GULF COUNCIL

ECOSYSTEM COMMITTEE

Gulf Council Office and Virtual — Tampa, Florida

June 4, 2025

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The Ecosystem Committee of the Gulf Council convened at the Gulf Council office in Tampa, Florida on Wednesday morning, June 4, 2025, and was called to order by Chairman Kevin Anson.

ADOPTION OF AGENDA
APPROVAL OF AUGUST 2024 MINUTES
ACTION GUIDE AND NEXT STEPS

CHAIRMAN KEVIN ANSON: I would like to go ahead and call the Ecosystem Committee to order. It's Tab Q in the documents, and, before we get into the items on the agenda, I just want to confirm the members on the committee that include myself, of course, Dr. Frazer, Dr. Banks, Mr. Donaldson, Ms. McCawley and Dr. Sweetman, Mr. Montegut/Mr. Schieble, Mr. Osborne, Mr. Geeslin, Mr. Sanchez, Mr. Strelcheck and Mr. Helies.

The first item on the agenda is Adoption of the Agenda. Are there any changes that need to be made to the agenda? I'm not seeing any. Is there any opposition to approving the agenda as written? I'm not seeing any, nor am I seeing any hands up on the screen, and so that will move, and so the agenda is adopted.

The second item is the Approval of the August 2024 minutes, Tab Q, Number 2. Are there any edits that need to be made to the minutes? I'm not seeing any. Is there any opposition to approving the minutes as written? I'm not seeing any hands up, or I'm seeing some nods, and so the minutes are approved. That will take us to Item III on the agenda, the Action Guide and Next Steps. Dr. Wang.

DR. VERENA WANG: Thank you, Mr. Chair, and, if it's all right with you, we can move through the action guide item-by-item.

CHAIRMAN ANSON: I prefer maybe we go with the one item, and then let's read it one at a time.

ECOSYSTEM TECHNICAL COMMITTEE RECOMMENDATIONS ON FISHERY ECOSYSTEM PLAN

DR. WANG: Perfect. All right. Great, and so, first up, we have Agenda Item Number IV, which is the Ecosystem Technical Committee's recommendations on the fishery ecosystem plan. The ETC met on May 9th to discuss the fishery ecosystem plan. Staff will provide an overview of progress toward development of the fishery ecosystem plan, and this includes an update on the council's Inflation Reduction Act projects, one of which is directly related to the fishery ecosystem plan, and the other, which is a project that's geared toward regulatory streamlining.

Staff will review the recommendations from the ETC about the draft structure of the fishery ecosystem plan, the steps within the fishery ecosystem issue loop, as well as their recommendations for the scope of work for a social science consultant to support the fishery ecosystem plan stakeholder engagements.

The committee should review the meeting summary, provide feedback on the draft structure of the fishery ecosystem plan, the fishery ecosystem issue loop, and the objectives for the forthcoming social science consultant, and, if it's all right with you, we can move into the presentation.

CHAIRMAN ANSON: Please.

DR. WANG: Bernie, if you could pull up 4(b), please. Thank you. All right. Before we get started, I just wanted to pause here for a second to acknowledge that the ecosystem stuff has a ton of acronyms that all kind of sound the same. They all have an "E" in them, and so, aside from the Ecosystem Technical Committee being the ETC, I'm going to try my best to stay away from the alphabet soup and actually say all of these things, but these acronyms do appear on some of the following slides, and so, if I trip up, or if you need a reference, this is going to be your cheat sheet here on Slide Number 2.

Before we dive into the fishery ecosystem plan, we thought that it would be useful to provide the committee with an update on the council's Inflation Reduction Act projects, and so, as a reminder, at the end of 2023, it was announced that there was going to be a funding opportunity available to the regional councils to conduct projects that were geared toward climate-ready fisheries management.

At the beginning of 2024, staff worked on project proposals and worked with NMFS to refine and revise those proposals, and the final projects were approved and funded in August of 2024, and so the council has two main projects, and the first project is the one that is on this slide here, which is a project that's geared toward management integration and response.

The spirit of this project is really in recognizing that fisheries management is slow and deliberate, by design, but, in being slow and deliberate, it often means that management is lagging behind the science, and so the aim of this project is to improve the timeliness of integrating updated scientific information into management decisions, which is good practice in general, but it's something that's going to become more and more important as both science and management try to keep up with the pace of change.

We are going to approach this project as kind of a two-step process, and it's going to involve bringing on two different consultants, and so the first consultant is what we're calling the program review consultant.

The program review consultant is going to be responsible for conducting a review of the regulatory processes that are being conducted across the other regional management councils, and the goal here is really to identify processes that the other councils are using that are innovative and that were designed with efficiency in mind and with improving the uptake of scientific information.

