RESTORE Council FPL 3 Proposal Document

General Information

Proposal Sponsor:
Florida Department of Environmental Protection

Title:
Florida Water Quality Improvement Program

Project Abstract:
Florida, through the Florida Department of Environmental Protection (FDEP), is requesting $30M in Council-Selected Restoration Component funding for the proposed Florida Water Quality Improvement Program (WQIP). This would include $7.5M in planning funds as FPL Category 1, as well as a separate $22.5M implementation component as an FPL Category 2 priority for potential funding. The program would support the primary RESTORE Comprehensive Plan goal to restore water quality and quantity throughout the Florida Gulf Coast by underwriting a suite of linked, high-priority water quality improvement projects. Projects may include stormwater treatment, wastewater reuse, septic tank abatement, sediment reduction, and land acquisition. Planning and implementation projects proposed in Florida watersheds that drain to the Gulf of Mexico would be considered.

The WQIP activities would result in environmental benefits such as fewer algal blooms, fish kills, beach closures, fish and shellfish consumption restrictions, healthier seagrass as well as other submerged aquatic vegetation and wildlife habitat, and improved recreational opportunities/experiences. The WQIP framework allows for administration of project funding to target projects that deliver cumulative benefits to the Gulf and link environmental benefits between WQIP projects and other restoration projects in a watershed or region. Combining or leveraging projects within a geographic area contributes to large-scale water resource improvements while maximizing each dollar. Program duration is 10 years.

FPL Category: Cat1: Planning/ Cat2: Implementation

Activity Type: Program

Program: Florida Water Quality Improvement Program

Co-sponsoring Agency(ies): N/A

Is this a construction project?:
Yes

RESTORE Act Priority Criteria:
(II) Large-scale projects and programs that are projected to substantially contribute to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast ecosystem.
(III) Projects contained in existing Gulf Coast State comprehensive plans for the restoration and protection of natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region.

Priority Criteria Justification:
WQIP meets Priority Criteria II, large-scale projects and programs, and Priority Criteria III, projects contained in existing Gulf Coast State comprehensive plans (Council 2019). The WQIP will fund a suite of intrinsically linked restoration or conservation water resource improvement projects with the primary goal of reducing excess nutrients and other pollutants to the Gulf of Mexico. Project selection criteria will prioritize projects included in other state or federal restoration planning documents, such as BMAPs, SWIM plans, the SEP, and FL TIG restoration plans that identify both the need and benefits of such projects and which are based on strong science.

DWH funds have been invested throughout Florida's Gulf Coast watersheds to improve water quality, hydrology, and habitats. The DWH funds have leveraged state and local investments in BMAPs and SWIM plans. The WQIP will significantly increase these investments. The state environmental agencies, including FDEP, the FFWWC, and the state's WMDs continue to collaborate with DWH funding partners to build on existing investments and ensure that future investments target priority water quality improvement restoration activities. The WQIP is one such collaboration and would enable Florida to increase funding of critical projects that would make significant, measurable improvements to water quality and thus help restore or maintain natural resources, ecosystems, fisheries, beaches, and coastal wetlands. While individual projects may be limited in scope, Florida's selection criteria would ensure a collective contribution to large-scale water quality and habitat restoration by reducing excessive nutrients and other pollutants to impaired fresh, estuarine, and marine waters.

Project Duration (in years): 10

Goals

Primary Comprehensive Plan Goal:
Restore Water Quality and Quantity

Primary Comprehensive Plan Objective:
Restore, Improve, and Protect Water Resources

Secondary Comprehensive Plan Objectives:
N/A

Secondary Comprehensive Plan Goals:
N/A

PF Restoration Technique(s):
Protect and conserve coastal, estuarine, and riparian habitats: Land acquisition
Reduce excess nutrients and other pollutants to watersheds: Erosion and sediment control
Reduce excess nutrients and other pollutants to watersheds: Stormwater management
Reduce excess nutrients and other pollutants to watersheds: Wastewater system improvements

Location

Location:
Florida watersheds that drain to the Gulf of Mexico, including Perdido, Pensacola, Choctawhatchee – St. Andrew, Apalachicola – Chipola, Ochlocknee – St. Marks, Suwannee, Springs Coast, Withlacoochee, Tampa Bay, Tampa Bay Tributaries, Sarasota-Peace-Myakka, Charlotte Harbor, Caloosahatchee, Everglades West Coast, Everglades, and Florida Keys.

HUC8 Watershed(s):
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Perdido Bay)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Escambia(Lower Conecuh)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Perdido)
South Atlantic-Gulf Region(St. Johns) - St. Johns(Oklawaha)
South Atlantic-Gulf Region(St. Johns) - St. Johns(Lower St. Johns)
South Atlantic-Gulf Region(Southern Florida) - Kissimmee(Kissimmee)
South Atlantic-Gulf Region(Southern Florida) - Kissimmee(Western Okeechobee Inflow)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Lake Okeechobee)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Everglades)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Florida Bay-Florida Keys)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Big Cypress Swamp)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Caloosahatchee)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Florida Southeast Coast)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Peace(Peace)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Peace(Myakka)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Peace(Charlotte Harbor)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Sarasota Bay)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Manatee)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Little Manatee)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Alafia)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Hillsborough)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Tampa Bay)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Crystal-Pithlachascotee)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Withlacoochee)
South Atlantic-Gulf Region(Suwannee) - Aucilla-Waccasassa(Waccasassa)
South Atlantic-Gulf Region(Suwannee) - Aucilla-Waccasassa(Econfina-Steinhatchee)
South Atlantic-Gulf Region(Suwannee) - Suwannee(Lower Suwannee)
South Atlantic-Gulf Region(Suwannee) - Suwannee(Santa Fe)
South Atlantic-Gulf Region(Ochlockonee) - Ochlockonee(Lower Ochlockonee)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(Apalachicola)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(New)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(Apalachicola Bay)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(St. Andrew-St. Joseph Bays)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Choctawhatchee Bay)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Pensacola Bay)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(Chipola)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Yellow)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Blackwater)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Choctawhatchee(Pea)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Choctawhatchee(Lower Choctawhatchee)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Escambia(Escambia)

South Atlantic-Gulf Region(Suwannee) - Aucilla-Waccasassa(Aucilla)
South Atlantic-Gulf Region(Ochlockonee) - Ochlockonee(Apalachee Bay-St. Marks)

State(s):
Florida

County/Parish(es):
FL - Broward
FL - Escambia
FL - Pasco
FL - Calhoun
FL - Pinellas
FL - Charlotte
FL - Citrus
FL - Clay
FL - Collier
FL - Columbia
FL - Dixie
FL - Franklin
FL - Gadsden
FL - Gilchrist
FL - Polk
FL - Putnam
FL - Sarasota
FL - Sumter
FL - Suwannee
FL - Taylor
FL - Union
FL - Wakulla
FL - Alachua
FL - Baker
FL - Bay
FL - Bradford
FL - Glades
FL - Gulf
FL - Hamilton
FL - Santa Rosa
FL - Walton
FL - Washington
FL - DeSoto
FL - Hardee
FL - Hernando
FL - Highlands
FL - Hillsborough
FL - Holmes
FL - Jackson
FL - Jefferson
FL - Lafayette
FL - Lake
FL - Lee
FL - Leon
FL - Levy

FL - Liberty
FL - Madison
FL - Manatee
FL - Marion
FL - Miami-Dade
FL - Monroe
FL - Okaloosa
FL - Palm Beach
FL - Hendry

Congressional District(s):
FL - 3
FL - 21
FL - 14
FL - 15
FL - 26
FL - 11
FL - 23
FL - 13
FL - 20
FL - 16
FL - 18
FL - 5
FL - 12
FL - 1
FL - 19
FL - 25
FL - 2
FL - 9
FL - 17

Narratives

Introduction and Overview:

The Florida Water Quality Improvement Program (WQIP, see Table of Acronyms attached) would restore and protect water resources throughout the Florida Gulf Coast (Figure 1) by underwriting intrinsically linked high-priority water quality improvement projects that reduce excess nutrients and other pollutants to watersheds (Council 2019). Nutrients and other pollutants that reach Florida's coastal waters have contributed to or exacerbated persistent harmful algal blooms that increase the severity and duration of red tides, depleting oxygen levels and causing fish kills, and destroying SAV. Bacteria and pathogen problems can lead to beach and swimming closures and restrictions on fish and shellfish harvesting. As identified in RESTORE's 2019 Planning Framework document (Council 2019) and demonstrated by the Governor's EO 19-12 and the state's investment in BMAPs, SWIM plans, and other restoration programs, water resource protection and restoration are among the most critical environmental issues facing Florida, demanding immediate action by FDEP and other environmental agencies.

FDEP will rely on the existing TMDL/BMAP process, SWIM plans, and the NPS program, which serve as foundations for restoring impaired waters in Florida. These programs focus on reducing nutrients and other pollutants to meet TMDLs or other priority water body goals (Figure 2). Section 303(d) of the CWA requires states and US Territories to designate impaired water bodies. This has resulted in a concerted effort in the State of Florida to identify solutions to address those impaired water bodies. In addition, the Florida Legislature created the SWIM Act in 1987 to protect, restore, and maintain Florida's highly threatened surface water bodies and directed the state's five water management districts identify a list of priority water bodies within their authority, and implement plans to improve them. Each water management district prepares (and updates) what are called SWIM Plans. SWIM Plans are based on water quality and other data collected within water management districts that is analyzed and used to make decisions based on best available science. SWIM Plans are the result of rigorous peer reviewed scientific analyses that includes an extensive public involvement process.

The TMDL/BMAP development process provides an understanding of existing nutrient loads and other pollutants in watersheds where proposed projects would occur. The process begins with identifying priority impaired water bodies for TMDL development that is conducted using a prescribed USEPA-approved process to produce a scientifically defensible analysis. This comprehensive process engages stakeholders to collect data from various sources to characterize the watershed, water quality, pollutant loads and responses, and develops TMDL targets and pollutant source assessments. Load/concentration reductions are then developed for the watershed through watershed models to meet the TMDL target (Figure 3). The reductions are allocated to either point sources or non-point sources, with a margin of safety incorporated into estimates to account for uncertainties in the analysis.

Florida will use a watershed/estuary-based approach to guide the selection of projects best suited to address the stressors within a watershed and provide regional benefits.

WQIP selection criteria will prioritize projects identified in other state or federal restoration planning documents (e.g., BMAPs, SWIM plans, the SEP, and FL-TIG restoration plans) that identify both the need and benefits of such projects. Because initial project planning , technical review, stakeholder engagement, and identification of risks are typically part of the development of these restoration plans, use of this approach to identify projects for funding under the WQIP will promote use of BAS and improve the likelihood of project success. Collaboration with NRDA, NFWF-GEBF, or other state and federal funding programs would allow the WQIP to fund more or larger projects more efficiently, maximizing investments to achieve large-scale restoration.

The public will be involved during the development of selection criteria and project selection. FDEP will hold a webinar to review the draft project selection criteria and solicit public input. After proposals are evaluated using the selection criteria, a draft list of projects proposed for funding will be published on the Florida DWH website for public review and comment and will finalize project lists after public comments are analyzed. The final projects list(s) and workplans will be submitted to Council staff for BAS external review and approval.

Partners: Florida is committed to coordination and collaboration for the WQIP and will rely on existing relationships with local governments, WMDs, NEPs, NGOs, Florida's RESTORE Act COEs, the Gulf Consortium, FL TIG, NFWF, and other Council members to advance restoration around the state. Extensive stakeholder outreach is integral to BMAP and SWIM plan development; the WQIP can use these efforts to reach a larger audience and ensure public participation. The BMAP process targets funding of restoration activities to implement TMDLs developed based on BAS. For example, among available validated water quality models the TMDL program deploys, a tool developed by the FSU Department of Scientific Computing uses a simplified GIS-based model to estimate/predict nitrogen loading from septic tanks to receiving surface water bodies (FDEP 2015). The model is used during TMDL development to predict the pollutant load allocation for septic tanks and used during the BMAP planning phase to help stakeholders and FDEP better estimate nitrogen reductions associated with sewer line extensions, among other things. As with BMAPs, a defining characteristic of the SWIM program is that it is conducted primarily through cooperative projects that are prioritized with regional stakeholders and implemented, owned, operated, and maintained by local governments and other watershed partners to help ensure continuing success.

Goals/Objectives: Upland, estuarine, and marine habitats are intrinsically connected. The WQIP would identify and select projects that link benefits between selected projects as well as with other restoration projects in a watershed or region to build upon one another and maximize benefits using Planning Framework document (Council 2019) priority techniques to address legacy pollution from existing sources. Infrastructure projects intended to support new development or growth would not be eligible for funding under WQIP. The Council seeks to “optimize ecosystem restoration benefits by advancing large-scale solutions that take into account the environmental conditions of a given region of the Gulf” (Council 2016a). The proposed WQIP will focus on addressing the stressors identified in TMDLs/BMAPs, SWIM, and other approved restoration plans to achieve the Council’s goal of restoring water quality/quantity and Florida’s desired outcome of restoration, improvement, and protection of water quality/quantity.

Commitments: Florida has among the most comprehensive nutrient water quality standards in the nation (FDEP 2011). Of 29 coastal states, Florida is one of 17 to have a fully approved nonpoint pollution control program that satisfies all conditions in accordance with the CZMA (FDEP 2015). The protection and restoration of water resources and other natural resources is guided by comprehensive planning efforts, including SWIM plans; an NPS management program; the Florida Gulf Environmental Benefit Fund Restoration Strategy, which is an overarching framework for restoring/conserving the natural resources of Florida’s Gulf Coast (FFWCC and FDEP 2018) and the BMAP process. To date, 31 BMAPs have been adopted and FDEP is working on developing or updating numerous BMAPs statewide (although not cited in this proposal, links to BMAPs and SWIM Plans are provided in the Bibliography as non-cited literature). The majority of the BMAPs address nutrient impairments, some also target fecal indicator bacteria contamination. This process quantifies the nutrient and other pollutant loads within the watersheds and provides measured desirable outcomes in several Florida watersheds. For example, the Alafia River Basin Management Action Plan, adopted in 2014, identified nutrient and fecal coliform sources in the watershed including stormwater, septic, agriculture, and wastewater. Water quality improvement projects

were identified in the Alafia River BMAP and strategically implemented to address sources, with project review taking place each reporting period. The implementation of a variety of stormwater improvement projects has contributed to a reduction in total nitrogen and increase in DO in several portions of the watershed (FDEP, 2017). The Governor's EO 19-12 also provides a clear indication of the state's commitment to improving water quality.

Use of BMAPs to improve water quality is indicated in Florida's Blue-Green Algae Task Force (FDEP 2019) recommendations, which state that "spatially focused suites of projects in areas likely to yield maximum pollutant reduction [should] be identified and prioritized in all BMAP areas. Integrated monitoring and modeling of implemented BMAP projects should be conducted to ensure that projects are working as expected. Such efforts are, in fact, key to the assessment process and allow for adjustments to be made if necessary."

Environmental Stressors: FDEP planning efforts discussed above have identified stressors and threats such as nutrient pollution from a variety of sources such as the millions of often densely clustered septic systems, urban and agricultural fertilizers, stormwater runoff, and aging and inadequate wastewater and stormwater infrastructure (Badruzzman et al. 2012; Carey et al. 2010; Nagy et al. 2012). Florida's SWIM Act recognizes that reducing NPS loadings requires a comprehensive, long-term approach that relies on cooperative watershed management among all levels of government. SWIM plans, many of which have been recently updated with DWH funds, evaluate and address water quality and quantity stressors at a watershed level. For example, the 2017 Apalachicola River and Bay SWIM plan update (GEBF grant funded) recommended projects that address NPS pollution and septic system impacts (NWFWMD 2017a), and the Choctawhatchee River and Bay SWIM plan update recommended projects to address nutrients, dissolved oxygen, and bacteria from erosion, wastewater, urban stormwater runoff, and septic tanks (NWFWMD 2017b).

Environmental Benefits: The WQIP would reduce algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions while improving seagrass and other SAV health, wildlife habitat, and recreational opportunities. WQIP funding will target projects that provide cumulative benefits to the Florida Gulf Coast and link environmental benefits between selected projects and other restoration projects in a watershed or region. Integrating projects in this way promotes large-scale water quality improvements.

FPL3 Planning Framework: In selecting projects, the WQIP will emphasize the use of priority techniques, including stormwater management, erosion and sediment control, land acquisition, wastewater system improvements and reuse, stormwater treatment, septic tank abatement, and sediment reduction to achieve the goal of restoring water quality/quantity and the objective of restoring, improving, and protecting water resources overall. Selection criteria that support the overarching goal of restoring water quality by prioritizing projects identified in approved state and federal restoration plans and those that leverage other funds are imperative to the success of the WQIP. Draft selection criteria are described in the Methods section and will focus on projects that are contained within an existing peer-reviewed plan; can leverage other funding; use BAS and BMPs; are technically feasible and cost effective; have some aspects of planning and E&D/permitting underway to show project readiness; and provide synergistic benefits, among others. Reliable, sound selection criteria will lead to high-quality projects that maximize the extent and success of restoration under the WQIP.

Costs: $30,000,000. Projects that leverage other funding sources would be prioritized under WQIP selection criteria to maximize cost-benefits and support large-scale restoration.

Timeline: The duration of program planning and implementation is expected to be 10 years.

Proposed Methods :

FDEP will use a screening process based on approved selection criteria to fund projects under the proposed WQIP. The WQIP will focus on stormwater treatment, wastewater reuse, septic tank abatement, sediment reduction, and land acquisition practices targeted at impaired water bodies (CWA 303(d) list or approved TMDLs). Infrastructure projects to be funded under the WQIP are intended to address legacy pollution from existing causes which are typically the result of inadequate wastewater treatment (overreliance on septic systems), ineffective or lack of stormwater treatment and other nonpoint source runoff. WQIP is not intended to support new growth or development. Good selection criteria will lead to high-quality projects, which will enable the WQIP to significantly reduce pollutants to priority waters. Success translates into fewer algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions and improved seagrass and other SAV, habitat and wildlife, and recreational opportunities and experiences.

Project locations with pollutant reduction efforts can be evaluated using the same water quality modeling used in TMDL development; ensuring improved water quality at these locations will also impact the overall system (FDEP 2018a). Water quality modeling would provide the data necessary to address project resilience to increased rainfall and sea level rise. Water quality improvement estimates for stormwater and wastewater project techniques (e.g., wastewater system improvements) would be derived from site-specific information and performance standards, where available, and peer-reviewed sources summarized in the Statewide Best Management Practice (BMP) Efficiencies for Nonpoint Source Management of Surface Waters (FDEP 2018b). By establishing estimates of water quality improvements through quantitative means (e.g., nutrient reduction in lbs.), individual projects can be evaluated together for combined effects and comprehensive restoration.

Project selection based on similar considerations has been used in existing Florida financial assistance programs, in state planning documents (e.g., the GEBF Restoration Strategy, the SEP, etc.), and for funds distributed under other DWH restoration programs since 2013 (GEBF and NRDA) (FFWCC and FDEP 2018). Florida has already established various financial assistance programs and funding collaborations targeted at improving water quality (Section 319 Grant Program, State Revolving Fund and Small Community Wastewater Facility Grants, State Water-Quality Assistance Grants, and WMD cooperative funding agreements), which utilize BAS selection criteria developed by technical experts within Florida and the U.S. EPA.

FDEP will host a public webinar to review the draft project selection criteria to allow for public input. The initial draft selection criteria presented below will be refined prior to this webinar. Refinements could include adding specific criteria for each restoration technique (e.g., for stormwater projects, does the applicant entity have a stormwater utility fee?). Similar to NRDA restoration planning, FDEP will initiate a call for WQIP projects with the final project selection criteria. A technical review panel of agency experts will assess the project proposals submitted against the selection criteria and develop a draft list of projects proposed for funding. The draft project list will be published on the Florida DWH website for public review and comment. Florida will finalize the list after review of the public comments and will submit the final project list(s) and workplans to Council staff for BAS external review and Council staff approval.

