservancy (July 2, 2020) (on file with VCPC). After NASA disrupted endangered shorebirds and sea turtle nesting sites during a permitted beach stabilization project on Wallops Island, the Virginia Coastal Policy Center ("VCPC") was asked to research mitigation programs in Virginia and across the country to determine how mitigation requirements in Virginia could be expanded.

⁵⁸ See generally *Impacts to Wetlands and Submerged Aquatic Vegetation (SAV)*, VA. INSTI. OF MARINE SCI., https://www.vims.edu/ccrm/docs/climate_change/sav.pdf (last visited April 19, 2023).

⁵⁹ Appendix D at 2.

⁶⁰ See *id.* at 2-3.

that it would like to expand mitigation requirements to include further upland habitats, then a new permitting program would likely be needed.

b. Do stakeholders want to utilize the JPA or a different permitting system for requiring mitigation of impacts to additional habitats?

Currently, stakeholders lack consensus on the creation of a new permitting system (as an alternative to the JPA). To facilitate wildlife protection under the existing JPA, stakeholders could consider the two following options: (1) creating updated guidelines for the JPA's use and (2) enhancing communication between USACE and DWR through a memorandum of understanding (MOU).

Parties would benefit from updated guidance accompanying the JPA. VMRC acts as a clearinghouse for permit applications,⁶¹ distributing an applicant's request for approval to other regulatory agencies involved in the project.⁶² Thereafter, all agencies conduct separate and concurrent reviews of the project under consideration.⁶³ Agencies evaluate specific aspects of each application according to their legislative mandates under the Virginia Code and as required by federal law. By publishing guidelines, state-agency stakeholders without approval authority would be better able to determine which criteria are important to other agencies.

Because the evaluation criteria considered in the JPA would impact state-level agencies only, guidance could take the form of a published memorandum or inter-agency publication at the state level. For instance, the guidance document could establish basic expectations for state-agency reviewers. These basic expectations could include evaluative criteria, an explanation of how each agency's recommendations will be weighed when considering approval of the project, and general instructions on completing sufficient agency review. By publishing updated directions, state agencies would be better able to synchronize efforts, ensure agencies do not conduct duplicative work, and remain within the confines of their expected areas of review. Moreover, this level of standardization would facilitate ease-of-reviewership for JPA approvals.

Another way to facilitate effective JPA operation could be through the establishment of an MOU between DWR and the USACE. Under the current structure, DWR provides comments to DEQ, VMRC, and others that recommend ways proposed projects can avoid, minimize, or compensate for impacts upon wildlife and their habitats.⁶⁴ Building a state agency-to-federal agency MOU with USACE would create a framework for direct collaboration and cooperation on habitat protection. The MOU could request that the USACE consider DWR's requests for consideration of impacts upon habitats other than streams and wetlands, ensuring that decisions related to permit approvals and other activities consider species protection near the end of the approval process. Additionally, an MOU could provide a basis for direct communication between the two agencies, such as notification procedures for comment feedback, adoption and implementation. By establishing communication channels and a process for information sharing within the MOU itself, DWR and the USACE could build a more cohesive framework to identify

⁶¹ *Regulatory Branch - Joint Permit Application*, *supra* note 7. This government website explains to potential JPA users how state and federal agencies generally process applications.

⁶² *Standard Joint Permit Application*, *supra* note 9, at 3.

⁶³ *Id.* at 4.

⁶⁴ *Id.* at 3. DWR's lack of authority in the JPA process directly correlates to its limited role within the VARTF Framework. However, giving DWR's feedback greater weight during permit approval would effectuate the agency's desired greater influence on state-level evaluation of projects.

and address habitat protection issues. Finally, an MOU between the two parties could help to ensure the widest range of habitat protection. If both parties establish additional inter-agency considerations for habitat protection, they can work to ensure all covered habitats are considered during permit approval.⁶⁵

Should the Commonwealth's natural resource agencies reach agreement in the future and choose to pursue an alternative permitting system to cover upland habitats, stakeholders could seek statutory changes to allow DWR to create and charge more for permits. Current state law restrains DWR's ability to increase fees over a set statutory amount.⁶⁶ It limits fee increases for hunting, fishing, and trapping licenses to \$5 every three years for residents and \$50 every three years for non-residents, restricting the total amount of revenue DWR can gain through permissive licensing.⁶⁷ This statute, likely intended as a mechanism to control the cost of hunting permits, undercuts DWR's ability to raise sufficient funds to functionally operate a mitigation bank or in-lieu fee program.

Changing this legislative language would be a pre-requisite for DWR to be able to create and administer a new permitting system that empowers developers in Virginia to mitigate environmental harm through a state-administered ILF program. Establishing statutory language to require greater compensation from environmentally destructive projects would give DWR the flexibility to better service its constituent clients and give the agency more control over funding through a new permitting system. To implement this change, the legislature could revise Virginia Code § 29.1-103 that explicitly allows DWR to collect increased fees.⁶⁸ Moreover, an authorizing legislative passage could borrow heavily from DEQ's existing fee structure for projects that impact wetlands, which would provide a useful framework for structuring compensation arrangements.⁶⁹ Under DEQ's current structure, the Department may charge permit applicants up to \$60,000 per application.⁷⁰

c. Should the Commonwealth consider establishing a new In Lieu Fee (ILF) program outside of the VARTF framework?

The consensus from stakeholders at the March meeting was that, should the Commonwealth's natural resource agencies reach consensus on expanding compensatory mitigation requirements, it would be best to establish an ILF that encompasses additional species habitats under distinct circumstances separate from the existing VARTF framework. Either DWR or VMRC could potentially chair an IRT for a new ILF program. Both agencies noted that the ability to create and administer a separate program would be possible only if they receive an appropriate increase in funding and staffing commensurate with the increased administrative burden of running such a program.⁷¹ Reviewing applications for a new ILF program would require staff to review project

⁶⁵ There is precedent for this method of coordination, as DEQ and USACE recently signed a memorandum of agreement to improve implementation of the mitigation program. *Memorandum of Agreement between the U.S. Army Corps of Engineers, Norfolk District, and the Virginia Department of Environmental Quality Regarding Implementation of the Third-Party Compensatory Mitigation Program* (2023), <https://www.deq.virginia.gov/home/showpublisheddocument/17819/638164635980132765>.

⁶⁶ VA CODE § 29.1-103(16).

⁶⁷ *Id.*

⁶⁸ VA CODE § 29.1-103.

⁶⁹ VA CODE § 62.1-44.15:6.

⁷⁰ *Id.* § 62.1-44.15:6(B3).

⁷¹ See Appendix D at 3-4.

proposals, coordinate with applicants, conduct site surveys, oversee the financial aspects of the program, and work with third party participants.⁷² Currently, DWR and VMRC's respective budgets are designed to match their present levels of staffing. In 2023, DWR received \$11.9 million in state funds to provide Administrative and Report Services for the year's operations, and VMRC received only \$2.9 million in the same funds category.⁷³ Conversely, DEQ's current budget (accounting for the VARTF program and other programs) had \$31 million dollars allocated to administrative services.⁷⁴ For DWR or VMRC to support an increased workload that a new ILF program would entail, each organization would need a sizeable increase in available funding and personnel.