One possible process that this first consultant could look into is the percent change approach that's being used by the Mid-Atlantic Council. This is an approach that has been previously flagged as being of interest to the council, and it's also something that the rec initiative working group has found to be very interesting, and so the percent change approach is what the Mid is using to set the harvest levels for some of the recreational species, for two years at a time, by sort of automatically determining the percentage by which the recreational harvest for the next two years is either liberalized or reduced, based on a formula that takes into account the projected harvest levels and the current biomass levels.

That's kind of an efficient way of sort of automatically setting harvest levels that the Mid is using, and so that's just one approach that this first consultant could look into.

They're also going to be responsible for looking at the data streams that are required to accomplish these things, and kind of taking into account the unique data situation that we have here in the Gulf, and they're also going to be looking at the amount of time that it takes to both develop and implement some of these processes.

The request for proposals for this first consultant is open now, and it's been open for about a month, and it closes this Friday, on June 6th, and so, just to give you guys an idea about timing, once the RFP closes, we'll start the process of reviewing proposals, selecting a consultant, with the hope of executing a contract for this first consultant in July and having them present their findings to you all in November. That is the first consultant.

The second consultant is what we're calling the process streamlining consultant, and the goal for the second consultant is

really to work to operationalize the results from the first consultant, and so they're going to be working with staff, and with the council, to prioritize the processes that are identified by the program review, both in terms of what is of interest to the committee, and to the council, but also in terms of what is feasible, given the data that we have that we have to work with, and the regulatory environment that we're working in, and also working with staff to develop the actual mechanisms to implement any regulatory processes that are viable, that are identified in this program review.

That is the first project for the Inflation Reduction Act, which is a project that is geared toward regulatory streamlining, and I can pause here for a second, if we have any questions about this project.

CHAIRMAN ANSON: Any questions from the committee? I'm not seeing any.

DR. WANG: Great. Thank you. Next slide, please, Bernie. All right, and so the second project is a project that is directly related to what is on the agenda for this committee today, and so the second project is geared toward completing the development of the fishery ecosystem plan for the Gulf.

Of course, the fishery ecosystem plan has been in development here in the Gulf for quite a while already, but the aim of this project is really to carry us over the finish line, both with the completion of the writing of the actual fishery ecosystem plan document itself as well as starting to work on some fishery ecosystem issues, including a pilot red tide fishery ecosystem issue and perhaps starting to think about some climate-focused fishery ecosystem issues.

I will provide the committee with a refresher about the fishery ecosystem plan, and what the fishery ecosystem issues are, in the next couple of slides, since I know that it's been a minute since we've thought about the fishery ecosystem plan in this committee.

The last point that I want to mention is that, for this project, we now have funding to bring on a social science consultant to help develop and conduct the stakeholder engagements for the fishery ecosystem plan, and I'll come back to that in the last couple of slides in this presentation.

All right, and so we thought that it would be useful to start off with kind of an overview of where we are, and where we've been, with the fishery ecosystem plan in the Gulf before we start talking

about where we are moving forward.

In October of 2018, the council passed a motion to begin development of the fishery ecosystem plan and to establish the ETC, and so the Ecosystem Technical Committee, the ETC, had its inaugural meeting in March of 2020, where they really started to discuss the overarching goals of what a fishery ecosystem plan for the Gulf could be.

In February of 2021, the council contracted LGL to develop the fishery ecosystem plan for the Gulf, and so, a couple of times that year, in 2021, the ETC met to receive updates from LGL and to provide feedback to them as they were developing the Gulf fishery ecosystem plan.

In April of 2022, LGL presented their final product to the council, and the council approved of LGL's fishery ecosystem plan draft as a framework for continued development of the fishery ecosystem plan, and so, a couple of times in 2023, the ETC met to kind of carry that vision forward.

They met to discuss modifications to the fishery ecosystem plan itself, to the structure of the fishery ecosystem issue loop, and they talked about how to prioritize fishery ecosystem issues, and they recommended some fishery ecosystem issues to the council, and so, in October of 2023, the council approved of red tide as a pilot fishery ecosystem issue, and, in August of 2024, the council received the Inflation Reduction Act funding to begin work to support the completion of the fishery ecosystem plan, and not on this slide is the ETC met in May to continue work on the fishery ecosystem plan.

The LGL vision for a fishery ecosystem plan, and the plan that was approved by the council, is to develop a fishery ecosystem plan for the Gulf that is built upon individual fishery ecosystem issues, and so this is meant to be kind of a tangible way to bring ecosystem approaches into fisheries management.

I have the definition of a fishery ecosystem issue on the left here. That's how it was defined in the LGL document, but, in summary, just a fishery ecosystem issue is an ecosystem issue of concern that rises beyond the level of single species management that can potentially be addressed by council action.