FDEP selection criteria would ensure that selected projects collectively contribute to large-scale water quality and habitat restoration by reducing excessive nutrients and other pollutants to fresh, estuarine, and marine waters. The extent to which a proposed project meets individual selection criteria and overall program goals and objectives and contributes to large-scale restoration efforts across Florida's Gulf Coast region will dictate how projects are prioritized for selection.

Selection Criteria 1: Eligibility Screening

- Geographic Relevance: Projects must be geographically located within the 8-digit HUCs identified in this proposal.
- Relevant Goals and Objectives: Projects, at a minimum, must meet the primary Comprehensive Plan goal of restoring water quality and quantity and the primary objective of restoring, improving, and protecting water resources.
- Management Capabilities: Project sponsors receiving funding will need to demonstrate strong operation and management capabilities and financial resources to assure long-term success. This screening criteria is not intended to prevent small disadvantaged communities from participating in the program.

Projects not meeting all the above criteria will be removed from the screening process and receive no further consideration in that call for proposals.

Selection Criteria 2: Technical Basis and Justification

- Alignment with Planning Framework: Projects should demonstrate alignment with the Council's Planning Framework, including restoration priorities, approaches, and techniques (i.e., stormwater management, septic tank removal, erosion and sediment control, etc.).
- Proposed in Existing Plans: Projects already proposed in existing plans (e.g., BMAPs, SWIM plans, GEBF Restoration Strategy, SEP, etc.) will be given greater consideration as these projects have typically been previously vetted for BAS, feasibility, cost effectiveness, multiple benefits, etc.
- Benefits: Projects should have clear benefits to impaired or other priority water bodies, including those already identified in BMAPs or SWIM plans to maximize benefits within a watershed. Priority will be given to projects that link environmental benefits between selected WQIP projects and other restoration projects in a watershed or region. In addition, projects should clearly outline how their implementation will result in the environmental benefits outlined in the proposal (e.g., nutrient or other pollutant reduction, etc.)
- Best Available Science: Projects should clearly explain reliance on BAS.

Selection Criteria 3: Feasibility

- Technical Efficacy and Constructability: Projects should demonstrate feasibility. Such demonstration can be achieved through modeling, completion of feasibility studies, examples of successful analogous projects, etc.
- Resiliency: Projects should be designed to be resilient, taking into account sea-level rise, hurricanes, other major storm events, etc. Projects with resiliency considerations built into the designs/plans will be given greater consideration.
- Cost-effectiveness: Projects should outline their proposed funding needs and justification for cost effectiveness. Projects that show cost savings or that have significant benefit-to-cost ratios will be prioritized.
- Schedule: Projects must indicate their proposed schedule through completion, with significant or critical project milestones clearly identified.
- Risk: Projects must clearly identify any potential risk to project success. Projects should discuss strategies to mitigate the identified risks.

Selection Criteria 4: Project Status and Leveragability

- Project Status: Projects will indicate the state of readiness to proceed. Projects showing a readiness to proceed will receive higher priority.
- Matching or Leveraged Funds: Projects will include a discussion on matching or leveraged funds (including in-kind contributions). Projects that include matching or leveraged funds from other sources will be given greater consideration.

- Environmental Compliance: Projects should identify all required environmental compliance approvals or permits needed for the project. Projects that have achieved greater levels of environmental compliance will be given greater consideration.

Environmental Benefits:

Water bodies along the Gulf provide a gradient of saltwater, estuarine, and freshwater environments. Within these systems, unique organisms rely on good water quality for survival. The CWA and Florida laws recognize the influence of human activities on ecosystem health and aim to develop policies and regulations to protect and improve water quality. In Florida, freshwater, estuarine, and coastal water quality impairments are associated primarily with nutrients, low DO, and fecal indicator bacteria (FDEP 2018a). High concentrations of TN and TP can result in excessive algae growth, leading to low DO, inhibition of seagrass growth, negative aquatic food web impacts, and health threats to wildlife and humans (Badruzzman et al. 2012; Beck et al. 2019; Greening et al. 2014; Tomasko et al. 1996). Fecal bacteria in waters results in beach closures, human health risks, and restrictions on fish and shellfish harvesting.

The WQIP will improve water quality and biological integrity by selecting projects that upgrade or eliminate septic systems, upgrade wastewater treatment systems, improve stormwater treatments and reduce effluent discharges to Florida Gulf Coast waterways. Selected water quality improvement projects will eliminate significant sources of nutrients, bacteria, sediment, and other pollutants from entering waterways, which will have a positive impact on seagrass, fish and shellfish populations, and recreational uses. The WQIP goals align with many goals identified in TMDLs/BMAPs, SWIM, and other approved restoration plans that have led to implementation of projects that have successfully improved water quality in multiple waterways along Florida's Gulf Coast. This provides assurances that that WQIP's purported benefits (e.g., reduced pollutant loads, improved surface water quality, improved habitat for seagrass and other aquatic species, etc.) will result in improved water quality.

The WQIP will achieve the Comprehensive Plan goal of restoring water quality and water quantity and its associated objective of restoring, improving, and protecting water resources through implementation of priority water quality improvement projects. A key difference between existing programs and the WQIP is that the latter allows for the administration of funding that targets projects providing cumulative benefits to the Gulf and that links environmental benefits between selected projects and other restoration projects in a watershed or region. Linking projects in this way maximizes environmental benefits and contributes to large-scale water quality improvements.

Florida collects water quality data under several programs, including FDEP's Strategic Monitoring Program used to assess impairment, targeted sampling to refine TMDL development or evaluate BMAP progress, and probabilistic Status Monitoring and Trend Monitoring networks for statewide water quality. The data collected by Florida's WMDs, counties, and cities feed into these programs, which all use scientifically sound methodologies, techniques, and protocols for data collection. This water body–specific data will be used, where appropriate, to document the benefits of projects implemented under the WQIP. The WQIP will integrate quantification of environmental benefits into the selection of restoration projects using WQIP metrics (e.g., acres of lands acquired or lbs. of sediment removed) so that projects are selected based in part on desired ecological quality with options to attain the desired ecosystem based on a broad spatial foundation to achieve overall water quality, health, and resiliency of the larger ecosystem.

Success means a reduction in the number of impaired waters or levels of impairment; reduced algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions; and improved SAV health, wildlife habitat, and recreational experiences. Tying together projects with existing plans (e.g., BMAPs, SWIM, the NFWF GEBF Strategy) ensures sound planning for successful restoration as

projects continually build upon and contribute to one another during the restoration strategy development process (FFWCC and FDEP 2018). These synergistic, watershed-level improvements have worked in other regions. In Tampa Bay, NEP CCMP projects have resulted in water quality (chl-a, TN, and DO) and seagrass coverage in the watershed approaching conditions observed in the 1950s (Greening et al. 2014). The success in Tampa Bay was achieved through the use of sound science, management plan development with identified projects, broad stakeholder engagement and support, and multiple funding partners, both government and business/industry. The WQIP has been designed to build on the lessons learned in Tampa Bay.

Metrics:

Metric Title: RES002 : Watershed management - # upgrades to stormwater and/or wastewater systems
Target: TBD
Narrative: Florida proposes this as a program-wide metric to evaluate the success of the proposed WQIP and its benefits to watershed management and water quality by upgrading septic systems (or connecting to sewer systems); stormwater runoff treatment improvements, and upgrades to aging/inadequate wastewater and stormwater infrastructure, among others as applicable. Because specific projects or activities have not been identified as of yet under the program, a target value or range of values cannot be proposed, as it would be purely speculative. As projects or activities are selected for funding a range of values for this program metric can be proposed at that time. However, each project or activity funded under this program may not be captured by this metric. Additional metrics would be determined to capture the benefits of each technique utilized under this program; specifically, each project or activity selected under the WQIP would have specific metrics aimed at evaluating the success of the individual activity.

Metric Title: HM001 : Nutrient reduction - Lbs. N avoided or removed
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The purpose of this metric would be to verify that a reduction or avoidance of N loading had been completed, and the performance measure would be the project or activity's ability to avoid or reduce lbs. of N. Once a project or activity is selected a target value will be established. Project or activity success would be evaluated and determined as the lbs. of N successfully removed or avoided using program funding. The outcome would be a decrease in or avoidance in lbs. of N entering water bodies.

Metric Title: HM003 : Nutrient reduction - Lbs. P avoided or removed
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The purpose of this metric would be to verify that a reduction or avoidance of P loading had been completed, and the performance measure would be the project or activity's ability to avoid or reduce lbs. of P. Once a project or activity is selected a target value will be established. Project or activity success would be evaluated and determined as the lbs. of P successfully removed or avoided using program funding. The outcome would be a decrease in or avoidance in lbs. of P entering water bodies

Metric Title: HM004 : Sediment reduction - Lbs. sediment avoided or removed
Target: TBD
Narrative: : Florida proposes this as a project or activity metric. The purpose of this metric would be to verify that a reduction or avoidance of sediment loading had been completed, and the performance measure would be the project or activity's ability to avoid or reduce

lbs. of sediment loading. Once a project or activity is selected a target value will be established. Project or activity success would be evaluated and determined as the lbs. of sediment successfully removed or avoided using program funding. The outcome would be a decrease in or avoidance in lbs. of sediment entering water bodies.

Metric Title: HC003 : Land acquisition - Acres acquired in fee
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The project or activity metrics may be adjusted as needed once projects or activities are funded. Metrics may be added, removed, or replaced as appropriate at the project work plan application stage. Once a project or activity is selected a target value will be established. Project or activity success would be determined as the total number of acres acquired in fee. The purpose of this metric would be to verify that acquisition has been completed, and the performance measure would be an executed and recorded deed. Upon transfer of the parcel to Government ownership, this metric would be complete. The outcome would be an increase in protected acres.

Risk and Uncertainties:

Projects come with potential risks and uncertainties, including cost overruns and public controversy. Risks would be minimized through direct public engagement and ongoing transparency, careful cost estimates and reasonable contingencies, effective planning and design, third-party construction oversight, and nimble adaptive management. Bad weather can also delay project completion, but good planning and construction management would minimize the impact. Operating entities receiving funding would have to document strong operation and management capabilities and financial resources to assure long-term project success.

As part of project selection, the WQIP will encourage resiliency and adaptation planning in the E&D for selected projects. FDEP is aware that climate change effects are dynamic, and reliable responses and new technologies to address the effects are being and will continue to be developed. The WQIP is committed to considering project resiliency and climate change adaptation throughout the 10-year lifespan of the program.

On a project-specific basis, FDEP will require project sponsors to submit a monitoring and adaptive management plan that will address responses to unavoidable risk. Adaptive management strategies will be implemented as needed to improve project performance, leading to ultimate project and program success. Adaptive management is meant to be an iterative process that links project monitoring to management decisions; adjustments are made to management approaches based on observed outcomes (NRC 2004). These plans will outline the goals and objectives of the project, the uncertainties and risks associated with the project, the monitoring parameters and methods, and adaptive management strategies if the outcome of monitoring does not meet the project's success metrics.

Monitoring and Adaptive Management:

Monitoring will be conducted on two levels: programmatic and project specific. Programmatic monitoring will focus on the programmatic metric specified below. At the project level, monitoring will be targeted toward the project metrics specified below and will be specific to resource outcomes and validate restoration techniques and BMPs. Programmatic and project-level monitoring will be conducted hand-in-hand to understand, document, and analyze how well projects perform compared to the expected outcomes and to provide lessons learned to help guide future project selection and adapt the WQIP to ensure its goals and objectives are achieved.Water quality can be monitored on a project basis using a variety of techniques, including baseflow, storm flow,

inflow vs. outflow, time series, and paired watersheds, depending on specific project objectives and site characteristics. With the general exception of inflow vs. outflow monitoring, most of these monitoring approaches generally require a sustained period to account for climatic and precipitation variability. To the extent feasible, both program and project monitoring will seek to use FDEP's Strategic Monitoring and probabilistic Status Monitoring and Trend Monitoring networks discussed above. Under the WQIP, projects will be required to submit a monitoring and adaptive management plan. These plans should be based on existing, peer-reviewed guidance documents, such as the NRDA MAM Manual and the Council Observational Data Plan Guidance (DWH NRDA Trustees 2017; Council 2018). The monitoring outlined in these plans will be for both long- and short-term outcomes, such as the following: Long-term outcomes:

- Evaluation of long-term water quality trends. This requires multiple years of data collection following specific project implementation, including an evaluation of historical and baseline data for affected areas, as available.
- Evaluation of long-term trends affecting key habitats and communities, including seagrass, tidal marshes, and shellfish.
- Monitoring and evaluation of site stability and resilience. Coastal restoration sites will be monitored to evaluate effects of public use, seasonal conditions, erosion or accretion, and major storm events.

Short-term outcomes:

- Specific facility performance (e.g., inflow vs. outflow pollutant concentration or load reduction monitoring).

Data Management:

FDEP will provide a central location to access data and other information related to the projects funded under the WQIP and make it available to the Council, regional partners, stakeholders, and any person or entity upon request. An Observational Data Plan and Data Management Plan for the WQIP will be submitted to the Council.

Data will be collected pursuant to approved QA plans. All data collected, analyzed, and reported will comply with chapter 62-160, Florida Administrative Code, and will be documented using standardized project-specific datasheets, as appropriate. Handwritten hardcopy data will be scanned to PDF files and transcribed into a standard digital format. QA plans will specify minimum field and laboratory QA, methodology, reporting, auditing, and data usability requirements. Data will be input into WIN, the Watershed Information Network (https://floridadep.gov/dear/watershed-services-program/content/winstoret). WIN provides a platform for data providers to submit their data and perform data quality checking interactively prior to allowing the data to be migrated into the published WIN environment. WIN is used to store and manage data and to report data to interested users and the EPA). Data can be accessed through a web-based search program at http://prodenv.dep.state.fl.us/DearWin/public/welcomeGeneralPublic?calledBy=GENERALPUBLIC. FDEP would utilize the RESTORE MEtadata Records Library and Information Network for metadata records creation.

Collaboration:

Through the CPS process, meetings were held with local governments, WMDs, NEPs, NGOs, Florida's RESTORE Act COE, the Gulf Consortium, and other Council members. Additionally, BMAPs and SWIM plans have extensive stakeholder outreach during plan development and throughout implementation, including numerous public meetings and public education materials. Project selection will consider each project's ability to leverage other funds to expand the impact of awards. These monies could consist of other DWH funds or federal, state, or local government matching

funds, including Florida's State Revolving Fund loans and grants, annual springs funding, TMDL project funding, NPS grants, Florida legislative member project funding, the Gulf Consortium State Expenditure Plan, the Gulf Coast counties' MYIPs, Florida Gulf Coast NEP CCMPs, Panhandle Estuary Program future CCMPs, and potentially those projects and programs identified in the Governor's EO.

Public Engagement, Outreach, and Education:

Under Florida's BMAP and SWIM programs, public engagement and education activities are routinely identified as the part of projects that contribute to the overall goal of improving water quality. These efforts have focused on many of the stressors targeted by the WQIP, allowing the program to make connections with the public more readily thanks to these previous engagement and education efforts. In the Chassahowitzka River watershed, citizens participated in the Lakes, Rivers & Coastal Cleanup event aimed at improving water quality and educational tools were developed to depict septic system water quality issues (SWFWMD 2017a). Similarly, schools and other organizations in the Weeki Wachee watershed participate in a program to learn about storm drains through hands-on stenciling and classroom presentations (SWFWMD 2017b). These activities help gain stakeholder buy-in and future participation through providing experiences and information showing the direct impacts of community choices at a personal level. Public engagement and education are often collaboratively funded through DEP-administered 319(h) grants for NPS pollution education.

Existing programs like SWIM and BMAP have built a strong foundation for public engagement and education that will encourage continued participation in the WQIP and ensure that the value of projects reaches a large audience. Furthermore, previous involvement of communities in SWIM and BMAPs increases the likelihood of meaningful public engagement and comments during WQIP project selection criteria development.

In addition, ongoing public outreach as part of DWH NRDA restoration efforts began in 2012, with over 60 projects in Florida to date. This includes the recently issued FL TIG Restoration Plan #1, which directed NRDA funds to water quality, nutrient reduction, and recreational enhancements (FTIG 2019). The NRDA process incorporates a rigorous public engagement element that affords stakeholders and the pubic opportunities to submit projects via a Florida-maintained web portal, comment on projects at the draft Restoration Plan stage, and comment on proposed projects. Florida also embarked on a large public outreach campaign as part of its GEBF Gulf Restoration Strategy development (FFWCC and FDEP 2018). The WQIP will be able to utilize the existing successful DWH public engagement structure without expending much of the WQIP administrative budget on these efforts.

Leveraging:

Funds: TBD
Type: Bldg on Others
Status: Proposed
Source Type: Other
Description: The proposed WQIP would potentially leverage other federal funds and state funds including SEP, State Revolving Fund wastewater, NPS 319, WQ grants SW, NRDA. The selection criteria put greater emphasis on projects that leverage other funding sources. Therefore, although the program itself is not leveraging other funds, individual projects will be expected to do so. See Methods section for a description of selection criteria.

Environmental Compliance:

Some aspects of the WQIP can comply with NEPA using the Council's NEPA CE for planning, research, or design activities (Section 4(d)(3) of the Council's NEPA procedures). Selected implementation

projects will be required to comply with all applicable federal laws in the Council's Environmental Checklist as well as state and local laws. Because Council NEPA regulations allow the use of member NEPA CEs where appropriate (Section 4(d)(4) of the Council's NEPA Procedures), selected project NEPA compliance will occur using the appropriate documentation (EAs, EISs, or CEs). Some projects may be able to rely on existing member NEPA documents, including CEs (e.g., EPA §6.204 (a) (ii) ii). Actions relating to existing infrastructure systems (such as sewer systems, drinking water supply systems, and stormwater systems) could be used for a project extending services to current septic users.

Bibliography:

Badruzzman, M., Pinzon, J., Oppenheimer, and J. Jacangelo. 2012. Sources of nutrients impacting surface waters in Florida: A review. Journal of Environmental Management 109:80–92. https://www.sciencedirect.com/science/article/pii/S030147971200237X?via%3Dihub.

Beck, M.W., E.T. Sherwood, J.R. Henkel, K. Dorans, K. Ireland, and P. Varela. 2019. Assessment of the cumulative effects of restoration activities on water quality in Tampa Bay, Florida. Estuaries and Coasts 42:1774–1791. https://link.springer.com/article/10.1007/s12237-019-00619-w#citeas.

Carey, R.O., G.J. Hochmuth, C.J. Martinez, T.H. Boyer, V.D. Nair, M.D. Dukes, G.S. Toor, A.L. Shober, J.L. Cisar, L.E. Trenholm, and J.B. Sartain. 2012. Regulatory and resource management practices for urban watersheds: The Florida experience. HortTechnology 22(4):418–429.

Deepwater Horizon (DWH) Natural Resource Damage Assessment (NRDA) Trustees. 2017. Monitoring and Adaptive Management Procedures and Guidelines Manual Version 1.0. Appendix to Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the DWH Oil Spill. http://www.gulfspillrestoration.noaa.gov/.

Florida Administrative Code. 2018. Department of Environmental Protection. 62-160. Quality Assurance. http://flrules.elaws.us/fac/62-160.

Florida Department of Environmental Protection (FDEP). 2011. Petition for Withdrawal of EPA's 303(c)(4)(B) Determination for Florida, Repeal of 40 C.F.R. § 131.43, and Related Actions. https://www.epa.gov/sites/production/files/2015-07/documents/fdep-petition-withdrawal-2011.pdf.

———. 2015. Florida Nonpoint Source Program Update. https://floridadep.gov/wra/319-tmdl-fund/documents/nonpoint-source-program-update-2015.

