



CHNEP Technical Advisory Committee Meeting Minutes
Thursday, November 30th, 2023, 9:30 am – 2:00 pm
Punta Gorda Charlotte Library
401 Shreve St, Punta Gorda, FL 33950

Draft Technical Advisory Committee Meeting Minutes
November 30th, 2023

Members Present:

Mark Sramek	NOAA National Marine Fisheries Service (NMFS)
Arielle Taylor-Manges	Florida Dept. of Environmental Protection (FDEP)
Dave Blewett	Florida Fish & Wildlife Conservation Commission (FWC)
Katherine Rose	Florida Sea Grant
Jeff Devine	West Coast Inland Navigation District (WCIND)
Mark Barton	South Florida Water Management District (SFWMD)
Mark Walton	Southwest Florida Water Management District (SWFWMD)
Brandon Moody	Charlotte County
Rick Armstrong	Lee County
Brooke Langston	Sarasota County
Ernesto Lasso de la Vega	Lee County Hyacinth/Mosquito Control District
Greg Blanchard	Manatee County
Harry Phillips	City of Cape Coral
Nancy Gallinaro	City of North Port
Dana Dettmar	City of Sanibel
Devon Moore	City of Winter Haven
Shea Cunningham	Peace River Manasota Regional Water Supply Authority
Steve Suau	Carbon Life LLC
David W. Ceilley	Aquatic Ecologist
Rick Bartleson	Sanibel-Captiva Conservation Foundation
Dave Sumpter	Wildlands Conservation
Michelle Tickles	Mosaic Company

Members Present via Teams:

Jennifer Thera	Florida Dept. of Agriculture & Consumer Services (FDACS)
----------------	--

Others Present:

Jennifer Hecker	Coastal & Heartland National Estuary Partnership (CHNEP)
Nicole Iadevaia	Coastal & Heartland National Estuary Partnership (CHNEP)
Sarina Weiss	Coastal & Heartland National Estuary Partnership (CHNEP)
Keara Abel	Coastal & Heartland National Estuary Partnership (CHNEP)
Courtney Saari	Florida Wildlife Research Institute (FWC-FWRI)
Tom Reis	Ecosphere Restoration Institute
Kevin Miller	U.S. Dept. of the Interior
James Douglass	Florida Gulf Coast University (FGCU)
Chris Anastasiou	Southwest Florida Water Management District (SWFWMD)
Melynda Brown	Florida Dept. of Environmental Protection (FDEP)
Olivia Husick	City of Winter Haven
John Ryan	Sarasota Baywatch

Agenda Item #1 – Call to Order and Introductions — Ernesto Lasso de la Vega, Co-Chair

Co-Chair Ernesto Lasso de la Vega called the meeting to order at 9:31 am. Introductions were then made.

Agenda Item #2 – Agenda Additions or Deletions — Ernesto Lasso de la Vega, Co-Chair

Agenda items 10 and 11 were switched to accommodate presenter schedules.

MARK SRAMEK MOVED, SECONDED BY DAVID CEILLEY TO APPROVE THE AGENDA. THE MOTION WAS CARRIED UNANIMOUSLY WITH NO FURTHER DISCUSSION.

Agenda Item #3 – Public Comments on Agenda Items – Ernesto Lasso de la Vega, Co-Chair

No public comments on agenda items were made.

Agenda Item #4 – Technical Advisory Committee August 10th, 2023 Meeting Minutes — Ernesto Lasso de la Vega, Co-Chair

No edits were made to the August 10th, 2023 Technical Advisory Committee Meeting Minutes.

RICK ARMSTRONG MOVED, SECONDED BY BROOKE LANGSTON TO APPROVE THE MINUTES AS PRESENTED. THE MOTION WAS CARRIED UNANIMOUSLY WITH NO FURTHER DISCUSSION.

Agenda Item #5 – CHNEP Update — Jennifer Hecker, CHNEP

CHNEP's Executive Director, Ms. Jennifer Hecker, presented on programmatic activity occurring since the last Technical Advisory Committee meeting. Highlights included administrative and outreach activities as follows:

Fall Management Conference planning and execution, invitations and packets sent to new members. The Amended FY2024 Work Plan and Budget were approved at the September Policy meeting and have been implemented. CHNEP drafted a letter of support for the U.S. Fish and Wildlife Service (USFWS) proposed Everglades to Gulf Conservation Area, created a CHNEP webpage on the topic, as well as sent out two social media blasts and a mass email linking to webpage asking for public comments in support. Additionally, CHNEP staff reviewed the USFWS draft plan and sent technical comments to USFWS staff.

CHNEP drafted Interlocal Agreements for working with Central Florida Regional Planning Council that is being approved in November, as well as one for working with Lee County that is currently being reviewed by legal department. Staff conducted Coastal Charlotte Harbor Monitoring Network (CCHMN) field audits for the FL Dept. of Environmental Protection, Florida Fish and Wildlife Conservation Commission/Research Institute, Lee County, and City of Cape Coral. Additionally, CHNEP staff finished gathering partner data for the 2023 NEPORT Congressional Reporting Survey to report on their annual conservation, management, and restoration accomplishments. This was uploaded into the EPA portal in September and included over 100 habitat entries. Finally, CHNEP drafted and submitted a letter of support for the SWFWMD proposal for the Cape Haze Ecosystem Restoration Project for NOAA's (National Oceanic and Atmospheric Administration) Transformational Habitat Restoration and Coastal Resilience Grant.

Regarding finance and grants management, CHNEP sent customized invoice letters and information packets to City and County partners who contribute to the CHNEP, providing an overview of what value and projects CHNEP provides to their areas. CHNEP entered Purchase Requisitions for all FY2024 Annual Scopes managed under Interlocal Agreements (Upper and Lower CCHMN and Water Atlas). These FY2024 Purchase Orders were then subsequently issued.

CHNEP staff continued attendance at partnership meetings and conferences. CHNEP presentations were featured at the 27th Biennial Coastal & Estuarine Research Federation (CERF) Conference and the

Association of National Estuary Programs (ANEP) Conference as well as the American Water Resources Association (AWRA) One Water Summit and the 2023 Florida Resilience Conference. CHNEP was a mainstage panel speaker at the Corridor Connect: Ecology + Economy for a Better Florida Conference on the *Ecosystem Resilience is Economic Resilience* panel. CHNEP will serve as co-chair along with Auburn University on a session titled Advancing coastal resiliency through watershed planning and hydrological restoration at the Gulf of Mexico Conference (GOMCON) in 2024.