On the right here, we have the draft outline of a fishery ecosystem plan that the ETC has been working on for quite a while now, and so this takes some of the pieces of the LGL fishery ecosystem plan and incorporates some of the ETC's ideas as well.

The draft fishery ecosystem plan outline here has four chapters. The first chapter is going to be kind of an overarching introduction into ecosystem-based fisheries management and ecosystem approaches to fisheries management and the goals for ecosystem approaches in the Gulf.

Now, the second chapter is going to be an introduction to the concept of using fishery ecosystem issues as sort of the building block for the Gulf fishery ecosystem plan.

The third chapter is going to be a detailed look at the fishery ecosystem issue loop, which we'll talk about on the next slide, and the fishery ecosystem issue loop is just a structured way for really digging into and investigating an individual fishery ecosystem issue, and the fourth chapter is going to be the communications plan, which the council has heard about fairly recently from Emily and the Outreach and Education Committee.

The draft fishery ecosystem plan right now has four chapters, and these chapters are really kind of a process document outlining how the process will work for this fishery ecosystem plan and for these fishery ecosystem issues.

On the bottom there, where it says “separate modules”, this is really just to say that, outside of the fishery ecosystem plan, the fishery ecosystem issues that are actually being looked at and worked on, those are going to be the living and active part of this process, and so we're still working out exactly how this is going to work, but these fishery ecosystem issues are probably going to be either in a living appendix, or they're going to have a space on the council's ecosystem webpage, where their progress can be tracked and where we can report progress and outcomes.

As I mentioned before, the fishery ecosystem issue loop is the structured process for working through an individual fishery ecosystem issue, taking it from the scoping phase of looking at the issue to eventually potentially providing recommendations for how to address the issue.

The ETC has spent a lot of time kind of modifying this fishery ecosystem issue loop, and this loop has seen a lot of different iterations since the original LGL version, but some of the main changes that have happened since the original version are that the ETC really wanted to focus on scoping, and on fleshing out the scoping section, because it seems like the scoping section is really going to be important for setting up where the rest of the loop goes, and so they really wanted to put stakeholder engagement

at the forefront of scoping, as well as really identifying the dimensions of the problem, including kind of the scope and the scale of the issue and the scale of the data that are available or not available to answer the question, as well as identifying, kind of right off the bat, whether the council has the authority to manage this issue.

Additional changes that the ETC have made are really to improve the flow of the loop, and the most recent changes that happened at the May meeting were really just some small tweaks to increase the flexibility of the potential outcomes of this loop.

In April of 2022, the council tasked the ETC with actually recommending some fishery ecosystem issues, and so the ETC recommended six fishery ecosystem issues of red tide, reducing regulatory discards, finfish depredation, the impacts of climate change on fish and fishing communities, chasing optimum yield, and offshore wind energy.

These last two are in gray because, in June of 2023, the council removed those last two items from the list of fishery ecosystem issues, I think mostly because offshore wind energy seemed like something that was pretty far outside of the council's purview, and that chasing optimum yield wasn't quite an ecosystem issue, and it's more of kind of an overarching goal of fisheries management.

There is an asterisk at the top of the slide just to say that, while these fishery ecosystem issues were kind of selected by the council, and were recommended through kind of informed discussion by the ETC, these fishery ecosystem issues haven't gone through the formal prioritization process that's kind of outlined in the fishery ecosystem plan, and they haven't received formal stakeholder input for gathering fishery ecosystem issues from stakeholders.

The last thing that I want to mention about the fishery ecosystem plan is the social science consultant, and so, like I mentioned previously, we now have funds to bring on a social science consultant to conduct stakeholder engagements for the fishery ecosystem plan, and so some of the goals of this social scientist are going to be to develop a structured process to take out to the public to work with them to identify stakeholder-driven fishery ecosystem issues.

This can either be done through focus groups, or maybe through participatory modeling, but we're hoping that through the proposal process that different groups will propose kind of new ways to

approach this.

The second goal for the social scientist is to develop a communications plan to identify who to engage with, what the relevant stakeholder groups are across the Gulf, and we're also tasking them with engaging groups that don't typically participate in the council process. We know that ecosystem issues, and climate issues, impact different fishing communities in different ways, and we want to make sure that everybody has a seat at the fishery ecosystem plan table.

Next, we have a goal for having the social scientist work to evaluate the social and economic impacts of a subset of fishery ecosystem issues on fishing communities themselves, and so really seeing how these ecosystem issues impact fishing communities and people's businesses, and, finally, the social scientist is going to work with staff to help finalize, and that should say "Chapter 4" there, instead of "Chapter 3", the communications plan portion of the fishery ecosystem plan document.