———. 2017. Final 2016 Progress Report for the Alafia River Basin Management Action Plan. https://floridadep.gov/dear/water-quality-restoration/documents/alafia-river-basin-bmap-2016-annual-progress-report

———. 2018a. Final Integrated Water Quality Assessment for Florida: 2018 Sections 3030(d), 305(b), and 314 Report and Listing Update, June 2018. https://floridadep.gov/sites/default/files/2018_integrated_report.pdf.

———. 2018b. Statewide Best Management Practice (BMP) Efficiencies for Nonpoint Source Management of Surface Waters, Draft July 2018. https://floridadep.gov/dear/water-quality-restoration/documents/statewide-best-management-practice-bmp-efficiencies.

———. 2019. Blue-Green Algae Task Force Consensus Document #1. https://floridadep.gov/sites/default/files/Final%20Consensus%20%231_0.pdf.

Florida Fish and Wildlife Conservation Commission (FFWCC) and Florida Department of Environmental Protection (FDEP). 2018. Florida Gulf Environmental Benefit Fund Restoration Strategy. https://floridadep.gov/sites/default/files/Gulf%20Environmental%20Benefit%20Fund%20Restoration%20Strategy%20Report%20FINAL.pdf.

Florida Trustee Implementation Group (FTIG).2019. Gulf Spill Restoration. Florida Restoration Page. https://www.gulfspillrestoration.noaa.gov/restoration-areas/florida.

Greening, H., A. Janiki, E.T. Sherwood, R. Pribble, and J.O.R. Johansson. 2014. Ecosystem responses to long-term nutrient management in an urban estuary: Tampa Bay, Florida, USA. Estuarine, Coastal and Shelf Science 151:A1–A6. https://www.sciencedirect.com/science/article/abs/pii/S0272771414002819.

Gulf Coast Ecosystem Restoration Council (Council). 2016a. Comprehensive Plan Update 2016: Restoring the Gulf's Ecosystem and Economy. https://www.restorethegulf.gov/sites/default/files/CO-PL_20161208_CompPlanUpdate_English.pdf.

———. 2016b. Gulf Coast Ecosystem Restoration Council Record of the Establishment of National Environmental Policy Act Procedures and Categorical Exclusions. https://restorethegulf.gov/sites/default/files/EC_Council_NEPA_Procedures__Record%20of%20Establishment.pdf.

——— 2018. Observation Data Plan, Draft Interim Guidance. https://www.restorethegulf.gov/gcerc-grants-office/gcerc-grants-resources.

———. 2019. Gulf Coast Ecosystem Restoration Council Planning Framework. https://www.restorethegulf.gov/sites/default/files/508_PlanningFramework_Final_201908.pdf.

Nagy, R.C., B.G. Lockaby, L. Kalin, and C. Anderson. 2012. Effects of urbanization on stream hydrology and water quality: The Florida Gulf Coast. Hydrological Processes 26:2019–2030.

National Research Council (NRC). 2004. Adaptive Management for Water Resources Project Planning. Washington, D.C.: National Academies Press.

Northwest Florida Water Management District (NWFWMD). 2017a. Apalachicola River Bay SWIM Plan. https://www.nwfwater.com/layout/set/print/content/download/15858/110043/version/1/file/Apalachicola+River+and+Bay+SWIM+Plan+November+2017.pdf.

———. 2017b. Choctawhatchee River and Bay Surface Water Improvement and Management Plan. https://www.nwfwater.com/layout/set/print/content/download/16006/110893/version/1/file/Choctawhatchee+River+and+Bay+SWIM+Plan+October+2017_errata2.pdf.

Southwest Florida Water Management District (SWFWMD). 2017a. Chassahowitzka River Surface Water Improvement and Management (SWIM) Plan: A Comprehensive Conservation and Management Plan. https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/Chassahowitzka%20River%20-%20SWIM%20Plan%20-%202017_0.pdf.

———. 2017b. Weeki Wachee River Surface Water Improvement and Management (SWIM) Plan: A Comprehensive Conservation and Management Plan. https://www.swfwmd.state.fl.us/sites/default/files/calendar/others/Weeki_Wachee_GB_FINAL_SWIM_Plan_v2.pdf.

Tomasko, D.A., C.J. Dawes, and M.O. Hall. 1996. The effects of anthropogenic nutrient enrichment on turtle grass (Thalassia testudinum) in Sarasota Bay, Florida. Estuaries 19:448–456. https://link.springer.com/article/10.2307/1352462.

Non-Cited Literature:

FDEP. N.D. Basin Management Action Plans: BMAP Webpage with links to all adopted, updated and pending BMAPs in Florida. https://floridadep.gov/dear/water-quality-restoration/content/basin-management-action-plans-bmaps

FDEP. 2018. Final Integrated Water Quality Assessment for Florida: 2018 Sections 303(d), 305(b), and 314 Report and Listing Update, June 2018. https://floridadep.gov/sites/default/files/2018_integrated_report.pdf

NWFWMD. 2014. Work Plan: St. Marks River Rise, Wakulla, and Sally Ward Springs MFL Development. https://www.nwfwater.com/Water-Resources/Minimum-Flows-Minimum-Water-Levels

NWFWMD. 2017a. Apalachicola River and Bay SWIM Plan. https://www.nwfwater.com/layout/set/print/content/download/15858/110043/version/1/file/Apalachicola+River+and+Bay+SWIM+Plan+November+2017.pdf

NWFWMD. 2017b. Choctawhatchee River and Bay SWIM Plan. https://www.nwfwater.com/layout/set/print/content/download/16006/110893/version/1/file/Choctawhatchee+River+and+Bay+SWIM+Plan+October+2017_errata2.pdf

NWFWMD. 2017c. Ochlockonee River and Bay SWIM Plan. http://www.srwmd.state.fl.us/DocumentCenter/View/12025/Coastal-Rivers-Basin-SWIM-Plan?bidId=

NWFWMD. 2017d. Pensacola Bay System SWIM Plan. file:///C:/Users/wfiore/Downloads/Pensacola+Bay+System+SWIM+Plan+October2017_errata%20(1).pdf

NWFWMD. 2017e. Perdido River and Bay SWIM Plan. file:///C:/Users/wfiore/Downloads/Draft%20Perdido%20River%20and%20Bay%20SWIM%20Plan%20August%202017.pdf

NWFWMD. 2017f. St. Andrew Bay Watershed SWIM Plan. file:///C:/Users/wfiore/Downloads/St.%20Andrew%20Bay%20SWIM%20Plan%20November%202017.pdf

NWFWMD. 2017g. St. Marks River and Apalachee Bay SWIM Plan. file:///C:/Users/wfiore/Downloads/St.%20Marks-Apalachee%20SWIM%20Plan%20November%202017.pdf

SRWMD. 2017a. Suwannee River Basin SWIM Plan. http://www.mysuwanneeriver.com/DocumentCenter/View/12027/Suwannee-River-Basin-SWIM-Plan?bidId=

SRWMD. 2017b. Coastal Rivers Basin Surface Water SWIM Plan. http://www.srwmd.state.fl.us/DocumentCenter/View/12025/Coastal-Rivers-Basin-SWIM-Plan?bidId=

SWFWMD. 2015. Crystal River/Kings Bay SWIM Plan. https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/Crystal%20River%20Kings%20Bay%20Plan.pdf

SFWMD. 2018a. Technical Document to Support the Reevaluation of the MFL Criteria for the Caloosahatchee River Estuary. https://www.sfwmd.gov/sites/default/files/documents/cre_mfl_tech_doc.pdf

SWFWMD. 2018b. SWIM Program 2018 Annual Report. https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/2018_SWIM_AnnualReport_FINAL_Sept2019.pdf

Budget

Project Budget Narrative:

The budget for this proposed program consists of $30,000,000, of which the majority (approximately 90%) would be spent on planning or implementation of projects or activities aimed at improving water quality in coastal watersheds of the Gulf Coast. The total amount of funding requested as Category 1 is $7,500,00 and the total amount of funding requested as Category 2 is $22,500,000. The Category 1 funds would be spent on State of Florida program administration and project or activity specific Planning, E&D and permitting. Program monitoring and adaptive management activities, and data management activities would also fall under Category 1. Category 2 funds would be used to implement projects or activities such as construction of stormwater and wastewater facilities, septic to sewer projects, or land acquisition, and would include project or activity specific monitoring and adaptive management activities, and data management activities. More detailed budgets will be developed at the project or activity level when projects or activities are selected for funding under this program, including an appropriate contingency. The percentages listed below apply to the entire $30,000,000 funding request.

Total FPL 3 Project/Program Budget Request:

$ 30,000,000.00

Estimated Percent Monitoring and Adaptive Management: 2 %
Estimated Percent Planning: 15 %
Estimated Percent Implementation: 75 %
Estimated Percent Project Management: 7 %
Estimated Percent Data Management: 1 %
Estimated Percent Contingency: 0 %

Is the Project Scalable?:

Yes

If yes, provide a short description regarding scalability.:

The WQIP could be scaled to allow for more or less activities over a longer or shorter duration of time. Scaling down the program would reduce the number of miles or acres of tributaries and habitats restored.

Environmental Compliance[1]

Environmental Requirement	Has the Requirement Been Addressed?	Compliance Notes (e.g.,title and date of document, permit number, weblink etc.)
National Environmental Policy Act	Yes	Section 4(d)(3) of the Council's NEPA procedures applies to Category 1 funds for planning.
Endangered Species Act	N/A	Note not provided.
National Historic Preservation Act	N/A	Note not provided.
Magnuson-Stevens Act	N/A	Note not provided.
Fish and Wildlife Conservation Act	N/A	Note not provided.
Coastal Zone Management Act	N/A	Note not provided.
Coastal Barrier Resources Act	N/A	Note not provided.
Farmland Protection Policy Act	N/A	Note not provided.
Clean Water Act (Section 404)	N/A	Note not provided.
River and Harbors Act (Section 10)	N/A	Note not provided.
Marine Protection, Research and Sanctuaries Act	N/A	Note not provided.
Marine Mammal Protection Act	N/A	Note not provided.
National Marine Sanctuaries Act	N/A	Note not provided.
Migratory Bird Treaty Act	N/A	Note not provided.
Bald and Golden Eagle Protection Act	N/A	Note not provided.
Clean Air Act	N/A	Note not provided.
Other Applicable Environmental Compliance Laws or Regulations	N/A	Note not provided.

[1] Environmental Compliance document uploads available by request (restorecouncil@restorethegulf.gov).

Maps, Charts, Figures

Figure 1 depicts the WQIP boundary which includes all 5-digit HUC8 watersheds that flow to the Gulf of Mexico.

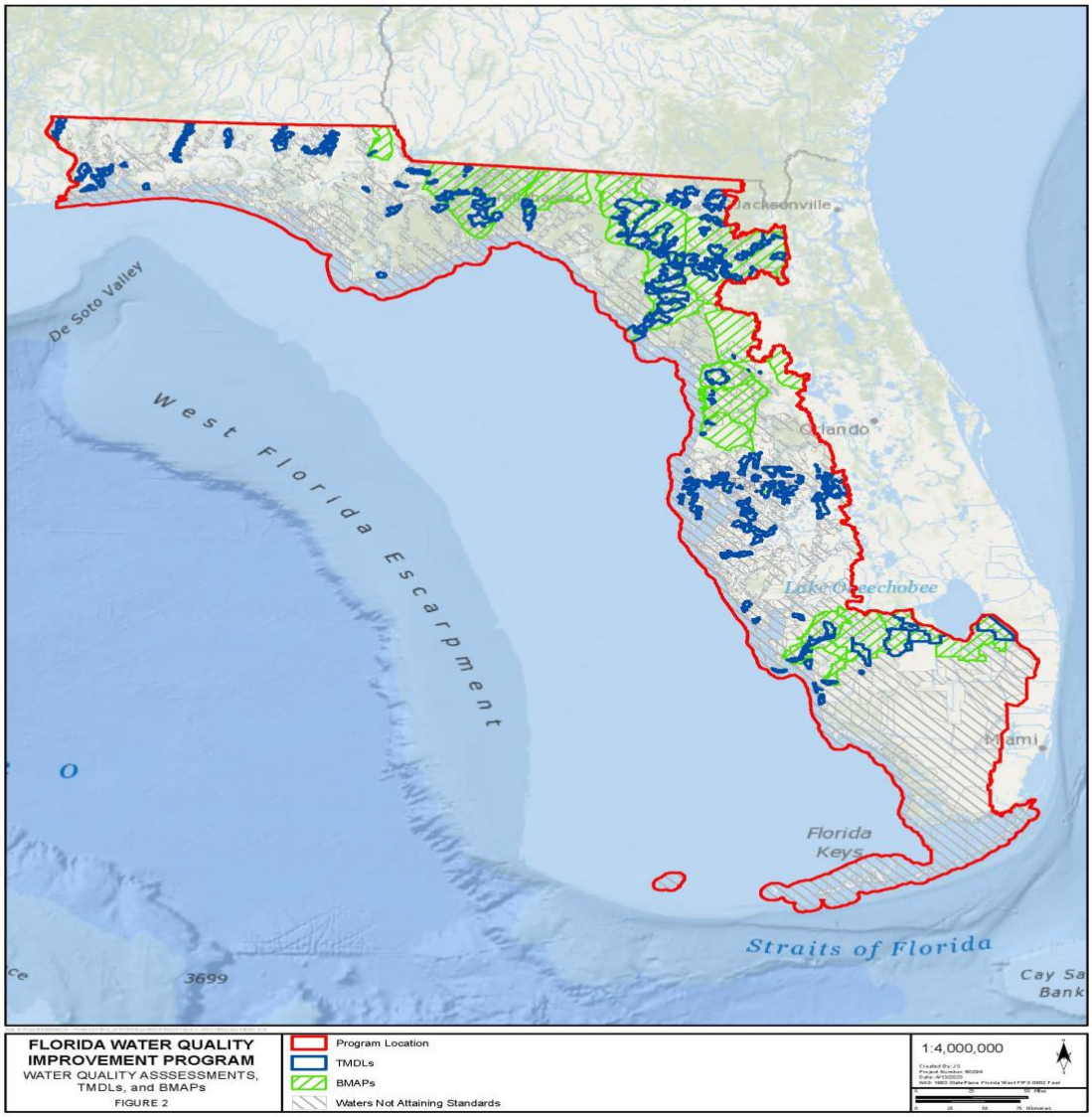

Figure 2 depicts the WQIP boundary with all 5-digit HUC8 watersheds that flow to the Gulf of Mexico as well as waterways within the boundaries that have designated TMDLs, completed BMAPs and those that have not attained current water quality standards.

Figure 3 depicts Florida's water quality restoration framework using TMDLs and BMAPs.

Table of Abbreviations and Acronyms for WQIP	
BAS	best available science
BMAP	Basin Management Action Plans
BMP	best management practices
CCMP	comprehensive conservation management plan
CE	Categorical Exclusion
CFR	Code of Federal Regulations
chl-a	chlorophyll a
COE	Center of Excellence
Council	Gulf Coast Ecosystem Restoration Council
CPS	Comprehensive Plan Commitment and Planning Support
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DO	dissolved oxygen
DMP	data management plan
DWH	Deepwater Horizon
EA	environmental assessment
E&D	Engineering and Design
EIS	environmental impact statement
EO	Executive Order
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FFWCC	Florida Fish & Wildlife Conservation Commission
FTIG	Florida Trustee Implementation Group
FSU	Florida State University
FTIG	Florida Trustee Implementation Group
GEBF	Gulf Environmental Benefit Fund
GIS	geographic information system
HUC	hydrologic unit code
ISO	International Organization for Standardization
lbs.	pounds
MAM	Monitoring and Adaptive Management
MYIP	Multi-Year Implementation Plan
N	nitrogen
NEP	National Estuary Programs
NEPA	National Environmental Policy Act
NFWF	National Fish and Wildlife Federation
NGO	nongovernmental organizations
NOAA	National Oceanic and Atmospheric Administration
NPS	nonpoint source
NRDA	Natural Resource Damage Assessment
NWFWMD	Northwest Florida Water Management District
ODP	observational data plan
QA	quality assurance
RESTORE Act	Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act
SAV	submerged aquatic vegetation
SEP	State Expenditure Plan
SWFWMD	Southwest Florida Water Management District
SWIM	Surface Water Improvement and Management
TMDL	total maximum daily loads

Table of Abbreviations and Acronyms for WQIP	
TN	total nitrogen
TP	total phosphorus
U.S.	United States
USDA	U.S. Department of Agriculture
vs.	versus
WIN	Watershed Information Network
WMDs	water management districts
WQIP	Water Quality Improvement Program

RESTORE Council FPL 3 Proposal Document

General Information

Proposal Sponsor:
Florida Department of Environmental Protection

Title:
Florida Water Quality Improvement Program

Project Abstract:
Florida is requesting $30 million under the Council's FPL3 for the proposed Florida Water Quality Improvement Program (WQIP, see Table of Acronyms attached). The WQIP would restore and protect water resources throughout the Florida Gulf Coast (Figure 1) by underwriting intrinsically linked, high-priority water quality improvement projects, which may include stormwater treatment, wastewater reuse, septic tank abatement, sediment reduction, and land acquisition. Planning (Category 1) and implementation (Category 2) projects in Florida watersheds that drain into the Gulf of Mexico would be considered. The program is anticipated to occur over the next 10 years.

The WQIP will achieve the goals of restoring water quality and water quantity and objective to restore, improve and protect water resources through a comprehensive suite of projects. WQIP success will be reflected in fewer algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions; more robust seagrass and other SAV and wildlife habitat; and improved recreational opportunities and experiences. The WQIP framework would allow for administration of project funding to target projects that deliver cumulative benefits to the Gulf and to link environmental benefits between WQIP projects and other restoration projects in a watershed or region. Combining or leveraging projects within a geographic area contributes to large-scale water resource improvements while maximizing each dollar.

FPL Category: Cat1: Planning/ Cat2: Implementation

Activity Type: Program

Program: Florida Water Quality Improvement Program

Co-sponsoring Agency(ies): N/A

Is this a construction project?:
No

RESTORE Act Priority Criteria:
(II) Large-scale projects and programs that are projected to substantially contribute to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast ecosystem.
(III) Projects contained in existing Gulf Coast State comprehensive plans for the restoration and protection of natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region.

Priority Criteria Justification:
WQIP meets Priority Criteria II, large-scale projects and programs, and Priority Criteria III, projects contained in existing Gulf Coast State comprehensive plans (Council 2019). The WQIP will fund a suite of intrinsically linked restoration or conservation water resource improvement projects with the primary goal of reducing excess nutrients and other pollutants to the Gulf of Mexico. Project selection criteria will prioritize projects included in other state or federal restoration planning documents, such as BMAPs, SWIM plans, the SEP, and FL TIG restoration plans that identify both the need and benefits of such projects and which are based on strong science.

DWH funds have been invested throughout Florida's Gulf Coast watersheds to improve water quality, hydrology, and habitats. The DWH funds have leveraged state and local investments in BMAPs and SWIM plans. The WQIP will significantly increase these investments. The state environmental agencies, including FDEP, the FFWWC, and the state's WMDs continue to collaborate with DWH funding partners to build on existing investments and ensure that future investments target priority water quality improvement restoration activities. The WQIP is one such collaboration and would enable Florida to increase funding of critical projects that would make significant, measurable improvements to water quality and thus help restore or maintain natural resources, ecosystems, fisheries, beaches, and coastal wetlands. While individual projects may be limited in scope, Florida's selection criteria would ensure a collective contribution to large-scale water quality and habitat restoration by reducing excessive nutrients and other pollutants to impaired fresh, estuarine, and marine waters.