The creation of a new ILF would also require legislation identifying it as a legitimate policy objective of a state agency. Both DWR and VMRC must execute specific agency mandates at the legislature's behest. Currently, neither possesses the authority to operate outside the confines of its appointed mission and create an ILF program.⁷⁵ To accommodate the operation of an ILF program, the legislature would need to pass a law allowing DWR or VMRC to assume the responsibility of administering such a program. Under the current ILF program, state code gives DEQ the authority to "establish and implement policies and programs to protect and enhance the Commonwealth's wetland resources."⁷⁶ This mandate includes the development of regulations to facilitate no-net loss of wetlands.⁷⁷ The state's administrative mandate gives DEQ the flexibility to design and administer an ILF program to meet the State's objectives.⁷⁸ If the legislature sought to replicate the ILF to protect species and habitats outside wetlands, it could duplicate and modify as needed DEQ's authorizing legislation, and tailor it to empower DWR or VMRC to create a new ILF. Beyond adding habitat protection to state agency mission statements as necessary, the legislature would also need to draft a legislative framework to provide DWR or VMRC appropriate guidance on how to administer the ILF program or authorize the agency to develop state regulations to that effect. If stakeholders intend to pursue development of an ILF independent of the current VARTF, they should consider modeling their new program legislation on the existing ILF statutory framework.⁷⁹

If the Virginia legislature were to authorize the creation of a new ILF to protect specific species or habitat zones, it is likely that DEQ's existing wetland protection mandate may overlap with the new ILF.⁸⁰ This scenario is particularly likely if the new ILF program protects habitats or species typically within wetlands or directly adjacent to them. To mitigate inter-agency jurisdictional overlap, DEQ and the administering agency for the new ILF could consider drafting an MOU to establish procedures for directing project proponents to the best fund. Establishing a framework for the applicant and the agencies could help streamline the approval process, ensuring both programs protect state resources, avoid duplication of efforts, and prevent issuance of

⁷² See VARTF Instrument, *supra* note 21.

⁷³ *Virginia's Budget*, VA. DEP'T OF PLANNING AND BUDGET, <https://dpb.virginia.gov/budget/budget.cfm?page=BudExec> (last visited Apr. 21, 2023).

⁷⁴ *Id.*

⁷⁵ VA CODE § 29.1-103.

⁷⁶ VA CODE § 62.1-44.15(16).

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ VA CODE § 62.1-44.15:21.

⁸⁰ *Id.*

multiple types of credits for a single project, while adequately meeting the applicant's needs for a clear resolution.

CONCLUSION

Natural resource protection lies at the heart of DEQ, VMRC, and DWR's respective missions. This VCPC research project examined the feasibility of expanding natural resource protections to new habitats through the use of ILFs. ILFs give state agencies the flexibility to preserve wetlands and habitats while providing the best value to taxpayers, developers, and citizens of Virginia. Although state natural resource agency stakeholders have not yet reached consensus on whether to expand compensatory mitigation in the Commonwealth and which additional habitats to protect, this Report identifies potential avenues for improvement of the current mitigation program.

Appendix A

Fall 2022 VCPC Work Product

MITIGATION IN VIRGINIA: TAKEAWAYS FROM THE CURRENT VARTF PROGRAM

CLAIRE M. GAPOSCHKIN & MICHAEL B. DAVIS

SPRING 2023 J.D. CANDIDATES, WILLIAM & MARY LAW SCHOOL

VIRGINIA COASTAL POLICY CENTER, FALL 2022

I. STAKEHOLDER INTERVIEWS: SUCCESSES, CONCERNS, AND CONSIDERATIONS MOVING FORWARD

In Fall 2022, a student team from the Virginia Coastal Policy Center (VCPC) interviewed stakeholders in state government agencies, federal agencies, and academia. This list of interviewees can be found at Appendix B of this Report, along with the list of questions that were foundational to the interviews. Most interviews were conducted via Zoom; some were in person. A primary topic that emerged was frustration with the State's inability to require mitigation outside of the wetland and streams framework, or to enforce aquatic mitigation more thoroughly. VCPC also received a lot of positive feedback about the current mitigation program. While this Report focuses on improvements to the mitigation framework in the State, there are many parts of the current system that are highly functional and should be celebrated and emulated in any expanded program.

A. *Successes with the Current Program*

The interviews indicated that the primary and perhaps most significant success of the current system is that, when it sets out to mitigate an impact, it does so successfully.¹ There is a general confidence that, when The Nature Conservancy (TNC) says they have mitigated certain impacts through work at a mitigation site, they have done so.² When the mitigation program was first instituted three decades ago, TNC and the Inter-agency Review Team (IRT) had to learn how to mitigate successfully;³ but now they have had a lot of time to figure it out, and are able to function well under the current system.

Furthermore, stakeholders have been very positive about TNC and the IRT, citing their good administration of the current mitigation system, accumulated institutional knowledge,⁴ and open and easy communication.⁵ The IRT has been praised as a highly functional body that has a good collaborative relationship with all the agencies it works with and adds much value in the

¹ Interview with René Hypes, Environmental Review Coordinator, National Heritage Environmental Review, Va. Dep't of Conservation and Recreation (Oct. 25, 2022) (on file with authors).

² *Id.*

³ Interview with David O'Brien, Marine Habitat Resource Specialist, Nat'l Oceanic & Atmospheric Admin. (Oct. 14, 2022) (on file with authors).

⁴ Interview with Becky Gwynn, Executive Deputy Director, Va. Dep't of Wildlife Res. (Oct. 20, 2022) (on file with authors); Interview with René Hypes, *supra* note 1.

⁵ Interview with René Hypes, *supra* note 1.

process.⁶ Similarly, TNC has accumulated extensive institutional knowledge in this setting.⁷ Although TNC has a difficult task, there is confidence that they will get the job done right.⁸

Importantly, TNC and the IRT have good communication.⁹ Stakeholders have cited frequent and open communication between state agencies (through the IRT) and with TNC.¹⁰ One example of this communication is the tours of TNC sites by IRT members, which provide first-hand knowledge of how a site is being developed and allows the IRT to give good feedback to the bank sponsors (whether TNC or a private mitigation bank developer).¹¹ Critically, TNC feels they have a good relationship with the IRT—that they are partners in the mitigation program. TNC discusses any potential new projects with the IRT and they coordinate concerning site requests. Furthermore, TNC feels they have a good relationship with the agencies, although they interact less frequently.¹² Altogether, this open communication has led to successful collaboration between the agencies, the IRT, and TNC, with agency input on mitigation projects (such as a discussion on what they would like to see from the ILF) a noteworthy success.¹³

This strong collaborative relationship and good communication is a major success of the Virginia mitigation program and should not be taken for granted. Any expanded or new ILF program should work to ensure that they maintain these critical attributes—they do not exist in every mitigation structure.¹⁴

B. Concerns with the Current Program

The primary concern raised by some stakeholders with the current mitigation framework is its limited scope since it only applies to wetlands and streams. Other concerns that have been raised are the limitation on accepting and applying mitigation money to address impacts outside of the scope of VARTF (even when that compensation is freely offered); concerns with the balance of the in-kind mitigation requirement, flexibility, and siting concerns; and communication about

⁶ Interview with Becky Gwynn, *supra* note 4.