For outreach events, CHNEP coordinated with Lemon Bay Conservancy to distribute free informational brochures and educational materials at the Englewood Water Fest and Family Day Program. Charlotte County also distributed free informational brochures and educational materials at the Climate Eco Fair. CHNEP attended the Wildcat Tailgate in Wauchula at which they hosted an estuary trivia game and the 7 Rivers Water Festival in Winter Haven. CHNEP hosted a cleanup event with Keep Charlotte Beautiful and Charlotte Harbor Environmental Center in observance of International Coastal Cleanup Day and partnered with Charlotte County Sea Grant, UF/IFAS, and FWC to host Florida Horseshoe Crab Watch Training.

Regarding publications, CHNEP staff worked with the designer and the printer to produce the final proof of the [2024 Nature Calendar](#) and produced updated Water Quality Fact Sheets by Basin, as well as created a 2023-24 Funding Opportunities Fact Sheet (<https://www.chnep.org/federal-funding>) to distribute to stakeholders, community members, and anyone who can benefit from current funding opportunities.

A committee member asked where the Association of National Estuary Programs (ANEP) Conference was held, to which Ms. Hecker answered that it was held in Portland, Oregon. Another committee member commented that in addition to regular coastal cleanups, CHNEP funded underwater marine debris cleanups which were very successful.

Agenda Item #6 – Implementation of a Research Plan to Guide Decisions on Place-Based Recreational Fishery Conservation in Charlotte Harbor, FL — Courtney Saari and Dave Blewett, Florida Wildlife Research Institute

Ms. Courtney Saari from the Florida Wildlife Research Institute, briefed committee members on the implementation of a research plan to guide decisions on place-based recreational fishery conservation in Charlotte Harbor, FL. Highlights are as follows:

This presentation was on a large-scale collaborative project aimed at protecting the sportfish in Charlotte Harbor, involving “co-producing” science-based tools and plans for decision-making that preserves important sportfish habitat areas. It is being funded by the NOAA RESTORE Grant for Actionable Science. Project findings could be incorporated into state restoration plans, helping to identify effective restoration design elements and prioritize locations for restoration and conservation. The project will span from 2023-2028, involving the CHNEP TAC with annual review workshops and the review of project output and products. The project goals include complete actions identified in the Research and Application Plan; provide a framework for integrating science-based sportfish habitat conservation measures into land-use management; create science-based “decision support tool” to guide habitat management decisions and urban planning that ensures environmental stability and economic resiliency. The implementation includes a series of stepwise projects to identify and characterize sportfish nursery habitats; assess success of recent restorations for juvenile sportfish and their designs; model hydrology impacts from development and stormwater drainage; model habitat migration and changes caused by accelerated sea level rise or hydrological impacts; creation of a habitat vulnerability index; and creation of a decision-support GIS layer to be provided to agencies and local governments. Project results will include GIS map-based tools to prioritize locations for restoration, conservations, and land-use planning (e.g., land zoning and acquisitions, development density regulation, stormwater infrastructure, and habitat restoration). Project findings could be incorporated into state restoration plans. This is a 5-year project with the timeline between 2023-2028: Year 1 – project set-up; Years 2-4 – fisheries sampling, modeling, and mapping; and Years 4-5 – data analysis, share findings and transfer products. There will be assistance from TAC

members with annual review workshops and the review of project output and products. Place-based habitat conservation is necessary to ensure sustainability of the community's valuable natural resources. To view the project landing page, visit:

<https://restoreactscienceprogram.noaa.gov/projects/recreational-fishery-habitat-conservation>.

Member questions were focused on current stormwater infrastructure and mosquito ditches and how those are currently impacting habitat for juvenile fish. Ms. Saari responded that existing and planned stormwater infrastructure elements (built conveyances) as well creeks and ditches (natural conveyances) would be included in the hydrology modeling tasks.

Members asked project if recommendations would focus on redesign of existing areas or new development as well as the different habitats preferred by juvenile snook versus tarpon. Another member inquired if these are privately held parcels to which Ms. Saari responded that some are, and others are owned by development/construction companies. A committee member stated that many of the parcels are small and individually owned but there are also some individuals that own clusters of parcels. There have been attempts by development companies to buy these up and aggregate these parcels into larger lots. The member explained that one of the hurdles to this project is that it's not just the nature of these habitats but the nature of the stormwater system itself, and that because the platting pre-dates all modern stormwater codes and standards, they don't adhere to the same kind of stormwater requirements that you would have in a modern development. The member said that they are keeping an eye on what developers are trying to do in the area because if they do happen to come in and buy up a bunch of lots, there is an opportunity there to shape stormwater management more so than what can be done in its current state.

Another member mentioned that this will be useful to federal government advisement agency's when comment on permitting. Other members mentioned nearby restoration projects and how this research could be useful for their efforts. Ms. Saari said that the FWC's Division of Fisheries Management is taking more of a habitat approach to regional management, and they are interested in all the work that is being done in Southwest Florida to act as a pilot study to apply to other areas of the state.

Agenda Item #7 – FDEP SAV Statewide Restoration Program Announcement — Tom Reis, EcoSphere Restoration Institute

Mr. Tom Reis, EcoSphere Restoration Institute, briefed the committee on the progress of the statewide SAV restoration program. Highlights are as follows:

EcoSphere Restoration Institute is a non-profit organization, in existence about 20 years, that specializes in public-private partnerships that received funding for restoration on altered lands (e.g., habitat restoration, living shorelines, seagrass). Mr. Reis went over the results of the comparison between 2020 and 2022 seagrass acreages from the SWFWMD Seagrass Mapping Program, which has been collecting data since 1988. Except for St. Joseph's Sound and Clearwater Harbor, all areas in their region lost seagrass. These were not small losses; they are thousands of acres. This is a trend that seems to be going on mostly in west Central Florida including Charlotte Harbor. One major way to combat this is with water quality improvement projects another is with restoration. EcoSphere was awarded state appropriation funds to in 2023 to plant 100 acres of seagrass statewide. Eight acres were installed in Middle Tampa Bay and EcoSphere is securing permits to plant 4 additional acres in Tampa Bay, 6 acres in Sarasota Bay and an undetermined number in Charlotte Harbor with partners including FDEP Aquatic Preserves, FWC, City of Cape Coral, and SWFWMD. Federal, state, and sometimes local permits are needed to do so. This presentation designed to notify TAC members of the restoration effort and to seek their input to identify potential areas best suited for submerged aquatic vegetation restoration efforts.