Project Duration (in years): 10

Goals

Primary Comprehensive Plan Goal:
Restore Water Quality and Quantity

Primary Comprehensive Plan Objective:
Restore, Improve, and Protect Water Resources

Secondary Comprehensive Plan Objectives:
N/A

Secondary Comprehensive Plan Goals:
N/A

PF Restoration Technique(s):
Protect and conserve coastal, estuarine, and riparian habitats: Land acquisition
Reduce excess nutrients and other pollutants to watersheds: Erosion and sediment control
Reduce excess nutrients and other pollutants to watersheds: Stormwater management
Reduce excess nutrients and other pollutants to watersheds: Wastewater system improvements

Location

Location:
Florida watersheds that drain to the Gulf of Mexico, including Perdido, Pensacola, Choctawhatchee – St. Andrew, Apalachicola – Chipola, Ochlocknee – St. Marks, Suwannee, Springs Coast, Withlacoochee, Tampa Bay, Tampa Bay Tributaries, Sarasota-Peace-Myakka, Charlotte Harbor, Caloosahatchee, Everglades West Coast, Everglades, and Florida Keys.

HUC8 Watershed(s):
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Perdido Bay)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Escambia(Lower Conecuh)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Perdido)
South Atlantic-Gulf Region(St. Johns) - St. Johns(Oklawaha)
South Atlantic-Gulf Region(St. Johns) - St. Johns(Lower St. Johns)
South Atlantic-Gulf Region(Southern Florida) - Kissimmee(Kissimmee)
South Atlantic-Gulf Region(Southern Florida) - Kissimmee(Western Okeechobee Inflow)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Lake Okeechobee)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Everglades)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Florida Bay-Florida Keys)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Big Cypress Swamp)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Caloosahatchee)
South Atlantic-Gulf Region(Southern Florida) - Southern Florida(Florida Southeast Coast)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Peace(Peace)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Peace(Myakka)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Peace(Charlotte Harbor)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Sarasota Bay)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Manatee)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Little Manatee)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Alafia)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Hillsborough)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Tampa Bay)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Crystal-Pithlachascotee)
South Atlantic-Gulf Region(Peace-Tampa Bay) - Tampa Bay(Withlacoochee)
South Atlantic-Gulf Region(Suwannee) - Aucilla-Waccasassa(Waccasassa)
South Atlantic-Gulf Region(Suwannee) - Aucilla-Waccasassa(Econfina-Steinhatchee)
South Atlantic-Gulf Region(Suwannee) - Suwannee(Lower Suwannee)
South Atlantic-Gulf Region(Suwannee) - Suwannee(Santa Fe)
South Atlantic-Gulf Region(Ochlockonee) - Ochlockonee(Lower Ochlockonee)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(Apalachicola)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(New)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(Apalachicola Bay)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(St. Andrew-St. Joseph Bays)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Choctawhatchee Bay)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Pensacola Bay)
South Atlantic-Gulf Region(Apalachicola) - Apalachicola(Chipola)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Yellow)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Florida Panhandle Coastal(Blackwater)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Choctawhatchee(Pea)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Choctawhatchee(Lower Choctawhatchee)
South Atlantic-Gulf Region(Choctawhatchee-Escambia) - Escambia(Escambia)
South Atlantic-Gulf Region(Suwannee) - Aucilla-Waccasassa(Aucilla)
South Atlantic-Gulf Region(Ochlockonee) - Ochlockonee(Apalachee Bay-St. Marks)

State(s):
Florida

County/Parish(es):

FL - Broward
FL - Escambia
FL - Pasco
FL - Calhoun
FL - Pinellas
FL - Charlotte
FL - Citrus
FL - Clay
FL - Collier
FL - Columbia
FL - Dixie
FL - Franklin
FL - Gadsden
FL - Gilchrist
FL - Polk
FL - Putnam
FL - Sarasota
FL - Sumter
FL - Suwannee
FL - Taylor
FL - Union
FL - Wakulla
FL - Alachua
FL - Baker
FL - Bay
FL - Bradford
FL - Glades
FL - Gulf
FL - Hamilton
FL - Santa Rosa
FL - Walton
FL - Washington
FL - DeSoto
FL - Hardee
FL - Hernando
FL - Highlands
FL - Hillsborough
FL - Holmes
FL - Jackson
FL - Jefferson
FL - Lafayette
FL - Lake
FL - Lee
FL - Leon
FL - Levy
FL - Liberty
FL - Madison
FL - Manatee
FL - Marion
FL - Miami-Dade
FL - Monroe
FL - Okaloosa
FL - Palm Beach
FL - Hendry

Congressional District(s):

FL - 3
FL - 21
FL - 14
FL - 15
FL - 26
FL - 11
FL - 13
FL - 20
FL - 16
FL - 5
FL - 12
FL - 1
FL - 19
FL - 25
FL - 2
FL - 9
FL - 17

Narratives

Introduction and Overview:

The WQIP would restore and protect water resources throughout the Florida Gulf Coast by underwriting intrinsically linked high-priority water quality improvement projects that reduce excess nutrients and other pollutants to watersheds (Council 2019). Nutrients and other pollutants that reach Florida's coastal waters have contributed to or exacerbated persistent harmful algal blooms that increase the severity and duration of red tides, depleting oxygen levels and causing fish kills, and destroying SAV. Bacteria and pathogen problems can lead to beach and swimming closures and restrictions on fish and shellfish harvesting. As identified in RESTORE's 2019 Planning Framework document (Council 2019) and demonstrated by the Governor's EO 19-12 and the state's investment in BMAPs, SWIM plans, and other restoration programs, water resource protection and restoration are among the most critical environmental issues facing Florida, demanding immediate action by FDEP and other environmental agencies.

FDEP will rely on the existing TMDL/BMAP process, SWIM plans, and the NPS program, which serve as foundations for restoring impaired waters in Florida. These programs focus on reducing nutrients and other pollutants to meet TMDLs or other priority water body goals (Figure 2). Building on BMAPs and SWIM plans, Florida will use a watershed/estuary-based approach to guide the selection of projects best suited to address the stressors within a watershed and provide regional benefits.

WQIP selection criteria will prioritize projects identified in other state or federal restoration planning documents (e.g., BMAPs, SWIM plans, the SEP, and FL-TIG restoration plans) that identify both the need and benefits of such projects. Because initial project planning , technical review, stakeholder engagement, and identification of risks are typically part of the development of these restoration plans, use of this approach to identify projects for funding under the WQIP will promote use of BAS and improve the likelihood of project success. Collaboration with NRDA, NFWF-GEBF, or other state and federal funding programs would allow the WQIP to fund more or larger projects more efficiently, maximizing investments to achieve large-scale restoration.

The public will be involved during the development of selection criteria and project selection. FDEP will hold a webinar to review the draft project selection criteria and solicit public input. After proposals are evaluated using the selection criteria, a draft list of projects proposed for funding will be published on the Florida DWH website for public review and comment and will finalize project lists after public comments are analyzed. The final projects list(s) and workplans will be submitted to Council staff for BAS external review and approval.

Partners: Florida is committed to coordination and collaboration for the WQIP and will rely on existing relationships with local governments, WMDs, NEPs, NGOs, Florida's RESTORE Act COEs, the Gulf Consortium, FL TIG, NFWF, and other Council members to advance restoration around the state. Extensive stakeholder outreach is integral to BMAP and SWIM plan development; the WQIP can use these efforts to reach a larger audience and ensure public participation. The BMAP process targets funding of restoration activities to implement TMDLs developed based on BAS. For example, among available validated water quality models the TMDL program deploys, a tool developed by the FSU Department of Scientific Computing uses a simplified GIS-based model to estimate/predict nitrogen loading from septic tanks to receiving surface water bodies (FDEP 2015). The model is used during TMDL development to predict the pollutant load allocation for septic tanks and used during the BMAP planning phase to help stakeholders and FDEP better estimate nitrogen reductions associated with sewer line extensions, among other things. As with BMAPs, a defining characteristic of the SWIM program is that it is conducted primarily through cooperative projects that are prioritized with regional stakeholders and implemented, owned, operated, and maintained by local governments and other watershed partners to help ensure continuing success.

Goals/Objectives: Upland, estuarine, and marine habitats are intrinsically connected. The WQIP would identify and select projects that link benefits between selected projects as well as with other restoration projects in a watershed or region to build upon one another and maximize benefits. The Council seeks to "optimize ecosystem restoration benefits by advancing large-scale solutions that take into account the environmental conditions of a given region of the Gulf" (Council 2016a). The proposed WQIP will focus on addressing the stressors identified in TMDLs/BMAPs, SWIM, and other approved restoration plans to achieve the Council's goal of restoring water quality/quantity and Florida's desired outcome of restoration, improvement, and protection of water quality/quantity.

Commitments: Florida has among the most comprehensive nutrient water quality standards in the nation (FDEP 2011). Of 29 coastal states, Florida is one of 17 to have a fully approved nonpoint pollution control program that satisfies all conditions in accordance with the CZMA (FDEP 2015). The protection and restoration of water resources and other natural resources is guided by comprehensive planning efforts, including the BMAP process; SWIM plans; an NPS management program; and the Florida Gulf Environmental Benefit Fund Restoration Strategy, which is an overarching framework for restoring/conserving the natural resources of Florida's Gulf Coast (FFWCC and FDEP 2018). The Governor's EO 19-12 is a clear indication of the state's commitment to improving water quality.

Use of BMAPs to improve water quality is indicated in Florida's Blue-Green Algae Task Force (FDEP 2019) recommendations, which state that "spatially focused suites of projects in areas likely to yield maximum pollutant reduction [should] be identified and prioritized in all BMAP areas. Integrated monitoring and modeling of implemented BMAP projects should be conducted to ensure that projects are working as expected. Such efforts are, in fact, key to the assessment process and allow for adjustments to be made if necessary."

Environmental Stressors: FDEP planning efforts discussed above have identified stressors and threats such as nutrient pollution from a variety of sources such as the millions of often densely clustered septic systems, urban and agricultural fertilizers, stormwater runoff, and aging and inadequate wastewater and stormwater infrastructure (Badruzzman et al. 2012; Carey et al. 2010; Nagy et al. 2012). Florida's SWIM Act recognizes that reducing NPS loadings requires a comprehensive, long-term approach that relies on cooperative watershed management among all levels of government. SWIM plans, many of which have been recently updated with DWH funds, evaluate and address water quality and quantity stressors at a watershed level. For example, the 2017 Apalachicola River and Bay SWIM plan update (GEBF grant funded) recommended projects that address NPS pollution and septic system impacts (NWFWMD 2017a), and the Choctawhatchee River and Bay SWIM plan update recommended projects to address nutrients, dissolved oxygen, and bacteria from erosion, wastewater, urban stormwater runoff, and septic tanks (NWFWMD 2017b).

Environmental Benefits: The WQIP would reduce algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions while improving seagrass and other SAV health, wildlife habitat, and recreational opportunities. WQIP funding will target projects that provide cumulative benefits to the Florida Gulf Coast and link environmental benefits between selected projects and other restoration projects in a watershed or region. Integrating projects in this way promotes large-scale water quality improvements.FPL3 Planning Framework: In selecting projects, the WQIP will emphasize the use of priority techniques, including stormwater management, erosion and sediment control, land acquisition, wastewater system improvements and reuse, stormwater treatment, septic tank abatement, and sediment reduction to achieve the goal of restoring water quality/quantity and the objective of restoring, improving, and protecting water resources overall. Selection criteria that support the overarching goal of restoring water quality by prioritizing projects

identified in approved state and federal restoration plans and those that leverage other funds are imperative to the success of the WQIP. Draft selection criteria are described in the Methods section and will focus on projects that are contained within an existing peer-reviewed plan; can leverage other funding; use BAS and BMPs; are technically feasible and cost effective; have some aspects of planning and E&D/permitting underway to show project readiness; and provide synergistic benefits, among others. Reliable, sound selection criteria will lead to high-quality projects that maximize the extent and success of restoration under the WQIP.

Costs: $30,000,000. Projects that leverage other funding sources would be prioritized under WQIP selection criteria to maximize cost-benefits and support large-scale restoration.Timeline: The duration of program planning and implementation is expected to be 10 years.

Proposed Methods :

FDEP will use a screening process based on approved selection criteria to fund projects under the proposed WQIP. The WQIP will focus on stormwater treatment, wastewater reuse, septic tank abatement, sediment reduction, and land acquisition practices targeted at impaired water bodies (CWA 303(d) list or approved TMDLs). Good selection criteria will lead to high-quality projects, which will enable the WQIP to significantly reduce pollutants to priority waters. Success translates into fewer algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions and improved seagrass and other SAV, habitat and wildlife, and recreational opportunities and experiences.

Project locations with pollutant reduction efforts can be evaluated using the same water quality modeling used in TMDL development; ensuring improved water quality at these locations will also impact the overall system (FDEP 2018a). Water quality modeling would provide the data necessary to address project resilience to increased rainfall and sea level rise. Water quality improvement estimates for stormwater and wastewater project techniques (e.g., wastewater system improvements) would be derived from site-specific information and performance standards, where available, and peer-reviewed sources summarized in the Statewide Best Management Practice (BMP) Efficiencies for Nonpoint Source Management of Surface Waters (FDEP 2018b). By establishing estimates of water quality improvements through quantitative means (e.g., nutrient reduction in lbs.), individual projects can be evaluated together for combined effects and comprehensive restoration.

Project selection based on similar considerations has been used in existing Florida financial assistance programs, in state planning documents (e.g., the GEBF Restoration Strategy, the SEP, etc.), and for funds distributed under other DWH restoration programs since 2013 (GEBF and NRDA) (FFWCC and FDEP 2018). Florida has already established various financial assistance programs and funding collaborations targeted at improving water quality (Section 319 Grant Program, State Revolving Fund and Small Community Wastewater Facility Grants, State Water-Quality Assistance Grants, and WMD cooperative funding agreements), which utilize BAS selection criteria developed by technical experts within Florida and the U.S. EPA.

FDEP will host a public webinar to review the draft project selection criteria to allow for public input. The initial draft selection criteria presented below will be refined prior to this webinar. Refinements could include adding specific criteria for each restoration technique (e.g., for stormwater projects, does the applicant entity have a stormwater utility fee?). Similar to NRDA restoration planning, FDEP will initiate a call for WQIP projects with the final project selection criteria. A technical review panel of agency experts will assess the project proposals submitted against the selection criteria and develop a draft list of projects proposed for funding. The draft project list will be published on the Florida DWH website for public review and comment. Florida will finalize the list after review of the public comments and will submit the final project list(s) and workplans to Council staff for BAS

external review and Council staff approval.

FDEP selection criteria would ensure that selected projects collectively contribute to large-scale water quality and habitat restoration by reducing excessive nutrients and other pollutants to fresh, estuarine, and marine waters. The extent to which a proposed project meets individual selection criteria and overall program goals and objectives and contributes to large-scale restoration efforts across Florida's Gulf Coast region will dictate how projects are prioritized for selection.

Selection Criteria 1: Eligibility Screening

- **Geographic Relevance:** Projects must be geographically located within the 8-digit HUCs identified in this proposal.
- **Relevant Goals and Objectives:** Projects, at a minimum, must meet the primary Comprehensive Plan goal of restoring water quality and quantity and the primary objective of restoring, improving, and protecting water resources.
- **Management Capabilities**: Project sponsors receiving funding will need to demonstrate strong operation and management capabilities and financial resources to assure long-term success. This screening criteria is not intended to prevent small disadvantaged communities from participating in the program.

Projects not meeting all the above criteria will be removed from the screening process and receive no further consideration in that call for proposals.

Selection Criteria 2: Technical Basis and Justification

- **Alignment with Planning Framework**: Projects should demonstrate alignment with the Council's Planning Framework, including restoration priorities, approaches, and techniques (i.e., stormwater management, septic tank removal, erosion and sediment control, etc.).
- **Proposed in Existing Plans:** Projects already proposed in existing plans (e.g., BMAPs, SWIM plans, GEBF Restoration Strategy, SEP, etc.) will be given greater consideration as these projects have typically been previously vetted for BAS, feasibility, cost effectiveness, multiple benefits, etc.
- **Benefits:** Projects should have clear benefits to impaired or other priority water bodies, including those already identified in BMAPs or SWIM plans to maximize benefits within a watershed. Priority will be given to projects that link environmental benefits between selected WQIP projects and other restoration projects in a watershed or region. In addition, projects should clearly outline how their implementation will result in the environmental benefits outlined in the proposal (e.g., nutrient or other pollutant reduction, etc.)
- **Best Available Science:** Projects should clearly explain reliance on BAS.

Selection Criteria 3: Feasibility

- **Technical Efficacy and Constructability:** Projects should demonstrate feasibility. Such demonstration can be achieved through modeling, completion of feasibility studies, examples of successful analogous projects, etc.
- **Resiliency:** Projects should be designed to be resilient, taking into account sea-level rise, hurricanes, other major storm events, etc. Projects with resiliency considerations built into the designs/plans will be given greater consideration.
- **Cost-effectiveness:** Projects should outline their proposed funding needs and justification for cost effectiveness. Projects that show cost savings or that have significant benefit-to-cost ratios will be prioritized.

- **Schedule:** Projects must indicate their proposed schedule through completion, with significant or critical project milestones clearly identified.
- **Risk:** Projects must clearly identify any potential risk to project success. Projects should discuss strategies to mitigate the identified risks.

Selection Criteria 4: Project Status and Leveragability

- **Project Status:** Projects will indicate the state of readiness to proceed. Projects showing a readiness to proceed will receive higher priority.
- **Matching or Leveraged Funds:** Projects will include a discussion on matching or leveraged funds (including in-kind contributions). Projects that include matching or leveraged funds from other sources will be given greater consideration.
- **Environmental Compliance**: Projects should identify all required environmental compliance approvals or permits needed for the project. Projects that have achieved greater levels of environmental compliance will be given greater consideration.

Environmental Benefits:

Water bodies along the Gulf provide a gradient of saltwater, estuarine, and freshwater environments. Within these systems, unique organisms rely on good water quality for survival. The CWA and Florida laws recognize the influence of human activities on ecosystem health and aim to develop policies and regulations to protect and improve water quality. In Florida, freshwater, estuarine, and coastal water quality impairments are associated primarily with nutrients, low DO, and fecal indicator bacteria (FDEP 2018a). High concentrations of TN and TP can result in excessive algae growth, leading to low DO, inhibition of seagrass growth, negative aquatic food web impacts, and health threats to wildlife and humans (Badruzzman et al. 2012; Beck et al. 2019; Greening et al. 2014; Tomasko et al. 1996). Fecal bacteria in waters results in beach closures, human health risks, and restrictions on fish and shellfish harvesting.

The WQIP will improve water quality and biological integrity by selecting projects that upgrade or eliminate septic systems, upgrade wastewater treatment systems, improve stormwater treatments and reduce effluent discharges to Florida Gulf Coast waterways. Selected water quality improvement projects will eliminate significant sources of nutrients, bacteria, sediment, and other pollutants from entering waterways, which will have a positive impact on seagrass, fish and shellfish populations, and recreational uses. The WQIP goals align with many goals identified in TMDLs/BMAPs, SWIM, and other approved restoration plans that have led to implementation of projects that have successfully improved water quality in multiple waterways along Florida's Gulf Coast. This provides assurances that that WQIP's purported benefits (e.g., reduced pollutant loads, improved surface water quality, improved habitat for seagrass and other aquatic species, etc.) will result in improved water quality.

The WQIP will achieve the Comprehensive Plan goal of restoring water quality and water quantity and its associated objective of restoring, improving, and protecting water resources through implementation of priority water quality improvement projects. A key difference between existing programs and the WQIP is that the latter allows for the administration of funding that targets projects providing cumulative benefits to the Gulf and that links environmental benefits between selected projects and other restoration projects in a watershed or region. Linking projects in this way maximizes environmental benefits and contributes to large-scale water quality improvements.