⁷ Interview with Bettina Rayfield, Manager, Office of Environmental Impact Review and Long-Range Priorities Program, Va. Dep't of Env'tl. Quality (Oct. 13, 2022) (on file with authors). Ms. Rayfield did note that TNC's mindset is conservation, not mitigation, and that this sometimes leads to differences in opinion when it comes to what TNC as a whole wants to protect versus what they need to do to meet Virginia's mitigation requirements. *Id.*

⁸ Interview with David O'Brien, *supra* note 3. Difficulties faced by TNC include their limited staff and resources and the fact that, once they accept liability, they are required to implement mitigation quickly and correctly. *Id.*

⁹ Interview with René Hypes, *supra* note 1. In particular, DCR staff expressed satisfaction with the open communication in the program, saying that it allows them to give input on the projects they are interested in, and that TNC gives them a good sense of what benefits might come from potential mitigation sites. *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² Interview with Karen Johnson, Director of Virginia Aquatic Resources Trust Fund Program, The Nature Conservancy (Nov. 11, 2022) (on file with authors). For example, if there is a specific part of a project that an agency is interested in, the agency will often give feedback directly to TNC, or TNC will otherwise coordinate with them. *Id.*

¹³ Interview with René Hypes, *supra* note 1.

¹⁴ A noteworthy example is the relationship between Maryland's program and the local Corps district, which has been plagued with staffing turnovers that have led to bad communication that is often only resolved by moving higher up the supervisory chain. David O'Brien noted that there is a strong relationship between the IRT and the Norfolk Corps district office. Interview with David O'Brien, *supra* note 3.

which agency recommendations have been accepted into the final wetlands permit conditions.¹⁵ These concerns should be important considerations when developing mitigation framework alternatives.

1. Limited Scope of Mitigation

Concern over the limited scope of the current mitigation program was the impetus for this Report. The limited scope refers to the habitats that are covered by VARTF and the state and federal mandates upon which VARTF is based. Implicit in some of these concerns—particularly those raised by the Virginia Department of Wildlife Resources (DWR)—is the fact that only some agencies can require permit conditions for mitigation, while others (including DWR) merely offer recommendations during the permitting process. The mitigation that some stakeholders would like to require ranges from having a greater say in how TNC applies the ILF funds, to the expansion of required mitigation to additional habitats—or even all habitats—in Virginia.¹⁶

This section will explore the different resources that some stakeholders would like to see covered by an expanded mitigation framework. DWR staff in particular was concerned by the limited scope of mitigation,¹⁷ although the desire to expand mitigation to additional habitats and species was addressed by stakeholders in multiple agencies, including the Department of Conservation and Recreation (DCR), the Virginia Marine Resources Commission (VMRC), and the National Oceanic and Atmospheric Administration (NOAA).¹⁸ In the interviews, stakeholders were asked what types of habitats they would like to see protected under an expanded mitigation program. SAV was the most frequently mentioned. A number of stakeholders also said that they would like to be able to focus on species impacts, rather than be constrained by the current habitat-based framework.¹⁹ Generally, when listing the areas where impacts most need to be mitigated, the focus was on highly sensitive and unique habitats and at-risk wildlife—although it was noted that any habitat loss is problematic.²⁰

a. Habitats

Wetlands, streams, and adjacent habitats. Some of the habitats mentioned by interviewed stakeholders are already within the purview of the VARTF framework of wetlands, streams, and

¹⁵ See Interview with Amy Martin, Manager, Va. Dep't of Wildlife Res., and Ruth Boettcher, Coastal Terrestrial Biologist, Va. Dep't of Wildlife Res. (Oct. 12, 2022) (on file with authors); Interview with Becky Gwynn, *supra* note 4; Interview with René Hypes, *supra* note 1; Interview with Karen Johnson, *supra* note 12.

¹⁶ See Interview with Amy Martin and Ruth Boettcher, *supra* note 15; Interview with Becky Gwynn, *supra* note 4; Interview with Rachel Peabody, Senior Advisor for Coastal Adaptation and Ecosystem Restoration, Va. Marine Res. Comm'n (Oct. 12 & Nov. 22, 2022) (on file with authors).

¹⁷ See e.g., Interview with Amy Martin and Ruth Boettcher, *supra* note 15.

¹⁸ Interview with René Hypes, *supra* note 1; Interview with Rachel Peabody, *supra* note 16; Interview with David O'Brien, *supra* note 3.

¹⁹ See e.g., Interview with Amy Martin and Ruth Boettcher, *supra* note 15; Interview with Becky Gwynn, *supra* note 4; Interview with René Hypes, *supra* note 1.

²⁰ Interview with Becky Gwynn, *supra* note 4.

adjacent aquatic resources. Habitats of this type mentioned are: tidal areas; high, low, and tidal marshes; dunes and beaches; and submerged aquatic vegetation (SAV).²¹

Tidal areas²² and **high, low, and tidal marshes**²³ are not just arguably but clearly within the current VARTF system.²⁴ However, they were likely mentioned by interviewees because there are not many credits being generated in tidal wetlands currently.²⁵ According to VMRC, there needs to be many more VARTF credits in tidal areas.²⁶ Therefore, while they do not need to be added to the mitigation framework, the existing system can be enhanced to address the concerns about these areas so long as state code authorizes this expansion.²⁷

Dunes and beaches²⁸ in Virginia are important because they provide habitat for animals, improve water quality, and create a buffer zone that protects uplands from storms.²⁹ Shorebird and sea turtle nesting areas in beaches and dunes were the habitat disrupted by a National Aeronautics and Space Administration (NASA) beach replenishment project on Wallops Island, the action which was the impetus for this Report.

SAV³⁰ was the habitat most frequently cited during these interviews as in need of increased protection under the Virginia mitigation program.³¹ The need to better mitigate for SAV impacts was one of the reasons DWR and VMRC staff first proposed the project to the Virginia Coastal Zone Management Program (Virginia CZM). Impacts to SAV and the need to mitigate is a recurring issue.³² It has been expressed that the ideal outcome would be for SAV to be an enumerated mitigation/ILF habitat, although there are currently some issues with doing so.³³

²¹ See Interview with Rachel Peabody, *supra* note 16; Interview with Amy Martin and Ruth Boettcher, *supra* note 15.

²² Interview with Rachael Peabody, *supra* note 16.

²³ Interview with Amy Martin and Ruth Boettcher, *supra* note 15; Interview with Becky Gwynn, *supra* note 4.

²⁴ *How Wetlands are Defined and Identified Under CWA Section 404*, ENV'T PROT. AGENCY (Apr. 20, 2022), <https://www.epa.gov/cwa-404/how-wetlands-are-defined-and-identified-under-cwa-section-404#:~:text=%22Wetlands%20are%20areas%20that%20are,life%20in%20saturated%20soil%20conditions> (defining wetlands as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”).

²⁵ Interview with Rachel Peabody, *supra* note 16.

²⁶ *Id.*

²⁷ VA CODE § 62.1-44.15. Although the VARTF instrument may be flexible enough to accommodate these habitats, DEQ’s legislative mandate restricts state-level ILF applicability solely to “wetland” habitats.

²⁸ Interview with Becky Gwynn, *supra* note 4; Interview with Rachel Peabody, *supra* note 16.