We presented the ETC with a draft scope of work for this social science consultant, that looked a lot like what you saw on the previous slide, at their May meeting, and the ETC, and the social science contingent on the ETC, had a lot of really helpful recommendations for things that we should consider before we put out the proposal for this social science consultant.

The ETC really wanted to emphasize the need to engage with a consultant with experience communicating specifically with fishermen. This is something that's really important for engagement and for getting helpful, useful dialogue.

The second recommendation was that we should really decide whether we want to focus on evaluating the impacts of fishery ecosystem issues from either a social or an economic angle, and the rationale for choosing one or the other, per the social scientists on the ETC, was that it's going to be unlikely that we'll be able to recruit a social scientist, or a consultant, or a consulting firm, that has the capacity to effectively do both of these things.

They're kind of different skillsets, and so they thought that it would be useful to really focus on deciding whether one or the other was more important for us, and then, lastly, the ETC recommended that we evaluate the tradeoffs between survey and non-survey based approaches for evaluating the impacts of fishery ecosystem issues.

Survey based approaches are going to be able to reach more

stakeholders, and it's going to be able to provide results that are quantitative, but sending out surveys requires a pretty lengthy Paperwork Reduction Act clearance process, and so they wanted us to consider the tradeoffs between these survey approaches and the value that they can add to the information that we get, versus non-survey-based approaches, like focus groups and participatory modeling, that can still provide valuable information, but don't require this PRA clearance, and so they really wanted to kind of evaluate the tradeoffs and see whether the juice was worth the squeeze for these surveys.

This is the last slide that I have here, with some of the next steps for the fishery ecosystem plan, and so, next up, we need to complete developing the request for proposals for this social science consultant, and the timing on some of this is that we're planning to put the request for proposals out sometime by the end of this month, June of 2025, and then, once we have a social science consultant onboard, they will work with the Outreach and Education Technical Committee to develop a stakeholder engagement plan, and that will be reviewed by both the ETC and the council this fall, with the plan to begin stakeholder engagements during the winter.

Then, when it comes to the development of the fishery ecosystem plan document itself, the plan is to incorporate the feedback from the Ecosystem Technical Committee, as well as from the council, to have a document, a draft document, that's ready for the ETC and the council to review this fall, and that is all that I have here, and so I'll turn it back to you, Mr. Chair.

CHAIRMAN ANSON: Thank you, Dr. Wang, for the presentation. Do we have any questions, or comments, from the committee? Dr. Sweetman.

DR. C.J. SWEETMAN: Thank you, Mr. Chair. I think it's a solid plan. I guess my only question is, these RFPs, are they -- We've already secured that money, correct? Okay, and that's all I needed. Thanks.

DR. WANG: Correct.

CHAIRMAN ANSON: Any other questions, or comments? Mr. Sanchez.

MR. JOHN SANCHEZ: Yes, and I'm pleased to see this, after so long. I guess the question is when? Let's go. Let's do this. What is the holdup?

CHAIRMAN ANSON: Dr. Wang.

DR. WANG: Yes, and let's do this, and so, the next item on the agenda, we're going to talk a little bit about how we're starting to move forward.

CHAIRMAN ANSON: Mr. Strelcheck.

MR. ANDY STRELCHECK: Thanks for the presentation. I guess it wasn't clear to me if you're asking the council to weigh-in on the ETC recommendation with regard to should they focus this on social or economic considerations, if you're wanting input now or after the next presentation.

DR. WANG: If you have feedback for now, that would be great. The next presentation is going to be a focus specifically on one fishery ecosystem issue, and so, if you have general comments about whether the council would be more interested in the social or economic side of things, that would be very helpful.

MR. STRELCHECK: This is just, I think, my own personal perspective and opinion. You know, we often talk, around this table, about the limitations on the economic information that we have available to us, and so I see the value of both, but I really see the value more on the economic side of how these ecosystem events can impact, obviously, stakeholders and businesses, and so I would be much more, I think, interested in seeing work done on the economic side.

CHAIRMAN ANSON: Dr. Sweetman.

DR. SWEETMAN: A question on that. Why does it have to be either/or, for social or economic?

DR. WANG: I think the rationale that the ETC provided for wanting us to focus on one versus the other is that there are social scientists who are anthropologists, and there are social scientists who are economists, and it's going to be hard to find someone who can do both. I mean, that's something that we can potentially request in the proposal, and they can outline their qualifications to approach both of these things, but I think we need to be prepared to pick a lane.

CHAIRMAN ANSON: Any other comments? All right. That will take us then to our next item on the agenda, and that would be Item Number V, Discussion of Red Tide Fishery Ecosystem Issue Pilot. Dr. Wang.