One member recommended that a sub-group meeting be set up with the coastal counties, CHNEP, Sea Grant, FDEP Aquatic Preserves, and FWC to discuss seagrass replanting areas. The member explained that they would want to pick sites that demonstrate the best success where the seagrass wouldn't be outcompeted by algae and there is good water clarity and flow. In terms of permits, TAC members were aware of 2

ongoing projects with permits from FDACS: one is the cohabitation work from the Gulf Shellfish Institute in the Gasparilla Sound/Boca Grande area. The other is the Billion Clams initiative for putting clam beds in various areas around Charlotte Harbor.

Members agreed that the loss of seagrass should be addressed in multiple ways to potentially offset the destabilization of seagrass beds that is being seen in some areas, citing seagrass loss in Charlotte Harbor of over 3,000 acres mostly on the east wall due to macroalgae smothering. There were other areas experiencing shifts from continuous to patchy seagrass meaning they are destabilizing. A member asked if there are any success criteria or if the project is more like a pilot program, to which Mr. Reis responded that there is no success criteria required but that EcoSphere they would be interested to know what is working and why so that the methods can be adapted if need be. Mr. Reis added that USF has funding to do a very rigorous study on a very small subset of the 100-acre project and will be focusing on 4 locations. The data from that study will be very useful, not just for EcoSphere but for anyone doing any work with seagrass. Mr. Reis explained that they are doing a rigorous assessment of the areas that have been planted and hopefully they will assess them afterwards. Another member asked who was doing the planting, inquiring about citizen scientist volunteer involvement. Mr. Reis responded that they have a professional contractor that have the permits to harvest grass in submerged areas and have done similar work for many years. However, EcoSphere will bring 100 extra plants when the restoration is underway and have volunteers plant nearby.

Members commented on site selection, adding that areas experiencing shifts from continuous to patchy seagrass should be considered. The member suggested looking at not only the total acreage and change in presence absence, but also the shift from continuous to patchy or bare sand or macroalgae when selecting sites. Another member asked about the local patch dynamics in the restoration areas and what the minimum size of a planting is. The member also asked what is considered too far from existing seagrass (where they may be getting a different way of natural recruitment) versus closer where there is a benefit of possibly getting to fill in those gaps and some feedbacks between seagrass growth and the local hydrodynamics. Mr. Reis explained that for each acre roughly 4,800 plants are put in, but they do not make big squares and instead work within underwater contours, sediment, and around other vegetation and look for local conditions where there is optimal light and sediment conditions. Mr. Reis concluded that each site is unique, and the planting is tailored to each specific area.

Agenda Item #8 – Dona Bay Project Phase 6: Restoration and Monitoring — Brooke Langston, Sarasota County

Ms. Brooke Langston, Sarasota County, briefed the committee on the status of the Dona Bay Project Phase 6 Restoration and Monitoring. Highlights are as follows:

Sarasota County initiated the Dona Bay Project following the release of the Dona Bay Watershed Management Plan which was completed in 2007. The primary purpose of the Dona Bay Restoration Program was and is to restore the natural volume and timing of freshwater inflows to Dona Bay, as well as to provide other water resource benefits. The Comprehensive Watershed Plan provided a roadmap for Sarasota County to reverse some of the impacts of the slough project. The 5 program objectives were to return the whole ecosystem to a more natural freshwater/saltwater regime in the tidal portions in Dona Bay, to provide a more freshwater flow, to protect existing and future property owners from flooding damage, to protect existing water quality, and to develop potential alternate surface water supply options that are consistent with and support other program objectives. There are 6 phases for this project. Phase 1 was to create a 150-acre wetland enhancement by taking some of Cow Pen Slough and putting it through a control structure and that phase was completed about 10 years ago. Then Phase 2 began (which was just completed October 2023). Phase 2 was a big undertaking – which involved diverting water to a storage facility to restore some of the historic flow back over to the Myakka River. So as water levels increase and it floods, it will divert to the storage facility which will then in turn drain more slowly back over towards the Myakka River. A pipeline was constructed to reinforce this 380-acre area that is the square pond that was the former Venice minerals mining pit and has now become a major storage area for Sarasota County. A large portion of this project relies on divergent structures to move water primarily from Bay area towards either Salt

Creek or the Myakka River. Since the building of the latest divergent structure was completed in August 2023, there was great anticipation of the first flooding to see it in action. Unfortunately, there was not enough rainwater to flood the structure. Rain totals were less than average this year. Phase 3 will take 5 to 7 years to complete and is just beginning. It is an aquifer recharge that will be an ongoing project. There are test wells being put in now to see how the aquifer will work and what sort of filtration is warranted. It will cost tens of millions of dollars to complete and grant funding is being researched for relevant opportunities to support the test wells. Phase 4 is the Kingsgate weir just west of I-75 – where the creek comes under 75 very near the Fox Creek – just a little north of Oscar Sherer State Park. This weir was constructed in the late 60s and has been leaking for years. The structure has all been replaced and completion is approximately 2 weeks away. This will allow for it to be tapped off during storms. Drought years change the water levels significantly in that area. This area has a really big impact and a short timeline to get it completed (waiting for the supply chain to provide finishing detailed items). Phase 5 is looking at the Blackburn Canal which is also part of the Curry Creek ecosystem. It is south of Border Road. This was channelized as well in the 60s and early 70s to pull water from the Myakka basin over towards the west which changed salinity regimes. Phase 5 is in beginning stages and studies will be conducted to understand where to divert water to run back into the Myakka. This will improve the salinity, the flows, and the sedimentation in Curry Creek. Phase 6 – has some RESTORE funds set aside but will need to identify additional sources.

Phase 6 is the final monitoring and restoration element of the project. Sarasota County is seeking feedback from the CHNEP TAC on what is the current monitoring in the region and what should Sarasota County be monitoring? Sarasota County and other divisions and departments have a long history of monitoring in this area (approx. 20-30 years) for salinity and surface water quality in Dona Bay, changes in the distribution and persistence of health oysters, changes in the distribution and presence of seagrass, and changes in the distribution and native wetland species in the Bay. On the Sarasota Water Atlas there is consistent data since 2003 on water clarity; chlorophyll a; specific conductance; total nitrogen; total phosphorus; turbidity; dissolved oxygen; pH; and temperature. However, habitats have drastically changed since the original alterations and may begin to shift, the County would like to capture this as well. This is a long-term project, and the County would like to update goals and monitoring based on the new state of the science. Looking for additional data on current habitats or areas identified by stakeholders on what habitat values should be targeted for focus of monitoring and improvement?

Currently the County plans to continue to monitor salinity, water quality, seagrass and wetland habitats that may be impacted by the hydrological restoration long-term, but there is additional funding for monitoring for the next 10-15 and CHNEP TAC members are encouraged to offer suggestions and guidance on additional available data to build upon or new parameters or methods that should be considered based on the most up to date research.