²⁹ *Beaches and Dunes in Virginia*, VA. INST. MARINE SCI., <https://www.vims.edu/research/departments/physical/programs/ssp/beaches/index.php> (last visited Dec. 14, 2022).

³⁰ See generally *Submerged Aquatic Vegetation: A Habitat Worth SAV-ing*, NOAA FISHERIES (July 27, 2020), <https://www.fisheries.noaa.gov/feature-story/submerged-aquatic-vegetation-habitat-worth-sav-ing>.

³¹ See Interview with Bettina Rayfield, *supra* note 7; Interview with David O’Brien, *supra* note 3; Interview with Rachael Peabody, *supra* note 16; Interview with Dave Rudders, Associate Director, Va. Inst. of Marine Sci. (Sept. 27, 2022) (on file with authors).

³² Interview with David O’Brien, *supra* note 3.

³³ *Id.*

SAV is a critical habitat that many species are dependent upon “for all or part of their life history.”³⁴ It “includes aquatic grasses...and attached macro-algae,...and is highly valuable since it provides numerous important ecological functions that are difficult to replace....”³⁵ Because of these values, avoiding and minimizing impacts to SAV is critical, and some stakeholders believe that the mitigation framework needs to better protect SAV in the case of unavoidable impacts.³⁶ SAV is very sensitive to environmental changes,³⁷ and physical damage to SAV occurs easily with changes in conditions like water quality and turbidity.³⁸ It can die off suddenly after a hurricane, only to reappear if conditions are right—and the habitat still exists—several years later.³⁹ TNC has done mitigation work on SAV in the past, but there are four main issues with SAV mitigation: the difficulty of growing and maintaining SAV, the location of impacts versus mitigation, the in-kind requirement and related mitigation credit issues, and the question of what “successful SAV mitigation” actually looks like.⁴⁰ Each issue is described in more detail below.

First, SAV is hard to grow because of its sensitivity to environmental changes—it is highly susceptible to changes in water quality, coastal development, and disease.⁴¹ According to TNC, SAV projects are risky, uncertain, and unpredictable.⁴² TNC tried to create SAV beds on the Eastern Shore of Virginia through seeding.⁴³ They were successful in growing SAV, but issues with SAV mitigation persist.⁴⁴

Second, the location where SAV impacts occur compounds the difficulty of mitigating SAV. Most SAV impacts in Virginia occur in the Chesapeake Bay and tributary rivers⁴⁵—the most difficult places to restore SAV.⁴⁶ TNC’s one currently active SAV project is on the Atlantic side of the Eastern Shore, but agencies want the SAV projects to occur in the Chesapeake Bay and tributaries, where circumstances are even more unpredictable and the environment more difficult to control.⁴⁷

Third, there is the issue of the in-kind mitigation requirement and the generation of credits for SAV mitigation. When TNC started doing SAV mitigation there were objections—particularly from the Virginia Department of Environmental Quality (DEQ), which did not consider the work

³⁴ See *Why Is Submerged Aquatic Vegetation Designated As Essential Fish Habitat?*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/southeast/habitat-conservation/why-submerged-aquatic-vegetation-designated-essential-fish-habitat> (last visited Dec. 15, 2022).

³⁵ *Id.*

³⁶ Interview with David O’Brien, *supra* note 3.

³⁷ See Robert J. Orth et al., *Submersed Aquatic Vegetation in Chesapeake Bay: Sentinel Species in a Changing World*, 67 *BIOSCIENCE* 698 (Aug. 2017), <https://doi.org/10.1093/biosci/bix058>.

³⁸ Interview with Dave Rudders, *supra* note 31.

³⁹ In the Chesapeake Bay, “[a]pproximately [ninety] percent of the historical extent of SAV disappeared around the mid-[twentieth] century.” See *Submerged Aquatic Vegetation: A Habitat Worth SAV-ing*, *supra* note 30.

⁴⁰ Interview with Karen Johnson, *supra* note 12.

⁴¹ See *Submerged Aquatic Vegetation: A Habitat Worth SAV-ing*, *supra* note 30.

⁴² Interview with Karen Johnson, *supra* note 12.

⁴³ Interview with David O’Brien, *supra* note 3; Interview with Bettina Rayfield, *supra* note 7; Interview with Karen Johnson, *supra* note 11.

⁴⁴ Interview with David O’Brien, *supra* note 3.

⁴⁵ See *Submerged Aquatic Vegetation: A Habitat Worth SAV-ing*, *supra* note 30.

⁴⁶ Interview with David O’Brien, *supra* note 3.

⁴⁷ Interview with Karen Johnson, *supra* note 12.

to be in-kind per the program requirements.⁴⁸ This speaks to another issue that has been raised, that the in-kind requirements are interpreted too broadly.⁴⁹ Within the current VARTF framework, impacts to any type of tidal wetland can be compensated for by the preservation of *any other type* of tidal wetland.⁵⁰ However, current TNC projects involving SAV are considered to be “out of kind,”⁵¹ with the effect that the credits are unavailable under the standard VARTF system to compensate for other types of tidal wetland impacts.

Finally, there is the issue of what successful mitigation for SAV looks like. In other habitats, successful mitigation means remains in perpetuity.⁵² However, SAV can come and go due to uncontrollable environmental changes (such as a hurricane and warming ocean water temperatures).⁵³ This raises the question: If SAV created through VARTF is destroyed by a storm, does that mean the mitigation has failed?⁵⁴ This makes TNC understandably nervous to commit to SAV mitigation under the existing mitigation rules when their work can be so easily reversed by uncontrollable environmental changes, leaving them liable for failure to mitigate in perpetuity per their legal duty. This issue will have to be addressed if compensatory mitigation for SAV is to be required under VARTF. One way to address this would be to adopt specific success markers for SAV mitigation, perhaps unique to SAV habitat, that clarify what TNC’s responsibilities are for SAV after the initial mitigation work has been done (i.e., once the SAV has grown in and become established).⁵⁵ For example, this could mean stating in the VARTF instrument that TNC is not responsible for re-growing SAV if it is destroyed by a storm event, but also that the SAV grounds that they created are to be protected in perpetuity (there can be no development on or disruption of that area), allowing SAV to return to the area naturally. Added to this could be a list of other minimum responsibilities for TNC if the SAV were to be destroyed in that area.

Ocean habitats. Ecosystems and habitats that some stakeholders would like to see protected in the ocean are: fisheries and essential fish habitat;⁵⁶ oyster reefs;⁵⁷ and crab habitat and breeding grounds.⁵⁸ Both VMRC and NOAA have discussed the need for **fisheries** protection, particularly in light of the permitting for Dominion Energy’s offshore wind project.⁵⁹ Current fisheries permitting gives the applicant permission to harvest resources, but does not relate to any damage

⁴⁸ *Id.*

⁴⁹ See *infra* Section I.B.2.

⁵⁰ See VARTF Instrument, *supra* note **Error! Bookmark not defined.**, at 11 (referring to “resource type of credits”); see also 33 CFR §332.3(e)(1) (“In general, in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to compensate for the functions and services lost at the impact site. For example, tidal wetland compensatory mitigation projects are most likely to compensate for unavoidable impacts to tidal wetlands, while perennial stream compensatory mitigation projects are most likely to compensate for unavoidable impacts to perennial streams. Thus, except as provided in paragraph (e)(2) of this section, the required compensatory mitigation shall be of a similar type to the affected aquatic resource.”).