DISCUSSION OF RED TIDE FISHERY ECOSYSTEM ISSUE PILOT

DR. WANG: Thank you, Mr. Chair, and so next up is discussion of

the red tide fishery ecosystem issue pilot, and so, at its May meeting, the ETC tested the fishery ecosystem issue loop, using red tide as a pilot issue, and so staff will review the ETC discussion on the red tide fishery ecosystem issue goals, the challenges, and also provide an overview of the ongoing red tide research that's relevant to federal fisheries.

Based on this pilot exercise, the ETC concluded that the fishery ecosystem issue loop performed well, but they also recommended that a task force be formed to conduct further work on a red tide fishery ecosystem issue, and so staff will then provide information on potential paths forward for a red tide fishery ecosystem issue.

The committee should review the meeting summary, provide feedback on the red tide pilot exercise, and provide any information to staff prior to development, further development, of the red tide fishery ecosystem issue, and we can move into the presentation, and so that's going to be perfect. Thank you, Bernie.

Great, and so I wanted to start off here with a little bit of background on how we landed on red tide as a pilot fishery ecosystem issue.

The ETC spent a lot of time talking about the fishery ecosystem plan, and the fishery ecosystem issue loop, and how to tweak and modify the fishery ecosystem issue loop to best serve our purposes, but I think they pretty quickly realized that, in order to actually make further progress, and to really evaluate the performance of the fishery ecosystem issue loop, they needed to stop talking about fishery ecosystem issues as a concept and really start working on a tangible actual fishery ecosystem issue.

In September of 2023, the ETC passed a motion to recommend to select one pilot fishery ecosystem issue, in order to help develop the fishery ecosystem plan process and the fishery ecosystem issue loop procedures.

The ETC recommended that red tide be the fishery ecosystem issue that is initially piloted, and so their rationale for recommending red tide was that red tide is a known entity in the Gulf. There are a lot of different groups that are studying red tide, from a lot of different angles, already, and red tide is something that the council already considers in some of its decision-making. Red tide is incorporated as excess mortality in stock assessments for both gag and for red grouper, and so it's not an unfamiliar issue.

Because of this familiarity, the ETC thought that red tide would be an appropriate vehicle for testing this fishery ecosystem issue

loop, not only because there's a lot of information available on red tide, but there's still a lot of work that needs to be done to bring this red tide information into the management sphere.

Following on this, the council passed a motion, in October of 2023, to support the ETC's approach using red tide as the initial fishery ecosystem issue that will articulate potential management applications to the council, and I think the impetus between the second half of that motion, "articulate potential management applications to the council", is that this pilot should be more than just a shakedown of the system, but should really work to identify management application for red tide.

Toward that aim, at its May meeting, the ETC began work on the red tide pilot fishery ecosystem issue, and so they began working their way through this fishery ecosystem issue loop, with red tide as the fishery ecosystem issue, and so, because this is the ETC's first crack at the red tide fishery ecosystem issue, it's not surprising that they spent most of the time discussing the scoping phase of red tide and the workplan phase of red tide.

Today, I'm not going to walk the committee through the ETC's entire discussion about all the different individual components of FEI scoping and the fishery ecosystem issue workplan, but I did want to highlight some of the interesting discussion that the ETC had around the overarching goals of a red tide fishery ecosystem issue, and also provide an overview of some of the ongoing red tide research that's happening that is relevant to federal fisheries.

In starting to work on this red tide fishery ecosystem issue, the ETC pretty quickly realized that, with an issue that is as broad as red tide, there's going to be a pretty wide range of perspective goals that can be worked toward, depending on the perspective that you approach this problem from, and I don't think that this is going to be an issue that is unique to red tide.

I think that ecosystem issues, by nature, are very broad, and so this is going to be something that comes up again, and so the ETC discussed this sort of spectrum of potential goals for a red tide fishery ecosystem issue that are represented in these boxes here, representing kind of a range of different things of what we might hope to achieve from a different set of perspectives by embarking on this red tide fishery ecosystem issue.

The first goal, on the top-left here, is to be more responsive to red tide mortality when setting catch advice. Of course, we know that red tide mortality is already incorporated into stock assessments for gag and for red grouper. Incorporating this excess

mortality is essential for getting an accurate stock assessment, and for appropriately setting catch advice, but the ETC identified that red tide fishery ecosystem issue goals that are centered around catch levels, and catch levels only, are likely to be pretty unsatisfying to stakeholders, given the perception that incorporating red tide into stock assessments is something that can only lower the ABC.

That's not necessarily the case, but it is definitely the perception, and so it's really giving the idea that the industry is being further punished for something that is already outside of control.