TAC members asked about changes to hydrology in Blackburn Canal. Ms. Langston shared that modeling to determine how and where flows will be redirected to revert to a more natural hydrology will be a part of the upcoming project. Another member asked if there is an overarching vision of what a restored Dona and Roberts Bay should look like when the project is finished, to which Ms. Langston responded that there is great historical data on both seagrass and oysters in certain areas and monitoring will determine how much of those habitats return, the County is interested in expanding the monitoring to additional areas if there is justification. Ms. Langston asked if the Committee had thoughts or data pointing to targeted areas for restoration once water flows near the Kings Gate weir are restored and are there identified historical habitats that they should be trying to restore? Members agreed that shellfish and seagrass restoration may be needed to start a seed source in those areas that have been most affected upstream. There are other areas closer to the inlet that members suggested that natural populations could rebound on their own so restoration could be focused elsewhere. Another member offered that, from a seagrass perspective, the expectation will be that as that watershed returns to its more historical size, an increase in seagrass should be seen. The member commented that there has been about a 75% loss of seagrass in Dona and Roberts Bay since about 2006.

Most of the grass that occurs in that area now is patchy or sparse, mostly shoal grass in addition to both rooted and drift macroalgae. The member explained that when monitoring the seagrass recovery, it will be important to not only continue to measure acreage increases but species shift, density and macroalgae. If the seagrass in the area continues to be patchy or sparse, strategic plantings could lead to more continuous beds long term. Even though SWFWMD continues to map seagrass every two years using aerial photography, it may be a good idea to consider augmenting those 2-year aerial image acquisitions with additional aerial photography at least annually. It is a small enough area that it may be done with an unmanned drone rather than a fixed wing aircraft (which would reduce the cost). It may be beneficial to look at Dona and Roberts Bays in higher resolution to monitor change once the project is going. Another member commented that he had worked on the project previously and the team had a lot of data on salinity versus flow in that estuary. He explained that they looked at which species of oysters could be restored by reduction of freshwater (therefore increase in salinity). The member added that they supported one of the original overarching goals which was defining success in terms of restoration of oyster populations.

The member provided another recommendation to continue to partner with an NGO and garner public support for the restoration -encouraging interest in the community to kayak and fish the area so they see the value of the asset. A similar example would be the Sarasota County Celery Fields, partnering with Audubon Society. The member suggested that for upstream freshwater restoration areas reaching out to Audubon to encourage wildlife viewing would be helpful. Ms. Langston agreed that public support is crucial especially in this area that is so visible and already used by the public. Ms. Langston added that they are working with Sarasota County Parks to look for ways to incorporate Legacy Trail viewing areas or interaction, as well as working with the Beaches and Shores Department on how fishing, kayak use, and/or boating impacts the bay and how can the messaging be enhanced about the work being done to those user groups. They are working with the parks department to make sure that the restoration doesn't collide with recreational use as there is a lot of fishing, diving and other recreational use of the estuaries and creeks. Ms. Langston said that she does not believe that the Audubon Society or any other formal groups have been included yet but is open to incorporating the idea. Ms. Langston thanked the committee members for their ideas and plans to follow up on items and contacts accordingly.

Agenda Item #9 – Proposal to FEMA for Restoration Project Funds — Kevin Miller, U.S. Dept. of the Interior

Mr. Kevin Miller, U.S. Dept. of the Interior, facilitated committee member discussion on the proposal to Federal Agency Management Agency (FEMA) for restoration project funds. Highlights are as follows:

There is potential for the release of additional FEMA federal recovery funds for the region following Hurricane Ian and Idalia. The U.S. Department of the Interior along with other agencies are part of a technical advisory group for "Recovery Support Functions." This group advises FEMA on a range of issues, with the Department of the Interior focused primarily on natural and cultural resources. FEMA's primary mission is to assist communities in becoming more resilient and more sustainable in the face of continued climate change, increased catastrophic storms, and so forth following major catastrophic events. FEMA resiliency funding is not specifically geared toward ecological resiliency although this can be a component of it social and economic resilience and recovery.

This agenda item was to gather input from the Committee on restoration projects that would support overall resiliency to be included in a request proposal for FEMA funds that will be submitted by the technical advisory group on behalf of the region. Input will also be gathered from partners at an upcoming meeting of the Southwest Florida Estuarine Restoration Team (SWERT). A draft letter was sent to the TAC ahead of the meeting to encourage members to think big when adding to this proposal, suggesting projects that are going to be regionally significant. Members were also asked for input on 'shovel-ready' projects or those that are close so that when other funding opportunities present themselves, they may be utilized to move ahead. FEMA is looking to spend a large amount of money on recovery from Hurricane Ian and when looking at the investments that the entire Southwest Florida community has made, conservation-wise, it is

obvious that there may be an opportunity for FEMA to continue that investment in communities' sustainability and resiliency through ecological restoration. Mr. Miller posed two questions for committee discussion: 1) what would help southwest Florida communities become more sustainable and resilient in the face of climate change and increasing catastrophic storms, and 2) what systemic or institutional changes are needed to improve how ecological restoration is planned and implemented?

A committee member asked what the timeframe is on the proposal, to which Mr. Miller answered that it is December 2023. Another member suggested a big-picture idea regarding Cape Coral. The member explained that there is a grid system of canals with no infrastructure, no stormwater treatment and no sewer, which would benefit from funding for large-scale infrastructure improvements and contribute to estuarine water quality and resiliency. He explained that Sanibel was very resilient due to infrastructure projects even though it was completely inundated, but other areas did not have these protections in place. The member expressed concern that infrastructure will be pivotal considering the rate of re-development following the storm. Members discussed similar examples of large-scale projects in the area such as the C-44 Reservoir that has 6,000-acre stormwater treatment system. The member suggested that the C-43 Reservoir doesn't have any stormwater treatment and could benefit from FEMA funding to provide stormwater treatment before that water is discharged into the estuary. He added that there are no plans or money for that currently. Mr. Miller replied that this is one of those general issues that should be considered, dealing with both hydrology and treatment of stormwater so that it doesn't impair the estuaries.