⁵¹ See THE NATURE CONSERVANCY, VIRGINIA AQUATIC RESOURCES TRUST FUND ANNUAL REPORT 2021, at 17 (June 2022), https://www.nature.org/content/dam/tnc/nature/en/documents/2021_VARTF-Annual-Report_FINAL.pdf; see also Interview with Karen Johnson, *supra* note 12.

⁵² Interview with Karen Johnson, *supra* note 12.

⁵³ *Id.*

⁵⁴ *Id.* Or, put slightly differently, that TNC has failed to mitigate?

⁵⁵ *Id.*

⁵⁶ Interview with David O’Brien, *supra* note 3; Interview with Rachel Peabody, *supra* note 16.

⁵⁷ Interview with Dave Rudders, *supra* note 31.

⁵⁸ *Id.*

⁵⁹ Interview with Rachel Peabody, *supra* note 16; Interview with Dave Rudders, *supra* note 31.

or impact that may be caused by the permitted activity.⁶⁰ Offshore wind is mostly regulated at the federal level by the Bureau of Ocean Energy Management (BOEM), but state policy is still involved via Virginia CZM consistency reviews.⁶¹ There is more involvement at the state level when the electricity generated by offshore wind is brought onshore.⁶² The habitat affected by offshore wind farms may not be particularly unique or sensitive (with the caveats that such habitats have not been studied closely to date and that certain benthic areas contain deep sea corals), but can still have negative impacts in affected fish corridors and associated recreational fisheries.⁶³

Oyster reefs and crab habitat and breeding grounds are particularly sensitive to environmental changes and are therefore not very resilient.⁶⁴ For both oysters and crabs, the issue is not just whether they happen to be there when the impact occurs; it is problematic to have any impact in areas that are used as oyster or crab spawning grounds.⁶⁵ Helpfully, the Virginia Institute for Marine Science (VIMS) has created GIS layers of oyster and crab breeding distribution, identifying, for example, crab spawning sanctuary locations.⁶⁶

Forests. Some stakeholders highlighted the need to mitigate for impacts to **high elevation spruce fir forests**⁶⁷ and **forest cores** (i.e., 100 or more contiguous acres of interior forest habitat).⁶⁸ Although not part of the wetland mitigation framework, there is compensation for forest loss at times.⁶⁹ This is usually for large projects, and is sometimes required by the Virginia Department of Forestry (DOF).⁷⁰

An illustrative example of the arising need for mitigation in forest habitats is the siting of solar projects in the wake of the Virginia Clean Economy Act (“VCEA”).⁷¹ The construction of industrial-scale solar fields under the VCEA is a less traditional but very important example of a project that can cause great environmental destruction, especially without mitigation requirements.⁷² The VCEA’s admirable renewable energy goals can come with unintended ecological consequences.⁷³ No mitigation requirements were established prior to adoption of the VCEA, which would have put DOF in a better position to help strike the balance between renewable energy development and forest conservation.⁷⁴

⁶⁰ Interview with Dave Rudders, *supra* note 31.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.* Oyster reefs are particularly susceptible to sedimentation, and crab breeding grounds are particularly sensitive at certain times in their breeding cycle. *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ Interview with Amy Martin and Ruth Boettcher, *supra* note 15; Interview with Terrance Lasher, Assistant State Forester, Virginia Department of Forestry (Oct. 13, 2022) (on file with authors).

⁶⁸ Interview with Becky Gwynn, *supra* note 4. Forest cores are particularly impacted by development that starts to segment the continuity of the forest, which disrupts species that rely on large swaths of unbroken forest acreage. *Id.*

⁶⁹ Interview with Bettina Rayfield, *supra* note 7.

⁷⁰ *Id.*

⁷¹ 2020 VA. ACTS OF ASSEMBLY 1193, 1194.

⁷² Interview with Terrance Lasher, *supra* note 67.

⁷³ *Id.*

⁷⁴ *Id.* This is especially true because prime agricultural lands are often also prime sites for solar farms.

Other. Other habitats that stakeholders mentioned to which mitigation requirements could be expanded are **karst areas**⁷⁵ and **early successional habitats**.⁷⁶

b. Species

Some stakeholders have expressed the desire to have mitigation requirements unrelated to habitat type.⁷⁷ DWR is particularly vocal about this; they want the ability to mitigate for species impacts, and to not be constrained by watershed or water quality impacts as they are under the current system.⁷⁸ No specific species for mitigation were mentioned during stakeholder interviews. There are more than 800 animal species on DWR's list of species of greatest concern.⁷⁹ Of these, approximately 60% are aquatic species⁸⁰ and therefore may already have habitat impacts mitigated under the purview of the current VARTF program.⁸¹ The other 40% of these species of greatest conservation need (SGCN) are supported by terrestrial habitats, and impacts to these habitats are not considered or mitigated under current permitting processes.⁸² However, as this is still a large number of species (approximately 320), DWR could begin by focusing on a subset deemed to be of particular concern.⁸³ This is especially necessary because DWR does not have the staff to review all impacts; many actions are never reviewed by DWR for environmental permitting as it is.⁸⁴ This could be done by beginning with a list of species priorities or conservation concerns that, when listed on a permit application, would trigger DWR review.

One benefit of a species-based ILF framework is that it could be uniquely flexible, and could apply to an area with specific factors or habitats. For example, the legislature could draft ILF protections tailored to a particular species' geographic range.⁸⁵ This can be an important feature when the species' habitat is not particularly unique, but the species is losing all of its habitat, as is occurring with the small whorled pogonia (*Isotria medeoloides*), in an illustrative example from DCR. The small whorled pogonia is a rare orchid that is listed as threatened by the U.S. Fish and Wildlife Service (USFWS) and endangered by the Virginia Department of Agriculture and Consumer Services (VDACS), and is an example of the difficulty of trying to conserve species under the current mitigation framework.⁸⁶ To conserve the small whorled pogonia, DCR says they would likely need to find an existing colony, ideally in an existing ILF

⁷⁵ Interview with Becky Gwynn, *supra* note 4. Karst areas are water-hollowed limestone caves important for subterranean ecosystems and healthy bat populations. Early successional habitats are ecologically important and temporary habitats that occur after wildfires, hurricanes, and other naturally occurring irregular events.

⁷⁶ Interview with Amy Martin and Ruth Boettcher, *supra* note 15.

⁷⁷ Interview with René Hypes, *supra* note 1; Interview with Becky Gwynn, *supra* note 4. According to Becky Gwynn with DWR, the opportunity is ripe to expand the ILF from aquatic resources to state-listed species.

⁷⁸ Interview with Amy Martin and Ruth Boettcher, *supra* note 15.

⁷⁹ Interview with Becky Gwynn, *supra* note 4; see also *Endangered and Threatened Species List*, VA. DEP'T OF WILDLIFE RES. (Mar. 31, 2023), <https://dwr.virginia.gov/wp-content/uploads/media/virginia-threatened-endangered-species.pdf>.

⁸⁰ See *Endangered and Threatened Species List*, *supra* note 79; Interview with Becky Gwynn, *supra* note 4.