The second goal, in the middle, is the goal to mitigate the impacts of red tide events on the fishing industry themselves, and some ideas that were floated, from previous stakeholder engagement efforts that were conducted specific to red tide before this red tide fishery ecosystem issue, were ideas to do things like facilitate access to substitute species or extending the season to make up for lost time during severe red tide events.

The goal, on the top-right, is a goal to prevent red tide events from occurring, which, obviously, is something that is completely outside of the council's purview, and it's probably outside of any agency's purview, but it's something that the ETC wanted to discuss, both as a means to support stakeholders in understanding the causes of red tide as well as to perhaps open the avenues for interagency communication.

The next goal that they discussed is the goal on the bottom right, which is a goal to develop a more comprehensive data infrastructure to respond to red tides. The ETC identified that the current survey infrastructure really isn't set up to collect data from episodic events, or pulse events, like red tides, and so this could be an opportunity to engage stakeholders in collecting real-time data, which could not only fill some data gaps, but also build some trust with the community.

The final goal, on the bottom-left, is a goal to inform and educate stakeholders about how red tide factors into fisheries management, and so, throughout their discussions of red tide, the ETC really found that -- In conjunction with the Outreach and Education and Technical Committee members who were present at the meeting, they really identified that communication was going to be important for this red tide fishery ecosystem issue, not only in communicating how any possible avenue that we take would operate, and would work, but specifically in communicating how red tide mortality is incorporated into stock assessments.

The ETC received a presentation from Dr. Karnauskas about some of the ongoing research that's happening at the Science Center, and adjacent to the Science Center, that's relevant to red tide impacts on federal fisheries, and so I'm going to provide a brief overview of some of this research here, but there is a link to the presentation that was provided to the ETC at the bottom-right of this slide, with more detail, and we also have Dr. Karnauskas on the line, if folks have specific questions.

The first ongoing research effort is an effort to predict extreme red tide events and create an early warning system for the industry.

There's work that's ongoing at AOML, using biogeochemical modeling, to basically create a red tide forecast, similar to a hurricane forecast, kind of identifying the conditions that are ripe for red tide and providing a forecast that can perhaps help the industry prepare, and adjust, ahead of time.

The next ongoing research effort is one to evaluate the impacts of red tide events on fish populations. This is ongoing work with the Restore Project to continue work on the West Florida Shelf Ecosystem Model and to really work to operationalize the West Florida Shelf Ecosystem Model.

The West Florida Shelf Ecosystem Model already provides age-specific estimates of red tide mortality that are used in gag and red grouper stock assessments, but there's also work to be able to provide this information for other species as well, as necessary.

The third type of ongoing research effort is an effort to better account for red tide when adjusting catch limits, and so there is an ongoing RESTORE project to evaluate how reference points are affected by red tide episodic mortality and how future uncertainty in these red tide events, both in magnitude and in frequency, could affect these reference points. There's also a separate project conducting simulation to evaluate how management advice is robust to disturbance events and perturbation events like red tide.

The fourth category of research effort that's happening is to evaluate the impacts of red tide on the industry, and so there's an ongoing project looking to assess the patterns of community-level resilience following big-time disturbance events like red tides, and like hurricanes, and there's also an analysis that was completed conducting a fine-scale study of fleet behavior, using VMS data, to look at how the fleet behavior changes in response to red tide events.

Finally, there is a red tide synthesis paper in the works, working to summarize what we know about red tide in the Gulf, what's already been done for red tide, in terms of management and stock assessments, and what might need to be done moving forward.

After this sort of test drive of the red tide fishery ecosystem issue that the ETC took, the ETC had some recommendations, and so their first recommendation was regarding the fishery ecosystem issue process itself, which is part of this pilot process.

They identified that, so far, the fishery ecosystem issue loop is performing as intended, and it's working pretty well, and they didn't identify any major roadblocks, or stumbling points, and they continue to approve of the fishery ecosystem issue loop as an appropriate vehicle to approach incorporating ecosystem ideas into fisheries management in the Gulf, for the Gulf fishery ecosystem plan.

In terms of the red tide fishery ecosystem issue itself, the ETC identified that work is really just beginning on identifying management on-ramps for red tide research projects and that a dedicated group is going to be necessary to really carry out this initiative. The ETC passed a motion that, upon discussion of the fishery ecosystem issue process in the context of red tide, the committee recommends the council appoint a task force to carry out this initiative.

Okay, and so, after this ETC meeting, and after receiving this motion from the ETC, we had a discussion with the ETC chair about whether it was appropriate, or necessary, to request resources like this for a red tide fishery ecosystem issue, given the current reductions in capacity in both the Science Center and the Regional Office at this moment.

We talked with the ETC chair and came up with sort of a compromise, which is to form a small technical working group that includes just a handful of members of the Science Center and -- Maybe I'll give it a second to catch up. There we go.