Another member stated that it would be great to get clarification on what specific projects would be most appealing for consideration of FEMA funding. The member asked if they are looking for centralized boots-on-the-ground projects that are addressing the point of impact or if they would consider programmatic or broader scale projects to address sources or causes of some of the impacts that they see down in the ecosystems that we are trying to restore. For example, one of the big hurdles is trying to figure out how to fund and support more green infrastructure upstream to allow for better stormwater infiltration and attenuation before it even gets out into these sensitive and more impacted systems. The member asked if could propose something a bit more broadscale related to source control and source management rather than physical restoration. Mr. Miller responded that FEMA does not have a preconceived notion of what this proposal could look like and prefer that the work be stakeholder driven. This is why Mr. Miller was asked to speak at the meeting – to tap into stakeholders from around the watershed because so much happens at the upperparts of the watershed that influences what happens in the estuaries. He explained that there tends to be focus on the estuaries and this discussion prompts us to think about what we could be doing for the watershed. A member from upstream at the headwaters of the watershed commented that some of the big issues that his area is trying to solve is source control, stormwater, how to promote implementation of more green stormwater infrastructure and low impact development. The member explained that smaller municipalities or county governments may not have the support or the funding to push this to development communities. The member added that another component of that source control is how to fund more septic-to-sewer conversion projects. Mr. Miller responded that EPA is strongly promoting those ideas as well and this may be a good big picture idea for the proposal. Mr. Miller stated that because of the structure that FEMA is working under right now, these groups are trying to integrate what they are doing more and more. EPA has a project that they call "Watershed Resiliency," and it is largely looking at stormwater controls and green infrastructure, and so they are trying to do things together. For example, in the Peace River there is a project going on right now that the Department of the Interior is doing with the National Park Service, where they are helping plan throughout the Peace River corridor what are essentially stormwater controls in the guise of parks and greenways. This is also aimed at integrating with what the EPA is doing. Mr. Miller commented that these storm recovery situations present the opportunity to do some of this integration with the hopes that the lessons learned may be applied to normal day-to-day operations and can get the resources from the federal government out to the local communities.

Ms. Hecker stated that there has been work done for decades such as the Southwest Florida Feasibility Study. She commented that when the Comprehensive Everglades Restoration Project (CERP) was

envisioned, there was a second phase envisioned to give greater attention to Southwest Florida, since the C-43 Reservoir and the Picayune Strand were some of the only projects on this coast. At the time, the Corps and the Water Management Districts developed this plan. Since then, pieces have been broken off and there has been advancement - for instance, the South Lake County Watershed Initiative, the Charlotte Harbor Flatwoods Initiative, these mini-Everglades projects in the western Everglades that are outside of CERP but are complementary to it. She believes those projects could be advanced for more funding even though they are not “shovel-ready”, they are between a conceptual modeling down to the engineering and design phase. She stated overall, healthier systems are more resilient systems, and that hydrological restoration is part of making them more resilient. For instance, fighting saltwater intrusion with more freshwater flow outward will help prevent premature saltwater intrusion into areas - to stave off some of the impacts of that. Ms. Hecker also mentioned that with the rainfall modeling, the most recent data from Southwest Florida is that everything is going to get much flashier, wetter wet seasons and drier dry seasons, more focal rain bombs with other areas next door being dry. Our current hydrological restoration projects need to be amped up with even more storage to mitigate some of the impacts from climate change with the changes to rainfall across South Florida. Another member added to this comment that when thinking about resiliency, we also want to plan for drought. The committee member explained that there’s an industry of stormwater drainage engineers that we should connect with ecological restoration and fisheries people to propose big changes. He added that that there is a model for this in the Chesapeake Bay.

A member commented that with all of the natural disasters that FEMA has responded to, there must be case studies of different communities where recovery efforts have taken place that would be a low-impact design versus a highly developed community and recommendations or requirements for development may be made based on those case studies. The member concluded that, in terms of systemic change that would be helpful to get projects going, it would be great if there was a Federal Clearinghouse with an advisor that is familiar with Southwest Florida that can direct them to where to find the money needed for projects. With smaller municipalities with only 1 or 2 people that are researching the project, designing the project – sometimes deadlines come up without them knowing where to find the specific money to meet their restoration needs and then the money is gone. Mr. Miller responded that it does exist – it’s called [grants.gov](https://www.grants.gov) - and that it is very cumbersome because that is the federal government. Ms. Hecker offered the CHNEP was working with the EPA to propose a technical community assistant specialist housed in the CHNEP offices as the point person to help people to navigate the grants system in general. This would involve working with community partners to help isolate grants that pertain to their specific projects, writing those grants and getting those grants submitted. CHNEP is waiting to hear back on this proposal and suggested these positions could be funded through Hurricane Ian funds and set up in affected communities. Another member commented that there a lot of projects in his community that would dovetail perfectly with this. He explained that not all communities have time to be aware of these funding opportunities, stating that the position CHNEP applied for would be a great start. Mr. Miller thanked CHNEP for the invite and for all the comments that were offered.

Agenda Item #10 — Estimating the Nutrient and Carbon Storage Benefits of Restoring Submerged Aquatic Vegetation, Applied to *Vallisneria americana* in the Caloosahatchee Estuary — James Douglass, PhD, Florida Gulf Coast University

Dr. James Douglass, Florida Gulf Coast University, presented results from recent research to estimate the nutrient and carbon storage benefits of restoring submerged aquatic vegetation (SAV). Highlights are as follows:

Ecosystem services relate to the ecosystem functions that benefit humanity. Some of these services are the provisioning of food and clean water; the protection of coastlines; the regulation of the climate; and the processing of wastes to name a few. Because there is this recognition that nature does things to benefit humans, there have been increasing efforts to quantify those services. This quantification is called “ecosystem services valuation.” These valuations are brought into consideration when people are deciding

whether to destroy, protect, or restore an ecosystem – what will be lost, what will be gained, etc. The ecosystem that is at the heart of this presentation is the oligohaline tape grass beds or *Vallisneria americana/Vallisneria neotropicalis* in the Caloosahatchee Estuary. The *Vallisneria* was abundant from downtown Fort Myers to the head of the estuary but was decimated by saltwater intrusion events in the early 2000s. In a 2020 survey, one of the things that was different was that throughout the *Vallisneria* which was once throughout the upper estuary was now only found in remnant areas. To try to combat this, different have been involved in restoration efforts. These efforts include planting and the use of anti-herbivore cages which allow the plant to grow and thrive without interference by species feeding on it. One of the problems with the loss of this vegetation is that once the levels are reduced to a certain level, it is hard to bring it back. On a positive note, there have not been too many salinity- intrusive events in the upper estuary but the *Vallisneria* is not coming back on its own. Restoration is expensive so it is important to know what can be gained. As to ecosystem functions and services from the Caloosahatchee *Vallisneria* there is: enhanced fisheries production with plants being eaten by invertebrate which in turn are eaten by small fish which are then eaten by large fish; there is increased food and habitat for wildlife, manatees, birds, etc., which then leads to an increase in tourism dollars; there is sediment stabilization which leads to reduced turbidity, reduced shoreline erosion, and the reduced need for dredging; and there is the removal and storage of pollutants including carbon sequestration (which reduces anthropogenic climate change a little) and nitrogen and phosphorus removal (to prevent harmful algal blooms).