⁸¹ This means that when one of these species may be impacted by a permitted project, DWR makes recommendations about mitigation of the impact. Interview with Becky Gwynn, *supra* note 4.

⁸² *Id.*

⁸³ See *Id.*

⁸⁴ *Id.*

⁸⁵ See Interview with René Hypes, *supra* note 1.

⁸⁶ *Id.*

watershed, and purchase that land with ILF money. The colony would need to be protected in perpetuity, which is DCR's goal.⁸⁷

2. In-Kind Mitigation, Flexibility, and Siting Concerns

In-kind mitigation refers to the application of ILF funds or purchase of mitigation credits for the specific type of impact that the permitted project must mitigate (as determined during the permitting process). In-kind mitigation is critical to ensuring that no net loss of function occurs. VARTF requires that mitigation be in-kind, but what qualifies as in-kind is fairly broad. An impact to a non-tidal wetland area must be mitigated by the creation of a new non-tidal wetland area, but any type of non-tidal habitat within that broad category is currently acceptable.⁸⁸ To a number of stakeholders, this in-kind mitigation requirement is too broad; they focus on the critical and unique element of every type of ecosystem function and argue that those cannot be substituted for one another.⁸⁹

Another element of in-kind mitigation is the watershed restriction: credits can only be purchased for impacts in the same or an adjacent watershed (also called the "service area").⁹⁰ However, the importance of flexibility has also been stressed.⁹¹ Flexibility in mitigation can be necessary when it is not possible to mitigate in-kind, either for the specific impact or in the same or a nearby watershed. Some habitats are very difficult to mitigate, and the program's flexibility ensures that some mitigation can occur; inflexibility can lead to lost opportunity.⁹²

The balance of in-kind requirements and flexibility is particularly relevant when attempting to site VARTF projects. As noted above, part of the in-kind requirement is that the credit or compensation must be done in the same ("primary") or an adjacent ("secondary") service area to where the impact occurred.⁹³ There are 14 "Geographic Service Areas" in Virginia, "which are aggregations of major watersheds."⁹⁴ The more specific the in-kind requirement is, the more difficult it is to find a suitable site for mitigation,⁹⁵ because the more specific environmental type will have to exist in the primary or secondary service area for the impact.⁹⁶

⁸⁷ *Id.*

⁸⁸ See VARTF Instrument, *supra* note **Error! Bookmark not defined.**, at 18; see also Interview with Dave Davis, Director, Office of Wetlands & Stream Protection, Va. Dep't of Env'tl. Quality (Nov. 1, 2022) (on file with authors).

⁸⁹ Interview with Davis O'Brien, *supra* note 3.

⁹⁰ *Id.*

⁹¹ Interview with Terrance Lasher, *supra* note 67; Interview with Becky Gwynn, *supra* note 4.

⁹² Interview with Terrance Lasher, *supra* note 67; Interview with Becky Gwynn, *supra* note 4.

⁹³ In general, "the impacted site [must be] located in the bank's primary or secondary service area." VA. CODE § 62.1-44.15:23(B)(i). For the conditions that must be met to allow mitigation outside of the primary or secondary service areas, see VA. CODE § 62.1-44.15:23(B)(a)-(f).

⁹⁴ THE NATURE CONSERVANCY, THE NATURE CONSERVANCY'S WATERSHED APPROACH TO COMPENSATION PLANNING FOR THE VIRGINIA AQUATIC RESOURCES TRUST FUND 13 (Mar. 2021), https://www.nature.org/content/dam/tnc/nature/en/documents/VARTF-CPF-March2021_Final.pdf. These service areas are the Atlantic Ocean, Big Sandy River, Chesapeake Bay, Chowan River, Lower James River, Middle James River, New River, Potomac River, Rappahannock River, Roanoke River, Shenandoah River, Tennessee River, Upper James River, and York River. For a map of the service areas in Virginia, see *id.* at 13.

⁹⁵ Interview with Bettina Rayfield, *supra* note 7.

⁹⁶ See VA. CODE § 62.1-44.15:23(B)(i).

Some stakeholders have expressed the need for greater specificity with in-kind requirements in some situations and more flexibility in others.⁹⁷ One way that a balance could be struck may be to increase the flexibility of the service area requirement, while creating a more specific in-kind requirement. Both of these could utilize a hierarchy where the specific in-kind function in the primary service area is preferred, then in-kind in a secondary service area, then similar in the primary service area, then similar in a secondary service area, and so forth. The benefit would be that this would encourage a stricter interpretation of in-kind mitigation regarding specific habitat types and function. However, such a hierarchy could also be abused and would have to be carefully implemented to ensure that it is beneficial. An additional consideration is that, if there were stricter in-kind requirements, TNC would have to learn how to create these new habitat areas; they are willing to do so, but there will be a learning curve.⁹⁸

3. Communication

Communication has been cited as both a notable success⁹⁹ and, in some circumstances, a shortcoming of the current mitigation program. The issues raised with communication involve updating an agency that has made a recommendation as to (1) whether a mitigation recommendation has been accepted, or (2) if it has been rejected, the reasons why. These concerns were primarily raised by DWR and NOAA, as they are two agencies that make substantial recommendations for mitigation requirements, but do not issue permit requirements themselves. Specifically, after they issue recommendations, DWR does not see the final permit, so they do not know whether their recommendations have been accepted as terms for that permit.¹⁰⁰ This issue also occurs at the federal level: if the U.S. Army Corps of Engineers (USACE) does not incorporate NOAA's avoidance or mitigation suggestions when the USACE issues a permit, they are supposed to provide a scientific rationale for why they disagreed with the recommendations.¹⁰¹ However, NOAA rarely receives such an explanation.¹⁰² Although neither NOAA nor DWR issues requirements, they are the expert agencies in many instances.

⁹⁷ Interview with René Hypes, *supra* note 1; Interview with Karen Johnson, *supra* note 12; Interview with Bettina Rayfield, *supra* note 7.

⁹⁸ Interview with Karen Johnson, *supra* note 12. If there were to be a shift towards a stricter in-kind requirement, TNC would want increased flexibility. They do not want to be forced to fail because they are being asked to do something more difficult that they do not have experience with, and which might not work. *Id.*

⁹⁹ See *supra* Section I.A.

¹⁰⁰ Interview with Becky Gwynn, *supra* note 4.

¹⁰¹ Interview with David O'Brien, *supra* note 3. See 50 CFR § 402.17 (requiring the use of the best scientific and commercial data to determine if a species impact is reasonably certain to occur from the proposed permitted activity); Joint Memorandum Between the Department of Army (Civil Works) and the National Oceanic and Atmospheric Administration to Advance ESA Consultations, at 5-6 (Jan. 5, 2022), https://www.noaa.gov/sites/default/files/2022-01/NOAA%20and%20Army%20Civil%20Works%27%20joint%20memorandum%20to%20advance%20Endangered%20Species%20Act%20Consultations_0.pdf.

¹⁰² Interview with David O'Brien, *supra* note 3.