Okay, and so the compromise, that was recommended by the ETC chair, was to form a small technical working group that consists of just a couple of members of folks from the Science Center and council staff, and this is something that would not require a formal request for more resources from the council, and this working group would work together to synthesize the ongoing research that's happening for red tide and bring this to the ETC for consideration and for identification of management on-ramps.

This seemed like kind of a reasonable path forward to carry the ball forward on red tide, to keep things moving, without having to take up a lot of additional resources, and also to kind of take advantage of the existing work that's already out there and working with the expertise in red tide that exists on the ETC, to kind of identify the appropriate management on-ramps for red tide to present to the council. That is kind of the path forward that has been recommended so far for the red tide fishery ecosystem issue.

The last thing that I will mention here is that we're going to need to work with the ETC to identify the appropriate format for reporting of the red tide fishery ecosystem issue, and for fishery ecosystem issues in general, and so fishery ecosystem issues are going to be pretty different from traditional council documents.

They're not amendments. The fishery ecosystem process itself is non-regulatory. That's not to say that the end result of the fishery ecosystem issue loop couldn't be that the council requests that staff begin work on a document, but the FEI process, the fishery ecosystem issue process itself, is not regulatory, and, also, it's meant to be an iterative process. That's another way that it's different, in that the fishery ecosystem issue loop is meant to be able to evaluate itself and adjust and make changes along the way.

Because of these kind of departures from how a fishery ecosystem issue loop operates, versus a normal document, we want to find a way to report on this that is appropriate to this kind of mode of work, and so one example that we're considering is what the Pacific Council does to report on their ecosystem initiatives, and there's a link that's included on this slide here.

The Pacific Council's ecosystem initiatives are kind of analogous to our fishery ecosystem issues. They're a lot further along in the process than we are, and so what they do is they have a web page with ecosystem initiatives, and then it links to individual initiatives that have been worked on, and then it has like an appendix of initiatives that are kind of on a wish list, and then each ecosystem initiative has its own landing page.

Instead of linking to a formal document, it's more of kind of a narrative storyboard format that talks about the ecosystem initiative and then has links to work products and summaries and meeting materials and presentations and things like that, and so we think that that could be one avenue for how we report on these fishery ecosystem issues. We just want to make sure that we find a way that we can be transparent about the process and report our

progress, and potential outcomes, and that's all that I have for red tide here, and I'll turn it back over to you, Mr. Chair.

CHAIRMAN ANSON: Thank you again, Dr. Wang. Any comments, or questions, from the committee? Dr. Sweetman.

DR. SWEETMAN: Yes, and thanks again for the presentation, Dr. Wang. I think this is a very important initiative. I think you somewhat touched on it with the Pacific Council. I think we're really behind the ball here, as far as relative to some of the other councils around the U.S., and so I'm looking forward to seeing this continue on.

The last thing I want -- I think, even though we're looking at red tide here, I think this entire process can be incredibly helpful for a lot of the fisheries that we're struggling with. You know, king mackerel, for example, and like we don't really know what's going on there, and so initiatives like this can be incredibly useful for at least pointing us in the right direction for things that we need to do.

I guess a couple -- So I'm fully supportive of it. I don't want this initiative to become basically a paperweight, you know, for the Gulf Council, that we don't look at, you know, aside from maybe one meeting a year, or something like that, and so I guess my -- One question that I have, and specific to red tide, and so, obviously, red tide is a naturally occurring event, right?

It can be, obviously, exacerbated by nutrient inputs from terrestrial sources, which is beyond our authority, and so, in that specific example, Dr. Wang, how would we -- How would the ETC, or how are we, thinking of interacting with maybe stakeholders that aren't directly involved in fisheries and are more on the terrestrial side of things that can exacerbate some of the impacts of red tide?

DR. WANG: That's a great question. Obviously, we have no control over how and when red tides happen, and, like you said, it's kind of a complex set of factors that set off a big red tide bloom, some of which is connected to releases and to what's happening on land, and so I'm not really sure how to answer your question about how we interact with stakeholders that are outside of kind of the federal fishing communities that we talk about.

I think one avenue could be something that Emily has talked about with the Outreach and Education Technical Committee, is that a product that could happen is that we could develop a red tide report that identifies kind of the economic impacts of red tide on

federal fisheries, and that's something that we could communicate back to other agencies, to let them know like, hey, this is how you're impacting us here.

CHAIRMAN ANSON: Mr. Dugas.

MR. J.D. DUGAS: I just wanted to recognize Dr. Porch.

CHAIRMAN ANSON: All right. Dr. Porch.

DR. CLAY PORCH: Thank you for recognizing me, and thank you for this presentation, and I love this red tide example. It's a great example of what can be done when multiple state and federal partners work together.