Nutrient cycling in SAV occurs by absorbing nutrients through their glades and through the sediment floor. Thus, the nutrients are no longer in the water where they can create algae blooms – they are locked away in the tissues of the plant. The nutrients may also become stored under the ground in the roots of the SAV. The end goals of quantifying nutrient services were to estimate the quantity of carbon (C), nitrogen (N) and phosphorus (P) which is stored in the tissues of living *Vallisneria* in the Caloosahatchee Estuary; to estimate the rate of C, N and P storage in sediments in *Vallisneria* meadows in the estuary; to do all the estimates for current abundance scenarios as well as full restoration scenarios; and to bound the estimates within ranges of uncertainty. For the habitable area estimate, there was an assumption that the grass would not grow deeper than one meter depth, then there was a biometry layer for the estuary from the South Water Management District. For the part of the estuary upstream of the Interstate 75 Bridge there wasn't a comprehensive biometry layer, so a different method of estimation was used - it was based on the average distance from the shoreline to one meter which was multiplied by the length of the shoreline. For the deposition rates, this part of the study relied on literature values. The research entailed searching the literature on SAV systems as to what the rates of deposition of C, N and P were, and from the literature, a low-end centered estimate and high-end values were obtained. There was a range of values for each parameter of the deposition rates of C, N and P. Then the math was done involving multiplication and division. It started with taking shoot density, multiplying it by biomass per shoot and that would determine biomass of a per meter squared area of the plant. That could then be multiplied by the percent of C in the plant to determine the C per meter squared. Then that would be multiplied by the habitat area to get the total amount of C in the Caloosahatchee Estuary. For the N and P, there was an additional step where you would have to divide by the CN ratio, divide by the NP ratio, to get the N and P amount. The results of all that multiplication and division would be the total storage of CN or P in the *Vallisneria* tissues. There was a similar set of calculations in the sediment storage deposition. There was an attempt to account for the fact that deposition rates have been shown to be proportional to the density of the SAV. Some of the patterns in the results included that there is more C in plants than N and there is more N in plants than P. There is about 10 times as much C in plants than N and about 10 times as much N than P. There would be even more storage in the restoration scenario than the current scenario and it is quite a difference. It is more than a 2 order of magnitude difference in the estimated C storage between now and the potential future restoration scenario mentioned. The amount of C, N, or P stored at any one time in the biomass of the plants is a lot less than the rates that are being deposited into the sediment. As for the conclusions and caveats - not much C, N, or P is stored in the Caloosahatchee *Vallisneria* in its current sorry state; in orders of magnitude, more would be stored if it were restored to its 1990s abundance; storage by sediment deposit may far exceed tissue storage - but direct field measurements are needed; N removal through denitrification could also be

significant but was not included in these calculations; long-term stability is necessary for long-term storage; and biota, other than *Vallisneria* (e.g., macroalgae, bivalves) may also influence C, N and P cycling and storage in the Caloosahatchee. In the current state of the Caloosahatchee, there is more seaweed than seagrass.

A committee member asked if including measurements of dissolved oxygen was considered to track with the nutrient uptake, to which Dr. Douglass responded that those measurements were not considered but that it is a great idea. Dr. Douglass commented that quantifying oxygen production of restoring these habitats could be a future addition to the study. Another member asked if there was any reference site where the sediment could be tested to see what the carbon content and the C:N ratio was to determine whether it had the kind of carbon that the literature value has and if denitrification is happening. Dr. Douglass responded that he did not have Caloosahatchee-specific data and they used literature values for that from other estuarine, marine, and freshwater systems. Dr. Douglass added that that would be the next step for the study as well. The member asked if they thought about where they would test the soil, to which Dr. Douglass responded that they would most likely need a permit depending on where that was and how much they were taking and that it might be difficult to find dense vegetation in the tidal Caloosahatchee now so this would likely be West Florida estuarine systems that have a lot of *Vallisneria* now. There have been some successful restoration projects that have brought a lot of thick beds of *Vallisneria* back into the oligohaline estuaries and the sediments in those areas can be looked at as well.

Another member stated that in the Winter Haven area there are quite a few freshwater lakes. There are a lot of good parallels between nutrient budgeting and the amount of SAV that Winter Haven has in its lakes. The member explained that organizations like DEP have stipulated that the removal of invasive aquatic weeds like Hydrilla through mechanical means come with some form of nutrient reduction benefit. The committee member inquired if this sort of methodology could be adapted to calculate the nutrient removal of some of these methods. The member stated that there are obviously a lot of caveats associated with that. The committee member also asked if Dr. Douglass knew of any researchers that are looking into those sorts of practical applications. Dr. Douglass was interested to see what the potential crossover is between methods that are used for nutrient budgeting for freshwater phyto-remediation systems using the aquatic plants and harvesting them to purify the water and this kind of system and asked if the member had any references to send them his way so that he can see what people are doing in freshwater. Dr. Douglass pointed out that they are trying to grow this plant in the estuaries, but it is growing well already in ponds and canals and encourages Committee members to explore how to better support this growth if it occurs in their areas.

Another member offered that Martin County did an experiment on this and looked at the nitrogen and phosphorus uptake, as well as looked at fecal coliform reductions but additional research is needed to quantify stormwater benefits for municipalities. Another member was wondering if there was any interest in looking at sediment denitrification flux and content where there isn't vegetation - such as canals and navigation. Dr. Douglass said that in a still water system, there can be a lot of sediment sequestration of C, N, and P even without vegetation. He added that given the water movements in the system, both tidally and from river flow, bare sediment habitats in this system probably do not sequester as much as they would in a still lake or pond but that is something that should be examined in future studies.