C. *Important Considerations Moving Forward*

1. **Easily Applicable Standards and Specificity of Credits**

It is important that such a mitigation system have predictable costs that the regulated community can anticipate. Before a permit applicant speaks to the regulating agencies, they should have an idea of how much mitigation will cost them; this can happen if there are straightforward and easily applicable standards used to determine how much conservation needs to occur per acre and per type of impact.¹⁰³ VMRC staff mentioned that one of the reasons it has taken so long to permit Dominion's offshore wind project is that there is no clear guidance on what mitigation requirements and associated costs there are for the types of impacts that the project is expected to have.¹⁰⁴ This inevitably makes the process more frustrating for both the agencies trying to ensure that mitigation occurs and the regulated, permit-seeking community.

A guiding principle is to ensure that the methodology for determining compensation is clear, accessible, and does not leave too much discretion to professional opinion.¹⁰⁵ Part of this is not making credits too complicated—for example, not giving separate, partial credits for every ecological function that a parcel of land provides. When a credit is sold under the current system, it carries all of the ecosystem functions of that parcel (e.g., carbon sequestration and water filtration).¹⁰⁶ If a new mitigation system followed the same or similar structure, it would require ensuring that the credit is for a species' habitat rather than for the individual animals themselves.¹⁰⁷ This may be a successful compromise approach to mitigating for impacts to species, as it has been stressed that a similarly applicable and predictable credit system needs to exist in any new mitigation program for it to work smoothly and successfully.

2. **Importance of Avoidance and Minimization**

The critical importance of avoiding and minimizing initial impacts at the permitting stage (during the JPA review process) has been raised multiple times. The permittee must show that they have gone through the exercise of minimizing the impacts of the project as much as possible.¹⁰⁸ This is particularly true for projects with projected impacts to habitat that is difficult, if not impossible, to replace.¹⁰⁹ Ecological cores¹¹⁰ are a prime example of the type of area that must be either entirely avoided or have impacts greatly minimized when the project is being planned.¹¹¹ DCR has developed a GIS mapping layer for ecological cores of 100 acres or more of continuous

¹⁰³ Interview with Karen Johnson, *supra* note 12.

¹⁰⁴ Interview with Rachel Peabody, *supra* note 16.

¹⁰⁵ Interview with Bettina Rayfield, *supra* note 7.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ Interview with David O'Brien, *supra* note 3.

¹⁰⁹ *Id.* In Florida, for example, coral reefs would be one such resource.

¹¹⁰ An ecological core is "an area of nonfragmented forest, marsh, dune, or beach of ecological importance that is at least 100 acres in size" *Ecological Core Definition*, LAW INSIDER, <https://www.lawinsider.com/dictionary/ecological-core> (last visited Dec. 15, 2022).

¹¹¹ Interview with René Hypes, *supra* note 1.

interior, natural cover, which informs comments on potential impacts.¹¹² The siting of the project is critical because it lessens the habitat impact in the first place.¹¹³ For example, DCR will review alternative ways to carry out the project if provided in the project proposal, and DCR will recommend a preferred alternative. This impact avoidance is their first approach to mitigation.¹¹⁴

A related point raised by some stakeholders is that avoidance and minimization must remain as a critical part of the permitting process, even if there is a more robust mitigation system in place. One stakeholder said that they do not want the system to get to a point where people feel they can impact whatever they want because they can mitigate for it with credits or ILF payments; avoidance of initial impacts will and must remain a critical first step to conserve and protect species.¹¹⁵ Another stakeholder was similarly uncomfortable, particularly with the idea of mitigating a species impact when that impact would otherwise not have been permitted (i.e., prohibited but for the availability of mitigation).¹¹⁶

3. Additional Considerations

Stakeholders have stressed the importance of proper accounting of ILF funds, monitoring the site of a project before and after the impact, and being attuned to local support (or dissatisfaction) with a mitigation project. The ILF is allowed to accept money before sites are found, which can complicate efforts to ensure that certain funds go to specific in-kind mitigation projects.¹¹⁷ The onus is on TNC to ensure the accounting is done correctly.¹¹⁸

Stakeholders also raised sufficient monitoring of a site prior to any impact as a critical function of successful mitigation.¹¹⁹ Without adequate monitoring before a project begins, it is impossible to know what successful mitigation should look like, because there will be no data on what the ecosystem functions were prior to impact.¹²⁰ Once the impact is identified, mitigation can be determined. Compounding this problem of often insufficient monitoring is the issue that there is not currently a source of funding to be used for monitoring prior to impact.¹²¹

Finally, there is the consideration of local community support. TNC recently encountered this issue at a mitigation site under construction in Northampton County, where community members seemed surprised and disgruntled with the project. It raised the issue of mitigation bank

¹¹² See *Virginia Natural Landscape Assessment*, VA. DEP'T OF CONSERVATION & RECREATION, <https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl> (last visited Dec. 15, 2022). The ecological cores GIS map can be accessed at

<https://vdc.maps.arcgis.com/home/item.html?id=d91a8390c63340f9ab5072838acbf051#visualize>.

¹¹³ Interview with René Hypes, *supra* note 1.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ Interview with Karen Johnson, *supra* note 12.

¹¹⁷ Interview with Bettina Rayfield, *supra* note 7.

¹¹⁸ Interview with David O'Brien, *supra* note 3.

¹¹⁹ Interview with Dave Rudders, *supra* note 31; Interview with Bryan Watts, Center for Conservation Biology, College of William & Mary (Sept. 23, 2022) (on file with authors).

¹²⁰ Interview with Dave Rudders, *supra* note 31. This has reportedly been an issue with permitting Dominion's current offshore wind projects.

¹²¹ Interview with Bryan Watts, *supra* note 119.

developers taking local support or opposition into account when planning projects.¹²² This consideration is new, and perhaps has been compounded by additional land use conflicts, such as the current pressure for development of agricultural land for solar fields.

¹²² Interview with Karen Johnson, *supra* note 12.

Appendix B

Fall 2022 Stakeholders Interviewed and Interview Questions

List of Stakeholders Interviewed

Amy Martin, Manager, Wildlife Information and Environmental Services
Virginia Department of Wildlife Resources
&
Ruth Boettcher, Coastal Terrestrial Biologist (Interviewed together, Oct. 12, 2022)
Virginia Department of Wildlife Resources

Becky Gwynn, Executive Deputy Director (Oct. 20, 2022)
Virginia Department of Wildlife Resources

Bettina Rayfield, Manager, Office of Environmental Impact Review & (Oct. 13, 2022)
Long-Range Priorities Program
Virginia Department of Environmental Quality

Bryan Watts, Research Professor (Sept. 23, 2022)
Center for Conservation Biology, College of William & Mary

Dave Davis, Director, Office of Wetlands & Steam Protection (Nov. 1, 2022)
Virginia Department of Environmental Quality

Dave Rudders, Associate Director (Sept. 27, 2022)
Virginia Institute of Marine Science

David O'Brien, Marine Habitat Resource Specialist (Virginia) (Oct. 14, 2022)
Greater Atlantic Regional Fisheries Office, National Oceanic & Atmospheric Administration

Karen Johnson, Director, Virginia Aquatic Resources Trust Fund Program (Nov. 11, 2022)
The Nature Conservancy

Rachael Peabody, Director of Coastal Policy, Restoration, and Resilience
Virginia Marine Resources Commission (First interview Oct. 12, 2022;
Second interview Nov. 22, 2022)

René Hypes, Environmental Review Coordinator, National Heritage Environmental Review
Virginia Department of Conservation and Recreation (Oct. 25, 2022)

Terrance Lasher, Assistant State Forester (Oct. 13, 2022)
Virginia Department of Forestry

List of Initial Interview Questions

- (1) Describe your personal experience with the current Virginia ILF program.
 - a. Please share significant lessons learned or takeaways from that experience. What works well with the current ILF program? What are its shortcomings?
- (2) Do you think the ILF program should be expanded to other habitats beyond wetlands?
- (3) If the Virginia ILF program were to be expanded:
 - a. What additional habitats would you like to see included?
 - b. Do you think the current structure should be used or should a new one be adopted? (e.g., should there be a focus on species rather than habitat? A different funding structure? Separate funds for different habitat types?)
- (4) The need for adequate monitoring both before and after the impact occurs has been raised. Do you have any thoughts on this? If monitoring needs to be expanded, how could it be funded?
- (5) How flexible should the fund be with the application of money to different habitat types? Should the funds go to the exact same habitat? How much flexibility should the fund have to apply the money to other habitats, different habitats that support the same species, etc.? Or, for example, towards implementing projects in watersheds or habitat areas separate from those impacted?