Florida collects water quality data under several programs, including FDEP's Strategic Monitoring Program used to assess impairment, targeted sampling to refine TMDL development or evaluate BMAP progress, and probabilistic Status Monitoring and Trend Monitoring networks for statewide

water quality. The data collected by Florida's WMDs, counties, and cities feed into these programs, which all use scientifically sound methodologies, techniques, and protocols for data collection. This water body–specific data will be used, where appropriate, to document the benefits of projects implemented under the WQIP. The WQIP will integrate quantification of environmental benefits into the selection of restoration projects using WQIP metrics (e.g., acres of lands acquired or lbs. of sediment removed) so that projects are selected based in part on desired ecological quality with options to attain the desired ecosystem based on a broad spatial foundation to achieve overall water quality, health, and resiliency of the larger ecosystem.

Success means a reduction in the number of impaired waters or levels of impairment; reduced algal blooms, fish kills, beach closures, and fish and shellfish consumption restrictions; and improved SAV health, wildlife habitat, and recreational experiences. Tying together projects with existing plans (e.g., BMAPs, SWIM, the NFWF GEBF Strategy) ensures sound planning for successful restoration as projects continually build upon and contribute to one another during the restoration strategy development process (FFWCC and FDEP 2018). These synergistic, watershed-level improvements have worked in other regions. In Tampa Bay, NEP CCMP projects have resulted in water quality (chl-a, TN, and DO) and seagrass coverage in the watershed approaching conditions observed in the 1950s (Greening et al. 2014). The success in Tampa Bay was achieved through the use of sound science, management plan development with identified projects, broad stakeholder engagement and support, and multiple funding partners, both government and business/industry. The WQIP has been designed to build on the lessons learned in Tampa Bay.

Metrics:

Metric Title: RES002 : Watershed management - # upgrades to stormwater and/or wastewater systems : Watershed Management
Target: 1
Narrative: Florida proposes this as a program-wide metric to evaluate the success of the proposed WQIP and its benefits to watershed management and water quality by upgrading septic systems (or connecting to sewer systems); stormwater runoff treatment improvements, and upgrades to aging/inadequate wastewater and stormwater infrastructure, among others as applicable. Because specific projects or activities have not been identified as of yet under the program, a target value or range of values cannot be proposed, as it would be purely speculative. As projects or activities are selected for funding a range of values for this program metric can be proposed at that time. However, each project or activity funded under this program may not be captured by this metric. Additional metrics would be determined to capture the benefits of each technique utilized under this program; specifically, each project or activity selected under the WQIP would have specific metrics aimed at evaluating the success of the individual activity.

Metric Title: HM001 : Nutrient reduction - Lbs. N avoided or removed : Habitat Management
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The purpose of this metric would be to verify that a reduction or avoidance of N loading had been completed, and the performance measure would be the project or activity's ability to avoid or reduce lbs. of N. Once a project or activity is selected a target value will be established. Project or activity success would be evaluated and determined as the lbs. of N successfully removed or avoided using program funding. The outcome would be a decrease in or avoidance in lbs. of N entering water bodies.

Metric Title: HM003 : Nutrient reduction - Lbs. P avoided or removed : Habitat Management
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The purpose of this metric would be to verify that a reduction or avoidance of P loading had been completed, and the performance

measure would be the project or activity's ability to avoid or reduce lbs. of P. Once a project or activity is selected a target value will be established. Project or activity success would be evaluated and determined as the lbs. of P successfully removed or avoided using program funding. The outcome would be a decrease in or avoidance in lbs. of P entering water bodies

Metric Title: HM004 : Sediment reduction - Lbs. sediment avoided or removed : Habitat Management
Target: TBD
Narrative: : Florida proposes this as a project or activity metric. The purpose of this metric would be to verify that a reduction or avoidance of sediment loading had been completed, and the performance measure would be the project or activity's ability to avoid or reduce lbs. of sediment loading. Once a project or activity is selected a target value will be established. Project or activity success would be evaluated and determined as the lbs. of sediment successfully removed or avoided using program funding. The outcome would be a decrease in or avoidance in lbs. of sediment entering water bodies.

Metric Title: HC003 : Land acquisition - Acres acquired in fee : Habitat Conservation
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The project or activity metrics may be adjusted as needed once projects or activities are funded. Metrics may be added, removed, or replaced as appropriate at the project work plan application stage. Once a project or activity is selected a target value will be established. Project or activity success would be determined as the total number of acres acquired in fee. The purpose of this metric would be to verify that acquisition has been completed, and the performance measure would be an executed and recorded deed. Upon transfer of the parcel to Government ownership, this metric would be complete. The outcome would be an increase in protected acres.

Metric Title: HM006 : Habitat management and stewardship - Acres under improved management : Habitat Management
Target: TBD
Narrative: Florida proposes this as a project or activity metric. The project or activity metrics may be adjusted as needed once projects or activities are funded. Metrics may be added, removed, or replaced as appropriate at the project work plan application stage. The purpose of this metric is to verify that the acreage acquired or placed under conservation easement is being managed for conservation purposes. Once a project or activity is selected a target value will be established. The performance measure would be a management plan for parcels acquired under fee simple or a recorded conservation easement agreement with appropriate conservation language. The outcome would be an increase in acres under improved management practices.

Risk and Uncertainties:

Projects come with potential risks and uncertainties, including cost overruns and public controversy. Risks would be minimized through direct public engagement and ongoing transparency, careful cost estimates and reasonable contingencies, effective planning and design, third-party construction oversight, and nimble adaptive management. Bad weather can also delay project completion, but good planning and construction management would minimize the impact. Operating entities receiving funding would have to document strong operation and management capabilities and financial resources to assure long-term project success.

As part of project selection, the WQIP will encourage resiliency and adaptation planning in the E&D for selected projects. FDEP is aware that climate change effects are dynamic, and reliable responses and new technologies to address the effects are being and will continue to be developed. The WQIP is committed to considering project resiliency and climate change adaptation throughout the 10-year lifespan of the program.

On a project-specific basis, FDEP will require project sponsors to submit a monitoring and adaptive management plan that will address responses to unavoidable risk. Adaptive management strategies will be implemented as needed to improve project performance, leading to ultimate project and program success. Adaptive management is meant to be an iterative process that links project monitoring to management decisions; adjustments are made to management approaches based on observed outcomes (NRC 2004). These plans will outline the goals and objectives of the project, the uncertainties and risks associated with the project, the monitoring parameters and methods, and adaptive management strategies if the outcome of monitoring does not meet the project's success metrics.

Monitoring and Adaptive Management:

Monitoring will be conducted on two levels: programmatic and project specific. Programmatic monitoring will focus on the programmatic metric specified below. At the project level, monitoring will be targeted toward the project metrics specified below and will be specific to resource outcomes and validate restoration techniques and BMPs. Programmatic and project-level monitoring will be conducted hand-in-hand to understand, document, and analyze how well projects perform compared to the expected outcomes and to provide lessons learned to help guide future project selection and adapt the WQIP to ensure its goals and objectives are achieved.

Water quality can be monitored on a project basis using a variety of techniques, including baseflow, storm flow, inflow vs. outflow, time series, and paired watersheds, depending on specific project objectives and site characteristics. With the general exception of inflow vs. outflow monitoring, most of these monitoring approaches generally require a sustained period to account for climatic and precipitation variability. To the extent feasible, both program and project monitoring will seek to use FDEP's Strategic Monitoring and probabilistic Status Monitoring and Trend Monitoring networks discussed above.

Under the WQIP, projects will be required to submit a monitoring and adaptive management plan. These plans should be based on existing, peer-reviewed guidance documents, such as the NRDA MAM Manual and the Council Observational Data Plan Guidance (DWH NRDA Trustees 2017; Council 2018). The monitoring outlined in these plans will be for both long- and short-term outcomes, such as the following:

- Long-term outcomes:
    - Evaluation of long-term water quality trends. This requires multiple years of data collection following specific project implementation, including an evaluation of historical and baseline data for affected areas, as available.
    - Evaluation of long-term trends affecting key habitats and communities, including seagrass, tidal marshes, and shellfish.
    - Monitoring and evaluation of site stability and resilience. Coastal restoration sites will be monitored to evaluate effects of public use, seasonal conditions, erosion or accretion, and major storm events.

- Short-term outcomes:
    - Specific facility performance (e.g., inflow vs. outflow pollutant concentration or load reduction monitoring).

Data Management:

FDEP will provide a central location to access data and other information related to the projects funded under the WQIP and make it available to the Council, regional partners, stakeholders, and any person or entity upon request. An Observational Data Plan and Data Management Plan for the WQIP will be submitted to the Council.

Data will be collected pursuant to approved QA plans. All data collected, analyzed, and reported will comply with chapter 62-160, Florida Administrative Code, and will be documented using standardized project-specific datasheets, as appropriate. Handwritten hardcopy data will be scanned to PDF files and transcribed into a standard digital format. QA plans will specify minimum field and laboratory QA, methodology, reporting, auditing, and data usability requirements. Data will be input into WIN, the Watershed Information Network (https://floridadep.gov/dear/watershed-services-program/content/winstoret). WIN provides a platform for data providers to submit their data and perform data quality checking interactively prior to allowing the data to be migrated into the published WIN environment. WIN is used to store and manage data and to report data to interested users and the EPA). Data can be accessed through a web-based search program at http://prodenv.dep.state.fl.us/DearWin/public/welcomeGeneralPublic?calledBy=GENERALPUBLIC. FDEP would utilize the RESTORE MEtadata Records Library and Information Network for metadata records creation.

Collaboration:

Through the CPS process, meetings were held with local governments, WMDs, NEPs, NGOs, Florida's RESTORE Act COE, the Gulf Consortium, and other Council members. Additionally, BMAPs and SWIM plans have extensive stakeholder outreach during plan development and throughout implementation, including numerous public meetings and public education materials. Project selection will consider each project's ability to leverage other funds to expand the impact of awards. These monies could consist of other DWH funds or federal, state, or local government matching funds, including Florida's State Revolving Fund loans and grants, annual springs funding, TMDL project funding, NPS grants, Florida legislative member project funding, the Gulf Consortium State Expenditure Plan, the Gulf Coast counties' MYIPs, Florida Gulf Coast NEP CCMPs, Panhandle Estuary Program future CCMPs, and potentially those projects and programs identified in the Governor's EO.

Public Engagement, Outreach, and Education:

Under Florida's BMAP and SWIM programs, public engagement and education activities are routinely identified as the part of projects that contribute to the overall goal of improving water quality. These efforts have focused on many of the stressors targeted by the WQIP, allowing the program to make connections with the public more readily thanks to these previous engagement and education efforts. In the Chassahowitzka River watershed, citizens participated in the Lakes, Rivers & Coastal Cleanup event aimed at improving water quality and educational tools were developed to depict septic system water quality issues (SWFWMD 2017a). Similarly, schools and other organizations in the Weeki Wachee watershed participate in a program to learn about storm drains through hands-on stenciling and classroom presentations (SWFWMD 2017b). These activities help gain stakeholder buy-in and future participation through providing experiences and information showing the direct impacts of community choices at a personal level. Public engagement and education are often collaboratively funded through DEP-administered 319(h) grants for NPS pollution education.

Existing programs like SWIM and BMAP have built a strong foundation for public engagement and

education that will encourage continued participation in the WQIP and ensure that the value of projects reaches a large audience. Furthermore, previous involvement of communities in SWIM and BMAPs increases the likelihood of meaningful public engagement and comments during WQIP project selection criteria development.

In addition, ongoing public outreach as part of DWH NRDA restoration efforts began in 2012, with over 60 projects in Florida to date. This includes the recently issued FL TIG Restoration Plan #1, which directed NRDA funds to water quality, nutrient reduction, and recreational enhancements (FTIG 2019). The NRDA process incorporates a rigorous public engagement element that affords stakeholders and the pubic opportunities to submit projects via a Florida-maintained web portal, comment on projects at the draft Restoration Plan stage, and comment on proposed projects. Florida also embarked on a large public outreach campaign as part of its GEBF Gulf Restoration Strategy development (FFWCC and FDEP 2018). The WQIP will be able to utilize the existing successful DWH public engagement structure without expending much of the WQIP administrative budget on these efforts.

Leveraging:

Funds: $TBD
Type: Bldg on Others
Status: Proposed
Source Type: Other
Description: The proposed WQIP would potentially leverage other federal funds and state funds including SEP, State Revolving Fund wastewater, NPS 319, WQ grants SW, NRDA. The selection criteria put greater emphasis on projects that leverage other funding sources. Therefore, although the program itself is not leveraging other funds, individual projects will be expected to do so. See Methods section for a description of selection criteria.

Environmental Compliance:

Some aspects of the WQIP can comply with NEPA using the Council's NEPA CE for planning, research, or design activities (Section 4(d)(3) of the Council's NEPA procedures). Selected implementation projects will be required to comply with all applicable federal laws in the Council's Environmental Checklist as well as state and local laws. Because Council NEPA regulations allow the use of member NEPA CEs where appropriate (Section 4(d)(4) of the Council's NEPA Procedures), selected project NEPA compliance will occur using the appropriate documentation (EAs, EISs, or CEs). Some projects may be able to rely on existing member NEPA documents, including CEs (e.g., EPA §6.204 (a) (ii) ii). Actions relating to existing infrastructure systems (such as sewer systems, drinking water supply systems, and stormwater systems) could be used for a project extending services to current septic users.

Bibliography:

Badruzzman, M., Pinzon, J., Oppenheimer, and J. Jacangelo. 2012. Sources of nutrients impacting surface waters in Florida: A review. Journal of Environmental Management 109:80–92. https://www.sciencedirect.com/science/article/pii/S030147971200237X?via%3Dihub.

Beck, M.W., E.T. Sherwood, J.R. Henkel, K. Dorans, K. Ireland, and P. Varela. 2019. Assessment of the cumulative effects of restoration activities on water quality in Tampa Bay, Florida. Estuaries and Coasts 42:1774–1791. https://link.springer.com/article/10.1007/s12237-019-00619-w#citeas.

Carey, R.O., G.J. Hochmuth, C.J. Martinez, T.H. Boyer, V.D. Nair, M.D. Dukes, G.S. Toor, A.L. Shober, J.L. Cisar, L.E. Trenholm, and J.B. Sartain. 2012. Regulatory and resource management practices for urban watersheds: The Florida experience. HortTechnology 22(4):418–429.

Deepwater Horizon (DWH) Natural Resource Damage Assessment (NRDA) Trustees. 2017. Monitoring and Adaptive Management Procedures and Guidelines Manual Version 1.0. Appendix to Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the DWH Oil Spill. http://www.gulfspillrestoration.noaa.gov/.

Florida Administrative Code. 2018. Department of Environmental Protection. 62-160. Quality Assurance. http://flrules.elaws.us/fac/62-160.

Florida Department of Environmental Protection (FDEP). 2011. Petition for Withdrawal of EPA's 303(c)(4)(B) Determination for Florida, Repeal of 40 C.F.R. § 131.43, and Related Actions. https://www.epa.gov/sites/production/files/2015-07/documents/fdep-petition-withdrawal-2011.pdf.

———. 2015. Florida Nonpoint Source Program Update. https://floridadep.gov/wra/319-tmdl-fund/documents/nonpoint-source-program-update-2015.

———. 2018a. Final Integrated Water Quality Assessment for Florida: 2018 Sections 3030(d), 305(b), and 314 Report and Listing Update, June 2018. https://floridadep.gov/sites/default/files/2018_integrated_report.pdf.

———. 2018b. Statewide Best Management Practice (BMP) Efficiencies for Nonpoint Source Management of Surface Waters, Draft July 2018. https://floridadep.gov/dear/water-quality-restoration/documents/statewide-best-management-practice-bmp-efficiencies.

———. 2019. Blue-Green Algae Task Force Consensus Document #1. https://floridadep.gov/sites/default/files/Final%20Consensus%20%231_0.pdf.

Florida Fish and Wildlife Conservation Commission (FFWCC) and Florida Department of Environmental Protection (FDEP). 2018. Florida Gulf Environmental Benefit Fund Restoration Strategy. https://floridadep.gov/sites/default/files/Gulf%20Environmental%20Benefit%20Fund%20Restoration%20Strategy%20Report%20FINAL.pdf

Florida Trustee Implementation Group (FTIG).2019. Gulf Spill Restoration. Florida Restoration Page. https://www.gulfspillrestoration.noaa.gov/restoration-areas/florida .

Greening, H., A. Janiki, E.T. Sherwood, R. Pribble, and J.O.R. Johansson. 2014. Ecosystem responses to long-term nutrient management in an urban estuary: Tampa Bay, Florida, USA. Estuarine, Coastal and Shelf Science 151:A1–A6. https://www.sciencedirect.com/science/article/abs/pii/S0272771414002819.

Gulf Coast Ecosystem Restoration Council (Council). 2016a. Comprehensive Plan Update 2016: Restoring the Gulf's Ecosystem and Economy. https://www.restorethegulf.gov/sites/default/files/CO-PL_20161208_CompPlanUpdate_English.pdf.

———. 2016b. Gulf Coast Ecosystem Restoration Council Record of the Establishment of National Environmental Policy Act Procedures and Categorical Exclusions. https://restorethegulf.gov/sites/default/files/EC_Council_NEPA_Procedures__Record%20of%20Establishment.pdf.

——— 2018. Observation Data Plan, Draft Interim Guidance. https://www.restorethegulf.gov/gcerc-grants-office/gcerc-grants-resources.

———. 2019. Gulf Coast Ecosystem Restoration Council Planning Framework. https://www.restorethegulf.gov/sites/default/files/508_PlanningFramework_Final_201908.pdf.

Nagy, R.C., B.G. Lockaby, L. Kalin, and C. Anderson. 2012. Effects of urbanization on stream hydrology and water quality: The Florida Gulf Coast. Hydrological Processes 26:2019–2030.

National Research Council (NRC). 2004. Adaptive Management for Water Resources Project Planning. Washington, D.C.: National Academies Press.

Northwest Florida Water Management District (NWFWMD). 2017a. Apalachicola River Bay SWIM Plan. https://www.nwfwater.com/layout/set/print/content/download/15858/110043/version/1/file/Apalachicola+River+and+Bay+SWIM+Plan+November+2017.pdf.

———. 2017b. Choctawhatchee River and Bay Surface Water Improvement and Management Plan. https://www.nwfwater.com/layout/set/print/content/download/16006/110893/version/1/file/Choctawhatchee+River+and+Bay+SWIM+Plan+October+2017_errata2.pdf.

Southwest Florida Water Management District (SWFWMD). 2017a. Chassahowitzka River Surface Water Improvement and Management (SWIM) Plan: A Comprehensive Conservation and Management Plan. https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/Chassahowitzka%20River%20-%20SWIM%20Plan%20-%202017_0.pdf.

———. 2017b. Weeki Wachee River Surface Water Improvement and Management (SWIM) Plan: A Comprehensive Conservation and Management Plan. https://www.swfwmd.state.fl.us/sites/default/files/calendar/others/Weeki_Wachee_GB_FINAL_SWIM_Plan_v2.pdf.

Tomasko, D.A., C.J. Dawes, and M.O. Hall. 1996. The effects of anthropogenic nutrient enrichment on turtle grass (Thalassia testudinum) in Sarasota Bay, Florida. Estuaries 19:448–456. https://link.springer.com/article/10.2307/1352462.

Budget

Project Budget Narrative:
The budget for this proposed program consists of $30,000,000, of which the majority (approximately 90%) would be spent on planning or implementation of projects or activities aimed at improving water quality in coastal watersheds of the Gulf Coast. The total amount of funding requested as Category 1 is $7,500,00 and the total amount of funding requested as Category 2 is $22,500,000. The Category 1 funds would be spent on State of Florida program administration and project or activity specific Planning, E&D and permitting. Program monitoring and adaptive management activities, and data management activities would also fall under Category 1. Category 2 funds would be used to implement projects or activities such as construction of stormwater and wastewater facilities, septic to sewer projects, or land acquisition, and would include project or activity specific monitoring and adaptive management activities, and data management activities. More detailed budgets will be developed at the project or activity level when projects or activities are selected for funding under this program, including an appropriate contingency. The percentages listed below apply to the entire $30,000,000 funding request.