Another member said that she knew that there were a lot of factors in play, but she asked if there was a major factor in preventing the recovery of grass in the Caloosahatchee River or if there are multiple factors. Dr. Douglass responded they know it is not just salinity because they have done pretty well with salinity since about 2011 but the plant has not recovered on its own. Other factors could be optical water quality and herbivory. One indirect form of evidence that optical water quality is lending in the recovery is how much faster recovery has been in spring-fed estuaries to the north like Homosassa and Crystal River where they lost *Vallisneria* in that area for various reasons in those estuaries and the same kind of planting restorations seem to be a little more effective up there so the optical water quality may play a role. The

Caloosahatchee Estuary is naturally tannic. Dr. Douglass also explained that too much run-off across the surface of the land will cause too many tannins and this could be considered one of its quantitative pollutants - it's natural but the excessive amount is not natural. He added that there could be light limitations, changes in sediment that are limiting factors and maybe the multi-stressor factor of all those things that is contributing to the Caloosahatchee Estuary. Another member commented that in Crystal River, SAV restoration with *Vallisneria americana* involved about 63 acres restored since 2016. The member explained that just recently, due to Hurricane Idalia, there was a huge inundation of saltwater and the majority of above ground biomass of *Vallisneria* has dropped off- asking if restoration is sustainable long-term. Mr. Ceilley explained that a similar event happened during Hurricane Michael, where the salt wedge came up into the Caloosahatchee system and they saw a die off of grass in the deeper areas, but it subsequently recovered. There will be re-assessments done of these areas in 1-year, 3-year, and 5-year phases. Dr. Douglass thank the Committee for their comments and additional considerations for future work.

Agenda Item #11 – Condition Assessment of Past SWFWMD Restoration Projects — Mark Walton, Southwest Florida Water Management District

Mr. Mark Walton, Southwest Florida Water Management District, presented on the condition assessment of past District restoration projects. Highlights are as follows:

This presentation is an update on a project that has been worked on for the past 2-3 years. It is about looking at past projects that the SWIM program has completed whether they be District-initiated projects or projects that were cooperatively funded with the other entities. There are 2 components to this – conditions assessment and the database with all the projects' data compiled to be used as a tool to go back and review. One of the drivers for this is that SWIM has been doing projects in this section since 1987 and many of the records of what was done back in the 80s and 90s are paper plans and projects in boxes that are not readily accessible. This data is not at hand when information requests come in or when current practitioners need to understand what has been done previously and how people can follow in their footsteps. There are 2 sides to the project: the geodatabase and the site assessments for an adaptive management framework. Many different sources of information are brought together such as project plans, metrics, costs, and benefits, how many acres were restored, what types of projects, how cost effective each was, how many acres a particular habitat has, etc. This makes it very easy to filter data for query and enables them to be viewed as dashboards and web applications. It is also visually appealing and usable – not just for this section or the District, but for so many others who are doing different projects out there and for those who are researching what's been done previously. The District has been involved in a lot of restoration over the years and it is trying to create a tool that everyone can tap into. The motivation for site assessments was to put eyes on these past projects – did it work, was it restored, etc. The District will have metrics that say that since 1987, it has restored 15,000 acres – how much of that is still restored? Were the plantings (or removals) successful? Are they being maintained? Are these projects – funded with taxpayer money – being protected? In terms of feedback, what can the District do better in its next project? The District started by going out to 81 sites around Tampa Bay to develop criteria to determine how the District can tell if these projects are doing what they said they would. During this past year, an additional 42 sites were looked at with another 35 planned heading into 2024. The goal is to revisit all sites every 4 years – 25% per year.

The assessment methodology used was taken from UMAM – rapid visual assessment, a qualitative observational-type project which looks at a suite of indicators and for visual cues. This is used to gather data rather quickly. What is important in these projects is that there is not always the expectation that these restorations will become pristine habitats in the future. Maybe they are about particular ecological functions, erosion control, hydrological connectivity, holding water back, or stormwater polishing. There are many different goals of restoration, and they don't all do the same thing. When assessing these projects, it is critical to know what the expectations are. Oftentimes, that is the information that is forgotten over time. This is where the geodatabase is so important because it can pool all the pieces of information that went into the scope. All that information helps to conduct the assessments and helps the “next generation”

practitioners to go back in time to put themselves in the shoes of who was conceiving these projects. These assessments do not involve a lot of measurement per se, but it answers whether it presents as expected. The assessment methodology includes several questions, and the answers are graded on the different levels. The answers are loaded into a survey. In the field, there are a suite of pages that are loaded onto a tablet. The idea being that once in the field, the assessment can take place rather quickly. There are different efficiencies for using Survey123 (a platform for mobile mapping). It can drop down texts and link to different information sources. During these assessments, there can be a delineation between the different areas that are being assessed. This is because, in particularly larger sites, there may be different goals for different areas within these sites. The 3 main areas that are being looked at are: location and landscape support – size and shape of the site – initially done as a GIS mapping exercise, the landscape intensity index that DEP uses, surrounding land use, edge impacts, connection to natural areas, and population pressure; water environment – surface water flow, levels, and connectivity, erosion and sedimentation, soil infiltration, water quality, aquatic habitat zones, and stormwater infrastructure; and vegetation community – native and exotic cover, vegetation health, species diversity, recruitment and age diversity, and structural habitat/topographic refuges. The process for each category includes describing the condition, scoring it out of 10, and weighing the scores across the site by area. The advantage of putting all the data into Survey123 is that it very quickly can be put into an accessible dashboard, with the information presentable and ready to be showcased. This also feeds into the larger geodatabase for which there is a web application. There are widgets and tools that can help one get a key into the data. Some of the scoring observations of the projects assessed (which are not really findings) included: wetland creation and hydrologic restoration score is higher for vegetation indicators; managed preserves are in better condition regardless of age; unmanaged or intermittently managed projects had often regressed; upland edge effects on narrow creek and shoreline projects were significant; narrow shoreline projects suffered from the impacts on the upland edge and the intensifying wave energy; there was hurricane damage to some sites but usually not the biggest factor in site condition; and landscape/location is a reasonable predictor of a project's success – size, shape and surrounds. Some of the lessons learned were that restoration sites may never reach a self-sustaining state; there is a need to manage edge effects and encroachment; there is a need for project designs for changing climate and hydrologic regimes; qualitative monitoring can be effective; and it is important to understand past intent of these projects. So, going forward, SWIM restoration geodatabase can be used to find consolidated project queries and analysis; doing a deep dive can lead to cost-effectiveness, the best designs, and the best plants, etc.; monitoring is needed to protect District investments as there are perpetual maintenance clauses in the contracts; and undoubtedly, learning from the past can inform the future.

A committee member commented that in some of their restoration and reclamation projects, they usually end up with conservation easements over the completed restoration. The member added that the ACOE and FDEP have recently included in their long-term management plan that they do 5-year updates from the baseline on that conservation easement, and that goes on until all the partners deem it not necessary. They have been going back every 5 years and comparing against the baseline and determining if there is any maintenance needed. The member concluded that the long-term management plan application of a 5-year look-back has worked well for them. Mr. Walton responded that for the District's cooperative funding, they often specify that a conservation easement be put on that site as well. He thanks the Committee for their comments and hopes they will be able to make use of these valuable resources for future project planning.