Appendix C

**Spring 2023 Stakeholder Meeting PowerPoint,
“ILF Habitat Protection”**



ILF Habitat Protection

MONDAY, MARCH 6, 2023

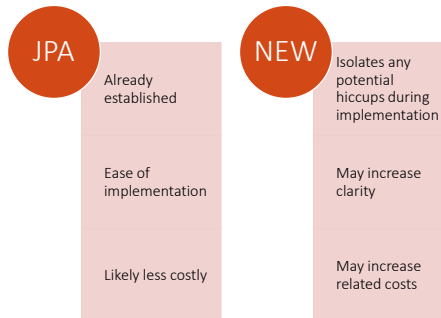
In-Lieu Fee Program Case Studies:

Maine	Florida – Keys Restoration Fund	California – Sacramento District
<ul style="list-style-type: none">• Statewide program.• Freshwater wetlands; coastal wetlands; significant vernal pool habitat; high and moderate value waterfowl and wading bird habitat including nest and feeding areas; shorebird nesting, feeding and staging areas; and rivers, streams and brooks.	<ul style="list-style-type: none">• No statewide program.• Small geographically distinct programs.• Includes compensatory system for tidal wetlands (mangrove & salt marsh); non-tidal (freshwater) wetlands; and seagrasses.	<ul style="list-style-type: none">• Aquatic resource credits & vernal pool credits.• In-kind mitigation not required for aquatic resource credits.• No uniform program for determining how many credits a project generates, instead, it is calculated on a project-by-project basis.

Habitats Under Consideration:

Subaquatic Vegetation (SAV)	Shallow Water Habitats	Non-vegetated Wetlands	Coastal Habitats For Protected Species (Dunes & Beaches - Shorebird & Sea Turtle Habitats)	Surface Waters With Raw Water Intakes Which Impact Anadromous Fish	Karst Areas
High Elevation Forests & Marshes	Fisheries	Locality Determined	Current Habitats (Tidal & Non-tidal) Further Specified (E.g. Mudflats, Low Marsh, High Marsh)	Habitats Of All State/Federally Listed Species	Coastal Marshes

Existing or New Permit System:



Potential Options Moving Forward:

Expand the existing VARTF/JPA to encompass applicable habitats

Pros

- Flexible in scope (certain habitats may already fall within contours of agreement)
- Builds on established relationships with state and federal agencies

Cons

- Risk of disrupting established permitting process/inter-agency relationships
- Will require substantive alterations to the VARTF document to accommodate wide range of habitats
- Substantive amendments to the VARTF will be lengthy

Enable DWR to receive larger amount of funds when issuing permits & create stand-alone permitting program under DWR

Pros

- Empowers DWR to take unilateral action without impacting other state agencies
- Does not disrupt the existing JPA or VARTF instrument
- Enables a wider range of habitat protection than the existing VARTF

Cons

- Does not necessarily enhance communication with the Corps of Engineers
- Requires a legislative solution
- Does not establish a mechanism for a habitat ILF/mitigation bank

Establish non-VARTF ILF or conservation bank

Pros

- Flexible, can accommodate the largest scope of habitat
- Allows DWR to act unilaterally to protect habitat
- Choice between an In-Lieu-Fee (ILF) or mitigation bank each would offer distinct advantages

Cons

- Heavy lift for one state agency to complete on its own
- Lack of enthusiasm among regulated communities
- Challenge to coordinate with Federal Agencies

Appendix D

Spring 2023 Stakeholder Meeting Summary

Which habitats should we consider/prioritize for a new compensatory mitigation system?

The consensus on question one was that subaquatic vegetation (“SAV”) and coastal habitats for protected species (for example, shorebirds and sea turtles) should be the top priority. However, there is still a lack of clarity regarding whether other habitats should also be included.

- VMRC listed the following habitats as a priority: SAV, non-vegetated wetlands, shallow water habitats, surface waters with raw water intakes, and coastal habitats.
- DWR stated that their highest priority would be coastal habitats for protected species, such as dunes and beaches. However, DWR also communicated concerns over water intake areas, upland habitats of T&E species, and coastal marshes.
- DEQ deferred to their agency partners. Additionally, DEQ expressed the importance of complying with the 2008 Mitigation Rule for wetlands mitigation while considering possibilities for expanding mitigation to other habitats.

Would we want to utilize the JPA or a different permitting system for requiring mitigation of impacts to additional habitats?

The consensus on question two was that the JPA functions well for aquatic species, but stakeholders would benefit from increased communication with the USACE and updated guidelines. However, the group did not reach consensus on whether stakeholders desire a new permitting system (as an alternative to the JPA) for requiring mitigation of impacts to additional habitats.

- VMRC was not interested in a new permitting system. Their regulatory and statutory authority already allows for them to require mitigation through the JPA process. However,

updated guidance documents may be helpful. VMRC noted that they are not required to act upon the comments made by advisory agencies during the JPA process.

- DWR expressed support for a permitting system that is separate and clear from the existing JPA system but also recognized the value in explicitly adding habitat protections to the JPA. However, DWR does not currently have the authority to charge over \$50 in permit fees and would need a mechanism to receive and use revenue from those fees for mitigation before they could undertake a separate permitting system. Additionally, DWR wants to see some form of mitigation and compensation for impacts to coastal resources and would like a more formalized mechanism to communicate with USACE. Right now, they do not have a mechanism for hearing whether their comments on JPAs are addressed or not.
- DEQ favored maintaining the JPA in its current form, in which case a new permitting system would be necessary to protect upland species. DEQ explained that state statutes currently limit the applicability of the JPA to aquatic species, and that permit approval compensates for the loss of the overall community, not individual species as would need to be the case for T&E species' impacts.

Which potential path is the best to move forward?

The consensus from stakeholders at the meeting was that Virginia should establish an ILF program that encompasses additional habitats separate and distinct from the existing VARTF program.

- VMRC supported a non-VARTF ILF and would want DWR and/or VMRC to have some decision-making authority on project approval.

- DWR supported a non-VARTF ILF but caveated that it would need a mechanism to raise larger amounts of funds to cover administration costs and a fleshed-out compensation program.
- DEQ supported a non-VARTF ILF because statutory authority limits the scope of the existing fund.