Total FPL 3 Project/Program Budget Request:
$ 30,000,000.00

Estimated Percent Monitoring and Adaptive Management: 2 %
Estimated Percent Planning: 15 %
Estimated Percent Implementation: 75 %
Estimated Percent Project Management: 7 %
Estimated Percent Data Management: 1 %
Estimated Percent Contingency: 0 %

Is the Project Scalable?:
Yes

If yes, provide a short description regarding scalability.:
The WQIP could be scaled to allow for more or less activities over a longer or shorter duration of time. Scaling down the program would reduce the number of miles or acres of tributaries and habitats restored.

Environmental Compliance[1]

Environmental Requirement	Has the Requirement Been Addressed?	Compliance Notes (e.g.,title and date of document, permit number, weblink etc.)
National Environmental Policy Act	Yes	Section 4(d)(3) of the Council's NEPA procedures applies to Category 1 funds for planning.
Endangered Species Act	N/A	Note not provided.
National Historic Preservation Act	N/A	Note not provided.
Magnuson-Stevens Act	N/A	Note not provided.
Fish and Wildlife Conservation Act	N/A	Note not provided.
Coastal Zone Management Act	N/A	Note not provided.
Coastal Barrier Resources Act	N/A	Note not provided.
Farmland Protection Policy Act	N/A	Note not provided.
Clean Water Act (Section 404)	N/A	Note not provided.
River and Harbors Act (Section 10)	N/A	Note not provided.
Marine Protection, Research and Sanctuaries Act	N/A	Note not provided.
Marine Mammal Protection Act	N/A	Note not provided.
National Marine Sanctuaries Act	N/A	Note not provided.
Migratory Bird Treaty Act	N/A	Note not provided.
Bald and Golden Eagle Protection Act	N/A	Note not provided.
Clean Air Act	N/A	Note not provided.
Other Applicable Environmental Compliance Laws or Regulations	N/A	Note not provided.

[1] Environmental Compliance document uploads available by request (restorecouncil@restorethegulf.gov).

Maps, Charts, Figures

Figure 1 depicts the WQIP boundary which includes all 5-digit HUC8 watersheds that flow to the Gulf of Mexico.

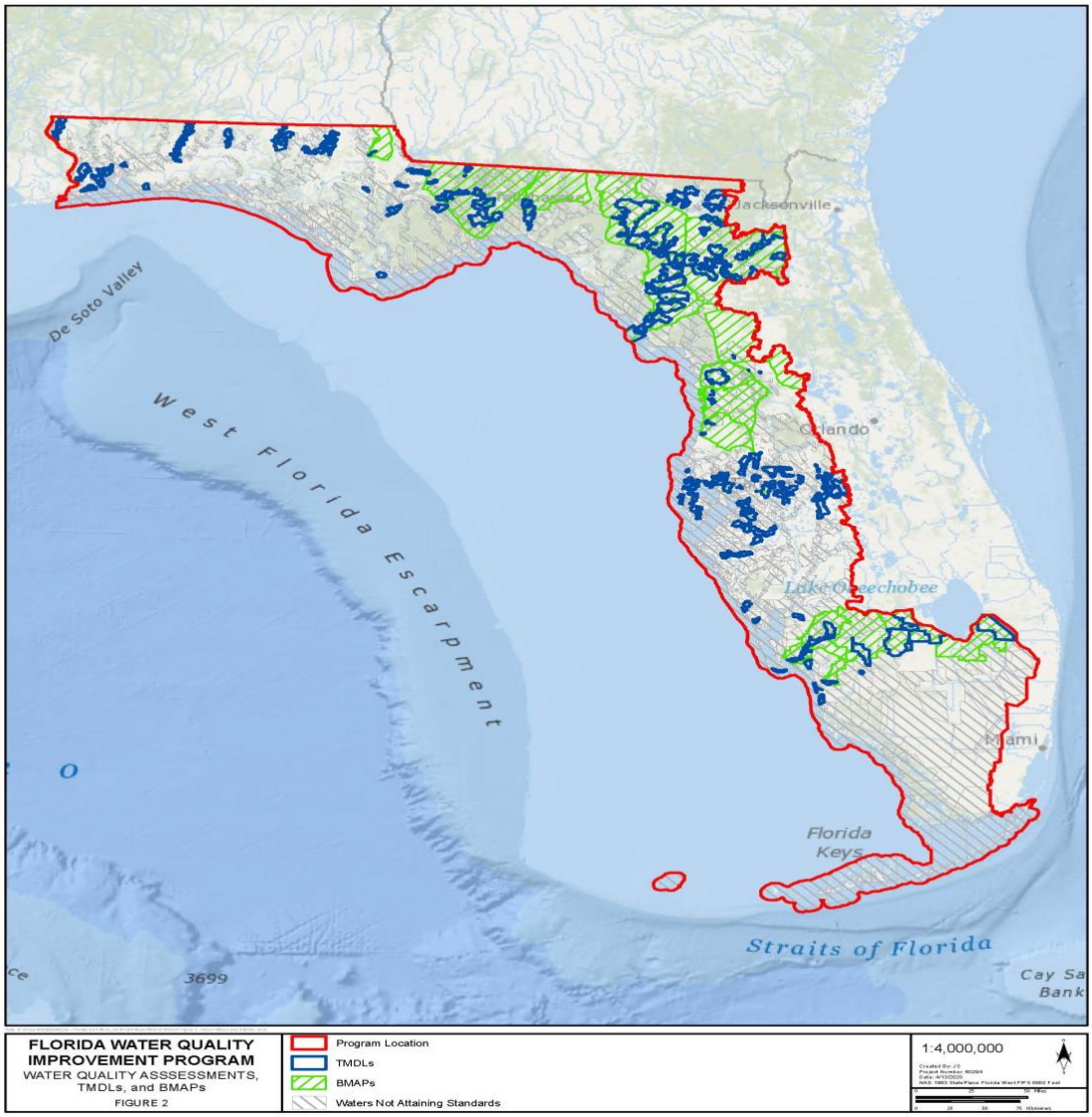

Figure 2 depicts the WQIP boundary with all 5-digit HUC8 watersheds that flow to the Gulf of Mexico as well as waterways within the boundaries that have designated TMDLs, completed BMAPs and those that have not attained current water quality standards.

Table of Abbreviations and Acronyms for WQIP	
BAS	best available science
BMAP	Basin Management Action Plans
BMP	best management practices
CCMP	comprehensive conservation management plan
CE	Categorical Exclusion
CFR	Code of Federal Regulations
chl-a	chlorophyll a
COE	Center of Excellence
Council	Gulf Coast Ecosystem Restoration Council
CPS	Comprehensive Plan Commitment and Planning Support
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DO	dissolved oxygen
DMP	data management plan
DWH	Deepwater Horizon
EA	environmental assessment
E&D	Engineering and Design
EIS	environmental impact statement
EO	Executive Order
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FFWCC	Florida Fish & Wildlife Conservation Commission
FTIG	Florida Trustee Implementation Group
FSU	Florida State University
FTIG	Florida Trustee Implementation Group
GEBF	Gulf Environmental Benefit Fund
GIS	geographic information system
HUC	hydrologic unit code
ISO	International Organization for Standardization
lbs.	pounds
MAM	Monitoring and Adaptive Management
MYIP	Multi-Year Implementation Plan
N	nitrogen
NEP	National Estuary Programs
NEPA	National Environmental Policy Act
NFWF	National Fish and Wildlife Federation
NGO	nongovernmental organizations
NOAA	National Oceanic and Atmospheric Administration
NPS	nonpoint source
NRDA	Natural Resource Damage Assessment
NWFWMD	Northwest Florida Water Management District
ODP	observational data plan
QA	quality assurance
RESTORE Act	Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act
SAV	submerged aquatic vegetation
SEP	State Expenditure Plan
SWFWMD	Southwest Florida Water Management District
SWIM	Surface Water Improvement and Management

Table of Abbreviations and Acronyms for WQIP	
TMDL	total maximum daily loads
TN	total nitrogen
TP	total phosphorus
U.S.	United States
USDA	U.S. Department of Agriculture
vs.	versus
WIN	Watershed Information Network
WMDs	water management districts
WQIP	Water Quality Improvement Program

FPL 3b Internal Staff Review of Proposal Submitted 4/24/2020

Project/Program	Florida Water Quality Improvement Program		
Primary Reviewer	Heather Young	Sponsor	
EC Reviewer	Heather Young	Co-Sponsor	
1. Is/Are the selected Priority Criteria supported by information in the proposal?			Yes
Notes			
2. Does the proposal meet the RESTORE Act geographic eligibility requirement?			Yes
Notes			
3. Are the Comprehensive Plan primary goal and primary objective supported by information in the proposal?			Yes
Notes			
4. Planning Framework: If the proposal is designed to align with the Planning Framework, does the proposal support the selected priority approaches, priority techniques, and/or geographic area?			Yes
Notes			
5. Does the proposal align with the applicable RESTORE Council definition of project or program?			Yes
Notes			
6. Does the budget narrative adequately describe the costs associated with the proposed activity?			More information needed
Notes	Council staff recommend the sponsor revise the answer to the question "Is this a construction project?" from "no" to "yes" since a portion of the requested funding would be put toward construction (e.g., for stormwater treatment and septic tank abatement).		
7. Are there any recommended revisions to the selected leveraged funding categories?			No
Notes			

8. Have three external BAS reviews been completed?	More information needed
Notes	Please see the external BAS review comments, and external reviews summary attached with these review comments.

9. Have appropriate metrics been proposed to support all primary and secondary goals?	More information needed
Notes	The primary goal is supported by the proposed metrics. However, because bringing land under improved management has been incorporated into the description of RESTORE Council metric "HC003 - acres acquired in fee," Council staff suggest that metric "HM006 - Acres under improved management" is redundant and can be removed.

10. Environmental compliance: If FPL Category 1 has been selected for the implementation component of the project or program, does the proposal include environmental compliance documentation that fully supports the selection of Category 1?	N/A
Notes	The sponsor is seeking funding approval (FPL Category 1) for the planning components of this program. The implementation component is listed as FPL Category 2. The Council can use its planning Categorical Exclusion to address NEPA for approval of planning funds. Subsequent FPL amendment(s) will be needed to approve implementation funding for this program. At that time, the sponsor would need to provide evidence of compliance with all environmental laws applicable to funding approval for the given project(s).

11. Geospatial Compliance: Have the appropriate geospatial files and associated metadata been submitted along with a map of the proposed project/program area?	Yes
Notes	

FPL 3b BAS Review Summary – Florida Water Quality Improvement Program

May 2020

Overall the external Best Available Science reviews for the *Florida Water Quality Improvement Program* proposal are positive. The interventions proposed are known and proven methods of improving water quality (Reviewer 3), and the program sponsor has demonstrated experience in successful management of restoration and coastal improvement programs (all reviewers). Generally, all reviewers agree that the information supporting the proposal is directly pertinent to the Gulf Coast region, accurately and completely cited, and represented in a fair and unbiased manner. However, Reviewers 1 and 2 indicate that additional peer-reviewed scientific references are needed to support the proposal. Both reviewers note, however, that for some elements of the proposal, this may be difficult because the first phase of the program includes planning.

Reviewers 1 and 2 agree that more information is needed to provide reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information. To this end, Reviewer 2 suggests inclusion of additional scientific justification for (or against) specific approaches and goals. While overarching goals are defined (Reviewer 3), reviewers generally agree that more information is needed to clarify the goals and objectives in the proposal. Reviewer 1 suggests clarifying desired outcomes related to the program's objectives related to TMDL/BMAP and SWIM stressors, and also points out that recurring themes in the proposal narrative may lend an appearance that the proposal is targeted at public works infrastructure with restoration of the coastal environment being a secondary result.

Reviewers 1 and 2 felt that more information is needed to clearly describe and justify the proposed methods. Reviewer 3 states the proposal clearly details an approach to project selection that uses similar criteria to existing Florida programs, but Reviewer 2 recommends more specificity is needed in describing the selection criteria. Reviewer 1 suggests strengthening this section with a brief summary of the proportion of excess nutrients to enter different HUCs through different sources and what proportion of that could be removed by different acreages of a few common coastal ecosystems, as well as a discussion of the proportions of funds that will be targeted towards different project types.

The proposal clearly outlines environmental benefits associated with the intended methods (all reviewers), and demonstrates a clear understanding of the various water quality monitoring metrics as well as familiarity with monitoring and evaluation methods (Reviewer 3).

Reviewers 1 and 2 suggest that additional information be provided to justify that the proposal is based on science that clearly documents and communicates scientific risks and uncertainties. Reviewer 1 recommends including a discussion on the risks and benefits of the proposed methods as compared with other potential strategies. While, Reviewer 3 notes that as on-the-ground projects have not yet been chosen, there are many uncertainties and risks, which the proposal outlines along with strategies for mitigation, Reviewers 1 and 2 recommend more information be included to fully evaluate risks and uncertainties in achieving the proposal’s

objectives over time. Specifically, Reviewer 1 notes that methodological uncertainties should be considered and that the objectives be carried forward into the project selection criteria.

Reviewers agree that the program has identified a monitoring and data management strategy that will support project measures of success, which includes data collection strategies from existing plans (Reviewer 3) and use of the Watershed Information Network for data housing (Reviewer 1). Because sub-projects have not yet been identified, the proposal speaks more generally to metrics of success (Reviewers 2 and 3), however targets for the program as a whole could be developed to assist with the selection of projects (Reviewer 3). Reviewer 1 states concern that the first metric relates septic to sewer improvement and recommends discussion of the cost-benefits of potentially increased human populations versus lower nutrient loading per person.

The proposal identifies a number of short-term risks and uncertainties (Reviewer 3). Reviewer 1 states that an emphasis on construction risks implies an intention to primarily improve public works rather than conserve natural land or riparian zones. While climate change effects are mentioned with a commitment to project resiliency and climate change adaptation (Reviewer 3), long-term environmental risks are not thoroughly discussed (Reviewers 2 and 3). Reviewer 2 recommends bolstering discussion of risk with information about scientific uncertainty beyond the need for monitoring and adaptive strategies. Reviewer 3 points out that the proposal briefly identifies the risk of disadvantaged communities being disqualified due to limited financial resources, and recommends that a mitigation plan for this risk should be considered.

While the proposal considers recent statewide management plans in discussing risks and uncertainties (all reviewers), Reviewer 2 suggests including additional recent and relevant scientific information. Reviewer 1 recommends addressing risks related to increased nutrient release into sensitive ecosystems as a result of improved coastal infrastructure that allows higher human population densities. In evaluating past successes and failures of similar efforts, the proposal makes use of multiple examples of past and current programs in Florida (Reviewer 3), such as the Tampa Bay NEP CCMP project (Reviewer 1). The proposal also identifies multiple ways in which this proposed program builds upon those others (Reviewer 3).

In closing comments, Reviewer 2 reiterates a need for additional references and detailed information to support the proposal. Reviewer 1 writes, “With close management and a balance between coastal preservation and infrastructure improvement this can be a very valuable contribution to improvement of coastal ecosystem health.”

FDEP Summary Response to FPL 3b BAS Review Comments (May 2020) on Florida Water Quality Improvement Program Proposal

Florida Department of Environmental Protection (FDEP) was pleased to receive overall positive Best Available Science (BAS) reviews for this Florida Water Quality Improvement Program (WQIP) proposal. All reviewers noted that FDEP has demonstrated experience in successful management of restoration and coastal improvement programs. In general, the majority of the responses noted additional supporting information would be beneficial.

Due to the character limits provided in the proposal template at the time of submission, we were not able to fully describe all facets of the proposed program and its benefits and relied on the cited literature to provide more details, specifically those related to impaired waters (total maximum daily loads [TMDLs]) and existing water quality improvement plans (basin management action plans [BMAPs] and surface water improvement and management [SWIM] plans). As noted by Reviewer 1 "This is the most ambitious program proposal that I reviewed. That means it cannot be as detailed as were others in specific methods or anticipated outcomes. For this reason, the proposal page limitation and critical review criteria may have forced a review that seems overly critical."

Also, it is clear that from the reviewers' perspective the questions they were asked are more applicable to a single project as opposed to a program. As noted by Reviewer 1 in response to Question A, "This is a very difficult question to answer, as the proposal, in essence, establishes a process for electing how funds will be distributed. The scientific detail would be in those selected proposals."

Some of the reviewers had concerns over the funding of infrastructure projects, based on the apparent belief that such projects would support new growth and therefore lead to additional environmental degradation. As noted by Reviewer 1 in response to Question E, "Increasing sewage treatment capacity could increase human population densities in coastal areas thereby increasing stormwater runoff and nutrient influx into coastal areas, just as easily as it could lower nutrient influences from existing residences and businesses." We have clarified in the responses below and in the revised proposal that infrastructure projects to be funded under the WQIP would address legacy pollution issues only and not those intended to support new development or growth.

Additional references, including links to BMAPs and SWIM plans not directly cited in the proposal or the responses, have been added to the proposal's bibliography as "non-cited literature," and supplementary scientific journal article citations have been referenced throughout our responses. The following responses to the BAS summary review comments provide additional information on the WQIP and clear up some reviewers' misunderstandings. We have also noted where the proposal has been modified accordingly. Our responses are grouped topically.

Scientific References and Additional Information – **Reviewers 1 and 2 indicate that additional peer-reviewed scientific references are needed to support the proposal. Both reviewers note, however, that for some elements of the proposal, this may be difficult because the first phase of the program includes planning.** Comments from Reviewers 1 and 2 generally related to the same or similar issues: needing additional peer-reviewed scientific literature for the activities and project types proposed the WQIP funding request. In our proposal, FDEP relied upon the peer-reviewed science and analysis that occurs to identify stressors and conditions that led to the designation of the water body as impaired under Section 303(d) of the Clean Water Act (CWA) when developing TMDLs. We also relied on the

concerted effort in the state of Florida to identify solutions to address those impaired water bodies through development of BMAPs, which undergo a rigorous peer review and public involvement process. In addition, the Florida Legislature created the Surface Water Improvement and Management (SWIM) Act in 1987 to protect, restore, and maintain Florida's highly threatened surface water bodies and directed the state's five water management districts identify a list of priority water bodies within their authority, and implement plans to improve them. Each water management district prepares (and updates) what are called SWIM plans. SWIM plans are based on water quality and other data collected within water management districts that are analyzed and used to make decisions based on best available science. SWIM plans, like BMAPs, are the result of rigorous peer-reviewed scientific analyses that include an extensive public involvement process. We have included additional literature citations in response to items 2–5 below and will make similar revisions in the proposal.

BAS, Goals, Objective, and Outcomes – ***Reviewers 1 and 2 agree that more information is needed to provide reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information. To this end, Reviewer 2 suggests inclusion of additional scientific justification for (or against) specific approaches and goals. While overarching goals are defined (Reviewer 3), reviewers generally agree that more information is needed to clarify the goals and objectives in the proposal. Reviewer 1 suggests clarifying desired outcomes related to the program's objectives related to TMDL/BMAP and SWIM stressors, and also points out that recurring themes in the proposal narrative may lend an appearance that the proposal is targeted at public works infrastructure with restoration of the coastal environment being a secondary result.*** The goals and approaches described in this proposal are based on proven concepts related to water quality and ecosystem health, particularly in coastal regions. The goals and objectives of the WQIP are to select a suite of projects within the various watersheds that complement one another to achieve large-scale or regional water quality improvements. An expert working group developed to provide recommendations for restoration in the Gulf of Mexico ecosystem concluded that "...nutrient loading is likely to continue to increase in the coming decades and could interfere with successful restoration of coastal wetlands and subtidal biogenic habitats of the Gulf if it continues unabated" (Peterson et al. 2011). In addition to interfering with successful restoration, nutrient enrichment was found to contribute directly to the loss of wetlands in the Gulf (Peterson et al. 2011). To address nutrient loading, point and nonpoint sources must be eliminated from landscapes within coastal watersheds. The primary sources of nutrients within these landscapes that are anthropogenically derived include agricultural activities (crops and animal operations), urban runoff, and wastewater treatment plants (though an improvement over septic systems) (Bricker et al. 2008). Studies in Gulf Coast watersheds have found direct linkages between these nutrient sources and negative impacts to ecosystems, including sewage discharge and agricultural runoff associated with eutrophication and algal blooms in seagrass and coral communities in the Lower Florida Keys, fecal coliform loadings from septic systems in Bayou Chico, and nitrogen and phosphorus loading from septic systems located in St. George Island in the Florida panhandle (Corbett et al. 2002; Lapointe et al. 2004; Snyder 2006). By focusing on addressing these legacy pollution sources within coastal watersheds, the proposed WQIP will thereby improve coastal ecosystems impacted by those pollutants and will contribute to improved ecosystem restoration success along Florida's Gulf Coast.