Agenda Item #12 — CHNEP Technical Projects Updates — Nicole Iadevaia, CHNEP

Ms. Nicole Iadevaia, CHNEP Director of Research & Restoration, provided the committee with a brief overview on project progress since the previous TAC meeting. Highlights are as follows:

The Coastal Charlotte Harbor Monitoring Network (CCHMN) Fall activities included annual field audits conducted with each sampling partner. The CCHMN Annual Meeting was held in September which included a review of field audit results and discussion, standard operating procedures (SOPs), improved data collection and QA/QC and instrumentation configurations and calibrations. This meeting also featured

presentations from SWFWMD on Optical Modeling and PAR Data Collection, Charlotte County on Water Quality on data applications for understanding impairment as well as University of Florida Center for Coastal Solutions on Coastal Charlotte Harbor Monitoring Network (CCHMN) 2000-2021 Data and Trend Results. All FY2023 data collection was completed and invoiced (September). Field and laboratory partner participation in the Southwest Florida RAMP's quarterly meetings and split sample analysis took place in October.

The CHNEP Water Atlas has new waterbody pages. CHNEP provided Water Atlas with a new structure for the overhaul of the site; pages will be presented with associated FDEP WBIDs and appropriate impairment criteria and explanation. WQ dashboard dials, associated data, and 4 interactive mappers. The Water Quality Rends Page will feature an interactive mapper with a 10-year and "Period of Record Trends" (up to 2022). The map will show a summary of the results of a Seasonal Kendall Tau statistical analysis for trend by station and CCHMN stratum. CHNEP's Water Atlas will now feature special project pages including the landing page for the Place-Based Recreational Fishery Project. This project was recently awarded \$1.2 million from NOAA Restore and will include: fisheries research, mapping and modeling as well as the creation of decision-making support tools for county and state governments that prioritize locations for restoration and protection of the juvenile snook and tarpon habitat (<https://chnep.wateratlas.usf.edu/fishery-conservation>). The partners included are FWC, BTT, CHNEP and Charlotte County.

In terms of Restoration, the Myakka Headwaters Preserve Restoration is a 2022-2023 project fund and project manage the restoration/enhancement project. The project is on 363 acres of conserved land within Flatford Swamp (Myakka Headwaters Preserve) which is the Myakka River's largest forested wetland located in Manatee County. The partners in this project are SWFWMD and Conservation of the Gulf Coast. The objectives are to remove exotic plants and replant native plants to restore wetlands. The potential and ideal outcomes are enhanced aquatic habitat, flood protection and improved water quality. The projects updates are as follows: project plantings and associated work at the 2 strategically selected sites were completed in December; treatment of exotic species in a 20-acre floodplain forest and a 4-acre basin forest described under Tasks 1b-c were completed in April during the dry season while funding agencies conducted a site visit in May; and for the final step, a project report will be submitted in mid-December to close out the project and a final site visit will also be conducted by all partners to review the progress at the site with the report to include detailed methods, results, and discussion (e.g., recommendations for land management, both onsite and at other area restoration sites based on project results).

Other upcoming projects will include: Comprehensive Vulnerability Assessments – CHNEP has held meetings with Lee and Charlotte Counties (FY22 BIL) as well as Polk and Highlands Counties (FY23 BIL) and partner Central Florida Regional Planning Council to discuss logistics/funding agreements and scope of work for their VA and the project will be tailored to each County; Charlotte County VA is in the final stages of the procurement process then the firm selected will begin the work; the goal is to complete all 10 County Vulnerability Assessments over the next 5 years (DeSoto and Hardee Counties are set for FY24, Sarasota and Manatee Counties for funding in FY25, and finally Glades and Hendry Counties for funding in FY26). Yucca Pens Hydrological Restoration Planning Project (FY22-23 BIL) has been added to the work plan, partner meetings have been held, and the procurement will begin when the FY24 BIL funds are received. The Pine Island Flatwoods Restoration and Tiki Point Harborwalk Living Shoreline Project partner meetings have been held to discuss logistics and scope, and the projects can begin in 2024.

Other technical collaborations include: CHNEP finished gathering partner data for 2023 NEPORT Congressional Reporting Survey to report on their annual conservation, management, and restoration accomplishments; this included over 100 habitat entries that were accepted. CHNEP drafted a Letter of Support for the USFWS proposed Everglades to Guld Conservation Area, created a webpage asking for public comments in support, and reviewed the USFWS draft plan and sent technical comments to USFWS staff. CHNEP also participated in an interview on aquaculture science with Sea Grant and NOAA's

Southeast Fisheries Science Center. CHNEP produced updated Water Quality Fact Sheets by Basin which are available on the CHNEP Water Quality Fact Sheets webpage (<https://www.chnep.org/water-quality-fact-sheets>). CHNEP also contributed technical comments and links to CHNEP publications and other resources for updates to the Coastal Habitat Integrated Mapping and Monitoring Program Report for the State of Florida (Number 2).

Ms. Hecker commented that all efforts are the result of the work done by the CHNEP Team and that additional team members will be added in the coming months due to almost doubling the workload. Ms. Hecker also stated that it is exciting to see this money get out into the field and that CHNEP is happy to be a part of it.

Agenda Item #13 – TAC Membership Updates — Ernesto Lasso de la Vega, Co-Chair

David W. Ceilley, Aquatic Ecologist – Starting Monday (12/4), 75 acres of *Vallisneria* will be started to be restored in the Upper Caloosahatchee Estuary, between I-75 down to the US-41 bridge.

Chris Anastasiou, Southwest Florida Water Management District –flight windows open in December for the 2024 seagrass maps image acquisition and goes through the end of February 2024 (weather permitting).

Ernesto Lasso de la Vega, Lee County Hyacinth/Mosquito Control District – Sarasota is having the Eco Summit next week, with an expo starting this weekend at the Van Wetzel.

Agenda Item #14 – Public Comment – Ernesto Lasso de la Vega, Co-Chair

There were no comments from the public.

Agenda Item #15 – Future Meeting’s Topics, Location and Date – Mark Walton, Co-Chair

Upcoming CHNEP TAC Meetings dates: 4/11/24, 8/8/24 & 12/5/24. If you have ideas of new research and restoration topics and/or presenters (including those outside the CHNEP area if applicable to CHNEP CCMP efforts), please email CHNEP Director of Research & Restoration Nicole Iadevaia at niadevaia@chnep.org.

Agenda Item #16 – Adjourn.

The meeting was adjourned at 1:43 pm.