To achieve this objective, there is a scientific consensus that coastal systems should be evaluated for degradation through science-based assessment and that highly degraded estuaries be restored through the development of locally relevant management plans (Peterson et al. 2011). Given this strategy, the implementation of Section 303(d) by the FDEP through the Florida Watershed Restoration Act (see

Section 403.67, Florida Statutes) provides a strong foundation for the restoration of coastal ecosystems. Through the implementation of TMDLs and BMAPs, FDEP has leveraged several regulatory programs and administrative mechanisms to, amongst other things, identify water bodies whose water quality does not support their designated uses, identify and quantify the proximate causes of the water quality problem through hydrodynamic and water quality modeling, and develop water quality restoration strategies. This approach is not only in line with science-based recommendations, but also works toward addressing known failures in ecosystem restoration outcomes (see *Risks and Uncertainties* response).

The methods recommended in this proposal have been shown to achieve nutrient reduction and restoration objectives in similar watersheds following FDEP-developed restoration and management plans. In Tampa Bay, a post-restoration analysis of monitoring data suggested that water infrastructure projects to control point source nutrient loading were associated with the highest likelihood of chlorophyll-a reduction (Beck et al. 2019). To provide further proof of concept, "habitat restoration projects were also associated with reductions in chlorophyll-a, although the likelihood of reductions from the cumulative effects of these projects were less than those from infrastructure improvements alone" (Beck et al. 2019). While specific outcomes of restoration projects are often difficult to predict (e.g., species diversity, seagrass coverage, listed species presence), nutrient reductions at a watershed level will reduce a known stressor to ecosystems. As such, the goals described in this proposal will be met by the described methods, with anticipated benefits to ecosystems rooted in scientific concepts. The suggested approaches and techniques are shown to improve water quality and reduce nutrient loadings, as referenced in the proposal. Additionally, it is anticipated that monitoring data from resulting projects will further benefit restoration science.

As discussed in the introductory comments, the proposal will be clarified that infrastructure projects to be funded under the WQIP are intended to address legacy pollution from existing causes, which are typically the result of inadequate wastewater treatment (overreliance on septic systems), ineffective or lack of stormwater treatment, and other nonpoint source runoff. WQIP is not intended to support new growth or development.

Methods – **Reviewers 1 and 2 felt that more information is needed to clearly describe and justify the proposed methods. Reviewer 3 states the proposal clearly details an approach to project selection that uses similar criteria to existing Florida programs, but Reviewer 2 recommends more specificity is needed in describing the selection criteria. Reviewer 1 suggests strengthening this section with a brief summary of the proportion of excess nutrients to enter different HUCs through different sources and the proportion that could be removed by different acreages of a few common coastal ecosystems, as well as a discussion of the proportions of funds that will be targeted toward different project types.** WQIP selection criteria favor projects that are contained in existing watershed management or other peer-reviewed plans (e.g. a TMDL, BMAP, or SWIM plan) so that existing nutrient loads in watersheds where proposed projects would occur are well understood. Section 303(d) of the Clean Water Act: Impaired Waters and Total Maximum Daily Loads (TMDLs) requires states establish the maximum amount of a pollutant allowed in a water body. This serves as the starting point or planning tool for restoring water quality in individual states. The TMDL process begins with identifying priority impaired water bodies for TMDL development, which is conducted through a prescribed U.S. Environmental Protection Agency (EPA)–approved process to produce a scientifically defensible analysis. This comprehensive process engages stakeholders to collect data from various sources to characterize the watershed, water quality, pollutant loads, and responses; and develops TMDL targets and pollutant source assessments. Load/concentration reductions are then developed for the watershed through

watershed models to meet the TMDL target. The reductions are allocated to point sources and nonpoint sources, with a margin of safety incorporated into estimates to account for uncertainties in the analysis. So, each TMDL for a nutrient impaired water body does exactly what Reviewer 1 suggested as far as proportioning excess nutrients within HUCs. However, FDEP does not believe apportioning funds to different project types is appropriate for the WQIP. While this may be a preference or suggestion of the Reviewer 1 to improve the WQIP, it does appear to be related in any way to the BAS questions.

In addition to the CWA requirements for identifying and verifying a list of impaired waters, Florida also is required to do so by Florida Watershed Restoration Act (403.067 F.S.). TMDLs establish the maximum amount of a pollutant that a water body can receive without causing exceedances of water quality standards. As such, TMDL development is an important step toward restoring the state's waters to their designated uses. Florida's primary mechanism for implementing TMDLs adopted through Section 403.067, F.S., is the BMAP. Once the decision is made to initiate and ultimately develop a BMAP, the effort cannot be completed without significant input from all stakeholders, collaboration with local entities, and stakeholder commitment to implement BMAP restoration projects (see Figure below). While a BMAP is developed for a specific basin and is unique based on the basin and impairment, at a minimum, all BMAPs include restoration projects and management strategies, implementation schedules and milestones, allocations or reduction requirements, funding strategies, and tracking mechanisms (FDEP 2018).

WATER QUALITY RESTORATION FRAMEWORK

To date, FDEP has adopted 31 BMAPs and is working on developing or updating numerous BMAPs statewide. While the majority address nutrient impairments, FDEP also has adopted BMAPs that target fecal indicator bacteria contamination. This process has resulted in not only the quantification of the nutrient and other pollutant loads within the watersheds, but also measured desirable outcomes in several Florida watersheds. For example, the Alafia River BMAP, adopted in 2014, identified nutrient and fecal coliform sources in the watershed including stormwater, septic, agriculture, and wastewater. Water quality improvement projects were identified in the Alafia River BMAP and strategically implemented to address sources, with project review taking place each reporting period. The implementation of a variety of stormwater improvement projects has contributed to a reduction in total nitrogen and increase in dissolved oxygen in several portions of the watershed (FDEP 2017).

Risks and Uncertainties – **Reviewers 1 and 2 suggest that additional information be provided to justify that the proposal is based on science that clearly documents and communicates scientific risks and uncertainties. Reviewer 1 recommends including a discussion on the risks and benefits of the proposed methods compared with other potential strategies. Reviewers 1 and 2 recommend more information be included to fully evaluate risks and uncertainties in achieving the proposal's objectives over time. Specifically, Reviewer 1 notes that methodological uncertainties should be considered and that the objectives be carried forward into the project selection criteria. Reviewer 1 states that an emphasis on construction risks implies an intention to primarily improve public works rather than conserve natural land or riparian zones. While climate change effects are mentioned with a commitment to project resiliency and climate change adaptation (Reviewer 3), long-term environmental risks are not thoroughly discussed (Reviewers 2 and 3). Reviewer 2 recommends bolstering discussion of risk with information about scientific uncertainty beyond the need for monitoring and adaptive strategies. Reviewer 3 points out that the proposal briefly identifies the risk of disadvantaged communities being disqualified due to limited financial resources and recommends that a mitigation plan for this risk should be considered.** The reviewers made numerous comments related to various risks and uncertainties. This is likely due to the fact that five of the questions they were asked to evaluate involved risks and uncertainties is some manner. While the risks and uncertainties of a specific project might be easily identified, identification of those risks and uncertainties associated with the myriad of possible projects that may result from the WQIP is beyond the scope of this program proposal. During project selection, risks and uncertainties associated with specific projects can be more fully evaluated.

From a programmatic, as opposed to project perspective, the WQIP attempts to integrate risks and uncertainties at several levels. The existing water quality programs implemented by FDEP (e.g. water quality criteria and TMDLs) account for uncertainty related to water quality based on rigorous statistical methods and incorporating a level of uncertainty into watershed modeling and water quality goals. While there can be various unknowns in establishing water quality criteria, such as understanding historic conditions or addressing complex nonpoint sources, the process reduces these risks by incorporating the highest practicable level of science and requiring EPA approval.

Restoration can be challenging given that identification of nonpoint source nutrient pollution may be difficult to discern and address. Some ecological impacts are the result of several forms of pollution (e.g., organic contaminants), and ecosystem response is often complex. Many existing restoration projects fail to identify success criteria or measure outcomes to guide future activities (Duarte et al. 2008; Suding 2011). While nutrient reduction clearly plays an important role in Gulf restoration (see Response 1), even the most carefully designed restoration projects can be unsuccessful. To address this to the greatest extent possible, proposed projects are evaluated for potential benefits to water quality using the best available science and by building upon a sound body of work within the watershed related to existing restoration plans. Project selection criteria require that projects support the reduction of defined nutrient loads within watersheds with existing management plans, are technically feasible, and have clear water quality benefits. As provided in the proposal under Selection Criterion 3, projects must clearly identify any potential risk to project success and should discuss strategies to mitigate the identified risks. The best available science review of proposed projects includes experts who will review the proposed project and associated outcomes for efficacy.

The factors often related to a failure to achieve water quality improvements as a result of nutrient reductions include flushing/residence time, stratification, light-limitation, warming, sea level rise,

depletion of resources (e.g. fish, benthic communities, seagrass), and habitat loss (Duarte et al. 2008). Additionally, the complex trajectories of coastal ecosystems in response to eutrophication may result in the inability of the system to revert back to historical reference values by reducing nutrient inputs alone (Duarte et al. 2008). Since existing watershed management plans address these risks and projects contained within existing plans would be prioritized, the number of unknowns becomes significantly reduced. Alternatively, without addressing existing nutrient loads within a watershed, water quality will almost certainly continue to worsen. Additionally, ecosystem restoration undertaken in an impaired receiving waterway without reducing watershed nutrient sources is destined to produce short-term benefits, at best (see *Scientific References and Additional Information* response). These methods encourage a recommended integration of sustainable human use with ecological processes in the Gulf of Mexico and enhance long-term success of restoration (Bricker et al. 2008; Peterson et al. 2011).

The most prevalent long-term environmental risks, from a programmatic perspective, are related to population growth. As populations in the Florida Gulf Coast continue to grow, pollution (including nutrients, fecal coliform, sediments, and other pollutants) may increase; land use may be converted from pervious, natural land uses to impervious developed land uses; and the demand for fresh water supply may increase. These risks are addressed in programs under FDEP's purview in several ways. If pollutant loads to water bodies increase as a result of population growth, the water quality evaluation and TMDL process implemented by FDEP will ultimately characterize these increased loads. DEP is currently implementing a statewide biennial evaluation schedule, as opposed to a 5-year priority rotation, that will allow for enhanced response to potential water quality issues in watersheds. The incorporation of FDEP's existing water quality framework into the WQIP and the fact that it has initial term of 10 years (which could be extended if future funding became available) allows for the flexibility to address increased nutrient loads where necessary to protect or enhance restoration efforts.

As discussed in detail above, infrastructure improvements such as septic system abatement or improvements to wastewater treatment facilities would be funded only for projects that are addressing legacy pollution. Projects intended to support new development or population growth would not be eligible for consideration.

A mitigation plan related to small disadvantaged communities is beyond the scope of this proposal. As noted in the proposal, the project screening criteria are not intended to prevent small, disadvantaged communities from participating in the WQIP. This issue is also better addressed during project selection.

Overall Program Targets and Metrics of Success – **Because sub-projects have not yet been identified, the proposal speaks more generally to metrics of success (Reviewers 2 and 3). However, targets for the program as a whole could be developed to assist with the selection of projects (Reviewer 3). Reviewer 1 states concern that the first metric relates septic to sewer improvement and recommends discussion of the cost benefits of potentially increased human populations versus lower nutrient loading per person.** As discussed above, water quality improvement is an integral part of coastal restoration on Florida's Gulf Coast. The TMDL development process is conducted on prioritized impaired water bodies. Each of those prioritized water bodies has a unique set and quantity of stressors and pollutant loadings that have caused the impairments. Pre-determining targets for project types may adversely affect the overarching goal of achieving large-scale water quality improvements along Florida's Gulf Coast. As discussed in the Environmental Benefits section of the Project Narrative, WQIP is relying on existing plans (e.g., BMAPs, SWIM, the NFWF GEBF Strategy) to ensure sound planning for

successful restoration as projects continually build upon and contribute to one another during the restoration strategy development process (FFWCC and FDEP 2018).

FDEP's selection criteria are intended to ensure that selected projects collectively contribute to large-scale water quality and habitat restoration. As stated in the Proposed Methods section of the proposal, the extent to which a proposed project meets individual selection criteria and overall program goals and objectives and contributes to large-scale restoration efforts across Florida's Gulf Coast region, will dictate how projects are prioritized for selection. Selection Criterion 2 will prioritize projects that link environmental benefits between selected WQIP projects and other restoration projects in a watershed or region. This synergistic approach is a key element of the WQIP selection process, and it could be hindered by the application of pre-determined targets for project types eligible under WQIP.
Water quality improvement projects selected under the WQIP would be addressing legacy pollution from existing sources only. Infrastructure intended to accommodate new development growth would not be eligible for consideration.

REFERENCES

Beck, M.W., Sherwood, E.T., Henkel, J.R., Dorans, K., Ireland, K., Varela, P. 2019. Assessment of the Cumulative Effects of Restoration Activities on Water Quality in Tampa Bay, Florida. *Estuaries and Coasts* 42:1774–1791. Available at: https://link.springer.com/article/10.1007/s12237-019-00619-w

Bricker, S.B., Longstaff B., Dennison, W., Jones, A., Boicourt, K., Wicks, C., Woerner, J. 2008. Effects of nutrient enrichment in the nation's estuaries: A decade of change. *Harmful Algae* 8:21–32. Available at: https://coastalscience.noaa.gov/data_reports/effects-nutrient-enrichment-nations-estuaries-decade-change/

Corbetta, D.R., Dillonb, K., Burnett, W., Schaefer, G. 2002. The spatial variability of nitrogen and phosphorus concentration in a sand aquifer influenced by onsite sewage treatment and disposal systems: a case study on St. George Island, Florida. *Environmental Pollution* 117:337–345. Available at: https://pubmed.ncbi.nlm.nih.gov/11916049/

Duarte, C.M., Conley, D.J., Carstensen, J., Sánchez-Camacho, M. 2008. Return to Neverland: Shifting Baselines Affect Eutrophication Restoration Targets. *Estuaries and Coasts* 32:29–36. Available at: https://link.springer.com/article/10.1007/s12237-008-9111-2

Florida Department of Environmental Protection (FDEP). 2017. Final 2016 Progress Report for the Alafia River Basin Management Action Plan. Available at: https://floridadep.gov/dear/water-quality-restoration/documents/alafia-river-basin-bmap-2016-annual-progress-report

FDEP. 2018. Final Integrated Water Quality Assessment for Florida: 2018 Sections 303(d), 305(b), and 314 Report and Listing Update, June 2018. Available at: https://floridadep.gov/sites/default/files/2018_integrated_report.pdf

Lapointe, B.E., Barile, P.J., Matzie, W.R. 2004. Anthropogenic nutrient enrichment of seagrass and coral reef communities in the Lower Florida Keys: discrimination of local versus regional nitrogen sources. *Journal of Experimental Marine Biology and Ecology* 308:23– 58. Available at: https://www.sciencedirect.com/science/article/pii/S0022098104000875

Peterson, C. H. et al. 2011. A Once and Future Gulf of Mexico Ecosystem: Restoration Recommendations of an Expert Working Group. Pew Environment Group. Washington, DC. 112 pp. Available at: https://scholarship.law.duke.edu/faculty_scholarship/3630/

Snyder, R.A. 2006. Analysis of Fecal Loadings Into Bayous Grande, Chico, and Texar Pensacola Bay System, FL. Center for Environmental Diagnostics and Bioremediation report for Florida Department of Health and Escambia County. Available at: https://uwf.edu/media/university-of-west-florida/centers/environmental-diagnostics-and-bioremediation/pdfs/Analysis_of_Fecal_Loadings_bayourpt.pdf

Sudig, K.N. 2011. Toward an Era of Restoration in Ecology: Successes, Failures, and Opportunities Ahead. *Annual Review of Ecology, Evolution, and Systematics* 42:465–87. Available at: https://www.annualreviews.org/doi/pdf/10.1146/annurev-ecolsys-102710-145115

Gulf Coast Ecosystem Restoration Council

FPL 3b Internal Best Available Science Review Panel Summary

July 2020

Introduction

On Tuesday, June 30, and Wednesday July 1, 2020 the RESTORE Council convened the Funded Priorities List (FPL) 3b Internal Best Available Science (BAS) Review Panel. The purpose of this internal panel was to use Council member-agency expertise to address external BAS review comments provided for FPL 3b submitted project/program proposals, and potentially identify project/program synergies not identified prior to proposal submission. The ultimate goal of the panel was to provide Council members with substantive best available science content to inform their decision-making.

The internal panel was convened via webinar with representatives from each of the Council's eleven member agencies present. Each BAS Panel member was provided the following:

1) Full FPL 3b proposals
2) 3 external BAS reviews for each proposal
3) Summary of external BAS reviews for each proposal
4) Proposal Sponsor's response to the BAS reviews summary
5) Any proposed revisions to the proposal

Proposal sponsors provided a brief synopsis of their proposal to the panel, a summary of comments made in external reviews, and discussed their proposed response to the external reviews. Council staff then solicited feedback from the panel on the proposal sponsor's presentation of comments and responses to those comments, and any additional BAS concerns. Council staff also solicited feedback on any existing or future synergies with other Gulf restoration activities. The proceedings of the meeting for this proposal are summarized below.

Sponsor: Florida

Florida Water Quality Improvement Program Proposal

Feedback from the panel on the proposal sponsor's presentation of comments and responses to those comments, and any additional BAS concerns:

References: Additional peer-reviewed scientific references are needed to support the proposal.

- The BAS panel agrees that Florida has appropriately addressed this comment.

RESTORE Council FPL 3b Internal Best Available Science Panel Summary

Justification: More scientific justification is needed for (or against) specific approaches and goals; clarification of goals, objectives, and outcomes; relative priority of benefits to public works infrastructure vs. environmental restoration.

- The BAS panel agrees that Florida has appropriately addressed this comment.

Methods: Additional justification requested for proposed methods; more specificity requested in describing selection criteria; and suggested summarizing proportion: 1) of excess nutrients from sources by HUC, 2) that could be removed by acreage, and 3) of funding by project type.

- The BAS panel agrees that Florida has appropriately addressed this comment.

Risks and Uncertainties: More information is needed on scientific risks and uncertainties, long-term risks, risk and benefits of proposed activities and methodologies, and risk of disadvantaged communities.

- The BAS panel agrees that Florida has appropriately addressed this comment.
- Panelist suggested inclusion of language from FL's response to the BAS comments regarding risk and uncertainties in the full proposal.

Overall Program Targets and Metrics of Success: Targets for the program could be developed to assist with project selection. There is concern for the fact that the program metric relates to septic to sewer improvements.

- The BAS panel agrees that Florida has appropriately addressed this comment.

Panel comments on existing or future synergies with proposed activity:
The additional water quality programs being proposed offer potential for synergies across RESTORE Council water quality improvement programs.

RESTORE Council FPL 3b Internal Best Available Science Panel Summary

SCIENCE EVALUATION

Bucket 2: Comprehensive Plan Component

Proposal Title: Florida Water Quality Improvement Program
Location (If Applicable): Florida
Council Member Bureau or Agency: State of Florida Department of Environmental Protection
Type of Funding Requested: Planning / Implementation

Reviewed by: REVIEWER 1
Date of Review: 5-7 May 2020

Best Available Science:

These 4 factors/elements help frame the reviewer's answers to A, B and C found in next section:

Question 1.	
Have the proposal objectives, including proposed methods, been justified using peer reviewed and/or publicly available information?	Need more information
Comments:	
This is addressed to some extent. Public documents are well represented in support of this proposal, but peer reviewed literature is not well represented in the justification of objectives and methods.	

Question 2.	
If information supporting the proposal does not directly pertain to the Gulf Coast region, are the proposal's methods reasonably supported and adaptable to that geographic area?	Yes
Comments:	
This question is not applicable, as the proposal directly addresses the Gulf Coast region. The yes answer is to indicate that the proposal is within scope.	

Question 3.	
Are the literature sources used to support the proposal accurately and completely cited? Are the literature sources represented in a fair and unbiased manner?	Yes
Comments:	
Citations are complete and links are provided for public reports and for some peer reviewed articles.	

Question 4.	
Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk in the near- and/or long-term that the project/program will be obsolete or not function as planned?)	Need more information
Comments:	
This one is difficult to answer. The proposal does address risks, but primarly in terms of construction obastables or weather alterations. Methodological uncertainties are not considered. Also, the objectives (e.g. modeling of optimal project locations and long rem outcomes) are not fully carried forward into the project selection criteria. Projects selection critera do not reqire a procedure for assessing success.	

Based on the answers to the previous 4 questions, and *giving deference to the sponsor to provide within reason the use of best available science,* the following three questions can be answered:

Question A	
Has the applicant provided reasonable justification that the proposal is based on science that uses peer- reviewed and publicly available data?	Need more information
Comments:	
This is a very difficult question to answer, as the proposal, in essence, establishes a process for electing how funds will be distributed. The scientific detail would be in those selected proposals. There could be a bit more scientific justification for the evaluation criteria, but that would be marginally beneficial in my opinion.	

Question B	
Has the applicant provided reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?	Need more information
Comments:	
This is a difficult criteria for a project of this type. The applicant provided reasonable information about the basis for their approach, but proposals are of insufficient length to to allow statistical or other metrics for assuring objectivity. It seems that these justifications will be needed in each project funded by this program.	

Question C	
Has the applicant provided reasonable justification that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects/programs?	Need more information
Comments:	
Please see Q-B above. I will add that to minimize population density in sensitive ecosystems, properly functioning septic systems with appropriately sized drainage areas, (several acres for each dwelling), would be mre effective at long term nutrient and bacteria management than would placing many more dwellings on a unified sewer system. This would mean requiring lot sizes or buffer zones of several acres to minimize nutrient loads. Thus land purchases could be more effective a management strategy.	

Science Context Evaluation:

Question A	
Has the project/program sponsor or project partners demonstrated experience in implementing a project/program similar to the one being proposed?	Yes
Comments:	
The applicant has broad experience in successful management of restoration and coastal improvement projects.	

Question B	
Does the project/program have clearly defined goals objectives?	Need more information
Comments:	
Focusing on TMDL/BMAP and SWIM stressors to achive State's desired outcome is provided. The objectives are very good. However the nature of that desired outcome is not provided.	

Question C	
Has the proposal provided a clear description of the methods proposed, and appropriate justification for why the method is being selected (e.g., scientifically sound; cost-effectiveness)?	Need more information
Comments:	
There are many generalities that seem appropriate, but the terminology leave many unanswered questions. For example, the selected techniques emphasize waste water treatment and septic tank improvement/replacement, with other more direct ecologically focused techniques also being mentioned. However the themes that most frequently recur involve water water treatment and septic tank improvements/replacement. Thus, the grant appears to be targeted at public works infrastructure with restoration of the coastal environment being a secondary result. The proposal could be improved by presenting a brief summary of what proportion of EXCESS nutrients are thought to enter the different HUCs through different sources and what proportion of that could be removed by different acreages of a few common coastal ecosystems. Also, explicitly stating the proportions of funds that will	

be targeted towards different project types would be helppful. This would not have to be a “hard-and-fast” proportion, but could serve as guideposts. See question C in the previous section.

Question D	
Does the project/program identify the likely environmental benefits of the proposed activity? Where applicable, does the application discuss those benefits in reference to one or more underlying environmental stressors identified by best available science and/or regional plans?	Yes
Comments:	
Success criteria for the program are provided in the project abstract and elsewhere, but the resources that are to be protected are related to specific stressors in the proposal. Rather a generally poor water quality is considered the stressor. Broad concepts of nutrients, sediments and other pollutants are notes as stressors. It would be instructive to have information describing essential environmental damage related to major stressors or stressor category that are to be mitigated. Alternatively, the proposal could describe how natural resources would benefit from reduction of stressor input.	

Question E	
Does the project/program have measures of success (i.e., metrics) that align with the primary Comprehensive Plan goal(s)/objectives? (Captures the statistical information requirement as defined by RESTORE Act)	Yes
Comments:	
Metrics are in place. Protection and management of habitat are laudable goals. Reductions of specific nutrients and sediments are also good goals. There remains a concern for this reviewer that the first metric relates to septic and sewer improvements. Increasing sewage treatment capacity could increase human population densities in coastal areas therby increasing stormwater runoff and nutrient influx into coastal areas, just as easily as it could lower nutrient influences from existing residences and businesses. Attention to the cost-benefits of potentially increased human populations versus lower nutrient loading per person should be addressed.	

Question F	
Does the proposal discuss the project/program's vulnerability to potential long-term environmental risks (i.e., climate, pollution, changing land use)? (Captures risk measures as defined under best available science by the RESTORE Act)	Yes

Comments:
The applicant considers short and long term risks. Again the section emphasized construction risks which implies an intention to primarly improve public works rather than conserve natural land or riparian zones. The need for adaptive management is noted by the applicant.

Question G	
Does the project/program consider other applicable short-term implementation risks and scientific uncertainties? Such risks may include the potential for unanticipated adverse environmental and/or socio-economic impacts from project implementation. Is there a mitigation plan in place to address these risks? Any relevant scientific uncertainties and/or data gaps should also be discussed. (Captures risk measures as defined under best available science by the RESTORE Act)	Yes
Comments:	
The applicant considers short and long term risks. Again the section emphasized construction risks which implies an intention to primarly improve public works rather than conserve natural land or riparian zones. The need for adaptive management is noted by the applicant.	

Question H	
Does the project/program consider recent and/or relevant information in discussing the elements above?	Need more information
Comments:	
Recent statewide management plans and some peer reviewed literature are considered. The risk of increasing nutrient release into sensitive ecosystems as improved infrastructure in coastal areas allows higher human pouluation densities is not addressed.	

Question I	
Has the project/program evaluated past successes and failures of similar efforts? (Captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the RESTORE Act)	Yes
Comments:	

At a minimum the example of the Tampa Bay NEP CCMP project description addresses this question.

Question J	
Has the project/program identified a monitoring and data management strategy that will support project measures of success (i.e., metrics). If so, is appropriate best available science justification provided? If applicable, how is adaptive management informed by the performance criteria? (Captures statistical information requirement a defined by the RESTORE Act)	Yes
Comments:	
The Watershed Information Network will be used for data housing.	

Please summarize any additional information needed below:
This is the most ambitious program proposal that I reviewed. That means it can not be a s detailed as were others in specific methods or anticipated outcomes. For this reason, the proposal page limitation and critical review criteria may have forced a review tha seems overly critical. With close management and a balance between coastal preservation and infrastructure improvement this can be a very valuable contribution to improvement of coastal ecosystem health. The risk is that infrastructure improvements will simply attract more human residents to coastal areas of Florida, and thereby have neutral if not adverse effects on coastal ecosystem health.

SCIENCE EVALUATION

Bucket 2: Comprehensive Plan Component

Proposal Title: Florida Water Quality Improvement Program
Location (If Applicable): Florida
Council Member Bureau or Agency: State of Florida Department of Environmental Protection
Type of Funding Requested: Planning / Implementation

Reviewed by: Reviewer 2
Date of Review: 5/10/2020

Best Available Science:

These 4 factors/elements help frame the reviewer's answers to A, B and C found in next section:

Question 1.	
Have the proposal objectives, including proposed methods, been justified using peer reviewed and/or publicly available information?	Need more information
Comments:	
There is minimal reference to the literature. The proposal tends to read like 'we'll continue to do what we've been successfully doing in the past.'	

Question 2.	
If information supporting the proposal does not directly pertain to the Gulf Coast region, are the proposal's methods reasonably supported and adaptable to that geographic area?	Need more information
Comments:	
See #1.	

Question 3.	
Are the literature sources used to support the proposal accurately and completely cited? Are the literature sources represented in a fair and unbiased manner?	Need more information
Comments:	
See #1.	

Question 4.	
Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk in the near- and/or long-term that the project/program will be obsolete or not function as planned?)	Need more information
Comments:	
This is not really addressed in the proposal.	

Based on the answers to the previous 4 questions, and *giving deference to the sponsor to provide within reason the use of best available science,* the following three questions can be answered:

Question A	
Has the applicant provided reasonable justification that the proposal is based on science that uses peer- reviewed and publicly available data?	Need more information
Comments:	
There is little reference to the literature. While this may be difficult to do for certain project specifics (because the first phase of the project is a planning phase), nonetheless even for their overarching objectives, there seems to be an assumption that we all know what needs to be done and ow to do it.	

Question B	
Has the applicant provided reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?	Need more information
Comments:	
Again, there is some difficulty here because the first phase is planning, but even so they could better dfine scientific criteria/justification for (or against) specific approaches and goals.	

Question C	
Has the applicant provided reasonable justification that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects/programs?	Need more information
Comments:	
See answer B.	

Science Context Evaluation:

Question A	
Has the project/program sponsor or project partners demonstrated experience in implementing a project/program similar to the one being proposed?	Yes
Comments:	
FDEP is experienced in these types of programs.	

Question B	
Does the project/program have clearly defined goals objectives?	Yes
Comments:	
There are some generalities and vagueness, but the emphasis seems to be on achieving water quality improvement primarily through stormwater treatment, waswater reuse, septic tank abatement, sediment reduction, and land acquisition. They appear to rely on existing FDEP programs.	

Question C	
Has the proposal provided a clear description of the methods proposed, and appropriate justification for why the method is being selected (e.g., scientifically sound; cost-effectiveness)?	Need more information
Comments:	
The selection methodology is a bit vague and general, reply mainly on what FDEP appears to have been doing in the past.	

Question D	
Does the project/program identify the likely environmental benefits of the proposed activity? Where applicable, does the application discuss those benefits in reference to one or more underlying environmental stressors identified by best available science and/or regional plans?	Yes
Comments:	
Yes, benefits are discussed and exemplified by reference to similar efforts on Tampa Bay.	

Question E	
Does the project/program have measures of success (i.e., metrics) that align with the primary Comprehensive Plan goal(s)/objectives? (Captures the statistical information requirement as defined by RESTORE Act)	Need more information
Comments:	
Metrics of success are identified in a general way. Because sub-projects have yet to be identified, the proposal really can't be particularly specific with regard to targets of statistical measures.	

Question F	
Does the proposal discuss the project/program's vulnerability to potential long-term environmental risks (i.e., climate, pollution, changing land use)? (Captures risk measures as defined under best available science by the RESTORE Act)	No
Comments:	
Very litte discussion with respect to potential long-term risks: a couple of sentences are devoted to climate change.	

Question G	
Does the project/program consider other applicable short-term implementation risks and scientific uncertainties? Such risks may include the potential for unanticipated adverse environmental and/or socio-economic impacts from project implementation. Is there a mitigation plan in place to address these risks? Any relevant scientific uncertainties and/or data gaps should also be discussed. (Captures risk measures as defined under best available science by the RESTORE Act)	Need more information
Comments:	
Some discussion of operational risks but little discussion of scientific uncertainty beyond the need for monitoring and adaptive strategies.	

Question H	
Does the project/program consider recent and/or relevant information in discussing the elements above?	Need more information
Comments:	
There is some reference to what Florida is doing now, but very little discussion of recent information.	

Question I	
Has the project/program evaluated past successes and failures of similar efforts? (Captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the RESTORE Act)	Need more information
Comments:	
There's brief discussion to Florida's past successes (e.g., in Tampa Bay), but not really a thorough discussion of what has gone right or wrong with past projects.	

Question J	
Has the project/program identified a monitoring and data management strategy that will support project measures of success (i.e., metrics). If so, is appropriate best available science justification provided? If applicable, how is adaptive management informed by the performance criteria? (Captures statistical information requirement a defined by the RESTORE Act)	Yes
Comments:	
There is general discussion of monitoring and data management.	

Please summarize any additional information needed below:
I am uncertain about this proposal. It tends to read like 'Florida has done a good job of this sort of stuff in the past, so give us $30M over 10 years and we'll select good projects to keep on doing what we've done.' That's not a particularly effective argument for this level of funding. More reference to the literature and more detailed descriptions on items marked above are needed. That said, it is certainly a struggle, in the context of proposal format/content limitations, to address all review criteria in sufficient detail. Personally, I would prefer that a project like this be done in two stages of funding: first describe a project selection and oversight process, then, after the projects have been selected in the first go of funding, describe the implementation and oversight of the projects.

SCIENCE EVALUATION

Bucket 2: Comprehensive Plan Component

Proposal Title: Florida Water Quality Improvement Program
Location (If Applicable): Florida
Council Member Bureau or Agency: State of Florida Department of Environmental Protection
Type of Funding Requested: Planning / Implementation

Reviewed by: REVIEWER 3
Date of Review: 05/08/2020

Best Available Science:

These 4 factors/elements help frame the reviewer's answers to A, B and C found in next section:

Question 1.	
Have the proposal objectives, including proposed methods, been justified using peer reviewed and/or publicly available information?	Yes
Comments:	
The proposed objectives of restoring and protecting water resources through water quality improvement projects are justified. The proposed interventions are known and proven methods of restoring water quality.	

Question 2.	
If information supporting the proposal does not directly pertain to the Gulf Coast region, are the proposal's methods reasonably supported and adaptable to that geographic area?	Yes
Comments:	
Proposal clearly pertains to the Gulf Coast region.	

Question 3.	
Are the literature sources used to support the proposal accurately and completely cited? Are the literature sources represented in a fair and unbiased manner?	Yes
Comments:	
The literature used are high-quality, coming from either peer-reviewed or government sources. They are represented fairly.	

Question 4.	
Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk in the near- and/or long-term that the project/program will be obsolete or not function as planned?)	Yes
Comments:	
As this proposal aims to develop a larger program that would distribute funds to on-the-ground projects that have not yet been chosen, there are a lot of uncertainties and risks. The proposal outlines these uncertainties and shows how they will attempt to mitigate them through the use of BAS selection criteria already developed by experts for other financial assistance programs in use in Florida.	

Based on the answers to the previous 4 questions, and *giving deference to the sponsor to provide within reason the use of best available science,* the following three questions can be answered:

Question A	
Has the applicant provided reasonable justification that the proposal is based on science that uses peer- reviewed and publicly available data?	Yes
Comments:	
The interventions proposed are common methods of reducing both point and non-point source pollution. Such methods have been thoroughly studied and are utilized throughout the country.	

Question B	
Has the applicant provided reasonable justification that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?	Yes
Comments:	
The proposal shows clear understanding of the various metrics that can and should be used to monitor water quality and quantity. Additionally, the proposal shows a familiarity with effecting monitoring and evaluation methods to ensure an accurate evaluation.	

Question C	
Has the applicant provided reasonable justification that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects/programs?	Yes
Comments:	
Through basing a number of aspects of this program off of other approved and active water quality programs, the proposal has shown reasonable justification.	

Science Context Evaluation:

Question A	
Has the project/program sponsor or project partners demonstrated experience in implementing a project/program similar to the one being proposed?	Yes
Comments:	
Click here to enter text.	

Question B	
Does the project/program have clearly defined goals objectives?	Need more information
Comments:	
While overarching goals are clearly defined, the proposal does not identify metrics of programmatic success. Reducing algal blooms for instance is a vague metric. Is there a specific level of reduction that the state is hoping to achieve through this programand the projects it will fund?	

Question C	
Has the proposal provided a clear description of the methods proposed, and appropriate justification for why the method is being selected (e.g., scientifically sound; cost-effectiveness)?	Yes
Comments:	
The proposal does a great job of outlining how they will select water quality improvement projects to fund and support. By using similar project selection criteria to existing and approved Florida water quality financial assistance programs, the proposal has appropriate justifications for selecting those criteria.	

Question D	
Does the project/program identify the likely environmental benefits of the proposed activity? Where applicable, does the application discuss those benefits in reference to one or more underlying environmental stressors identified by best available science and/or regional plans?	Yes
Comments:	
The proposal outlines the specific environmental benefits associated with the intended project methods. The benefits are widely researched and are in reference to major environmental stressors in the region as determined by best available science.	

Question E	
Does the project/program have measures of success (i.e., metrics) that align with the primary Comprehensive Plan goal(s)/objectives? (Captures the statistical information requirement as defined by RESTORE Act)	Need more information
Comments:	
The metrics of success for selected projects are outlined and effective types of metrics for their relevant projects. However, due to the uncertainty of which projects will be selected, the proposal does not specify specific targets for those metrics. This makes sense for the individual projects, however, general and mainly aspirational target objectives could be developed for the program as a whole. This would assist in the selection of projects.	

Question F	
Does the proposal discuss the project/program's vulnerability to potential long-term environmental risks (i.e., climate, pollution, changing land use)? (Captures risk measures as defined under best available science by the RESTORE Act)	Need more information
Comments:	
In the Risks section of the proposal, climate change effects are mentioned as a consideration, with a commitment to considering project resiliency and climate change adaptation. This is a good start, however, beyond this, long-term environmental risks and how they could impact the program are not thoroughly discussed.	

Question G	
Does the project/program consider other applicable short-term implementation risks and scientific uncertainties? Such risks may include the potential for unanticipated adverse environmental and/or socio-economic impacts from project implementation. Is there a mitigation plan in place to address these risks? Any relevant scientific uncertainties and/or data gaps should also be discussed. (Captures risk measures as defined under best available science by the RESTORE Act)	Need more information
Comments:	
A number of short-term risks and uncertainties are identified including cost overruns and public controversy. The proposal states that all selected programs would need to document management capabilities to overcome these risks. One risk that was briefly identified and should be revisited is the risk of disadvantaged communities being overly disqualified due to limited financial resources. As the Selection Criteria 1: Eligibility Screening stated, financial resources are a key screeing factor. While the proposal states that this is not "intended" to prevent disadvantaged communities from participating, it may have that result. A mitigation plan for this risk should be considered.	

Question H	
Does the project/program consider recent and/or relevant information in discussing the elements above?	Yes
Comments:	
The literature review contains relevant sources and programmatic information from as recent as 2019.	

Question I	
Has the project/program evaluated past successes and failures of similar efforts? (Captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the RESTORE Act)	Yes
Comments:	
The proposal identifies multiple past and currently running programs in Florida with similar goals. The proposal identifies multiple ways in which this proposed program builds upon those others.	

Question J	
Has the project/program identified a monitoring and data management strategy that will support project measures of success (i.e., metrics). If so, is appropriate best available science justification provided? If applicable, how is adaptive management informed by the performance criteria? (Captures statistical information requirement a defined by the RESTORE Act)	Yes
Comments:	
The program will use data collection methods from approved QA plans. The proposal states that projects will be required to use these data to create adaptive management plans.	

Please summarize any additional information needed below:
Click here to enter text.