I also want to commend the step of establishing that technical working group in your last slide, and particularly the identification of management on-ramps, so this doesn't just become a paperweight, as C.J. said. I do also want to mention that part of the reason we made so much headway on this red snapper, or I mean red tide, FEI is that, you know, we had already done a lot of the work, and the particular staff working on it have largely remained intact.

For some of the other potential FEIs, that may not be the case, and we lost all of our Climate, Ecosystem, and Fisheries Initiative IRA funding, and all of the people that were hired as part of that program, and they were all probationary employees, and so our capacity is definitely drastically reduced to support some of the future FEIs, which means we will need to rely even more heavily on other potential partners, but I do think this is critical work, and we'll do our very best to support the whole program, you know, under our reduced capacity, and so thank you.

CHAIRMAN ANSON: Thank you, Dr. Porch. We appreciate the comments and the support, and commitment to support, of your staff as we look to further explore this particular issue, and hopefully others as we go through time. Dr. Frazer.

DR. TOM FRAZER: Thank you, Mr. Chairman, and thank you, Dr. Wang, for the presentation. I was interested in a comment you made about when you think about things like red tide, and you incorporate that into the stock assessment process, ultimately you're accounting for a loss, right, in the fishery, and so you have a reduction in the OFL and the ABC that tends to negatively impact the fishery, but you said that's not always the case, right, and so, you know, I could see an opportunity, if you were to develop the forecasting and the prediction tools, that would enable you to

look at, you know, where red tide is going to be.

You might be able to act more proactively, but that would require that you're very responsive, right, and you insert, you know, a change in catch levels, because what I would like to know, and I don't know if you can answer that, or if Mandy is on the phone, or Clay, but, if you have a typical red tide event, what is the loss, right, in available biomass or production that you incorporate?

The reason I'm asking that is, if you knew that and, ultimately you were able to forecast a red tide, and predict what the impact might be on that biomass, you might be able to proactively harvest that biomass, right, and that's something that we don't think about.

I'm not sure we're quite there yet, but this approach would allow us to get that way, and so I guess, to boil it down, typically, if you have a red tide event, how much, in terms of pounds or fraction of the available catch, is lost?

DR. WANG: That's something that I do not have the answer to. I don't know if Mandy or Clay has an answer. Mandy is putting her hand up.

DR. MANDY KARNAUSKAS: Yes, and thanks for that question, and so, based on some of the work that Skylar Sagarese has done in the past, and others on the stock assessment, looking, you know, retroactively at the losses, you can track the biomass losses and the, you know, age composition and CPUE indices.

She's been able to show that the losses of some of the major events, like the ones we've had in 2005 and 2014, I think have amounted to between 20 and 30 percent of the biomass loss for red grouper and gag grouper, and so it is a significant loss.

To your question about -- So it is always a negative impact, right? You have the red tide that is killing fish that could otherwise be harvested, but there have been some cases where information that's been brought to the table on the state of the red tide, and how severe it is, have led the SSC to be less risk-averse, and so they have said, okay, maybe we don't need to cut back some, or be so precautionary in cutting back on the ACL, and we can be a little bit more risky, because the red tide isn't as bad as we think it was going to be. There's an example where, even though we've had a red tide, we've been able to give more quota to the fishermen.

In regard to the forecasting of a red tide, I don't know about the legalities of, you know, trying to harvest the quota before it's

killed by the red tide, but another benefit we see of that sort of forecasting is that it allows fishermen to prepare ahead for the season.

For example, if they're going to purchase quota, or they're going to lease quota, or they're trying to plan their charter trips, you know, get their folks' vacations sorted out, having a two or three-month lead time on, okay, it's going to -- It might be a really bad year for red tide, and that might allow them to modify their business planning with regard to the red tide.

DR. FRAZER: Thanks, Mandy, for the answers to all those questions. That was really helpful. Thank you.

CHAIRMAN ANSON: I like your comment, though, Dr. Frazer, that there might be some potential in here as these, you know, products come out, and they become refined, and people have more trust in them, the SSC, the stakeholders, et cetera, but that might be something that they could also do, too, is, you know, the quota is available, if it happens in the middle of the year for instance, they could potentially go out and harvest more than they had planned.

That, obviously, has some impacts to their business about marketing and sales, but at least that's what I see as an opportunity for, you know, these types of products that will be coming out hopefully can do so, and so any other comments or questions from committee on this particular topic? I'm not seeing any, and no hands up virtually either. All right, and so that will take us to Item Number VI, Any Remaining Ecosystem Technical Committee Recommendations. Dr. Wang.

ANY REMAINING ECOSYSTEM TECHNICAL COMMITTEE RECOMMENDATIONS

DR. WANG: Thank you, Mr. Chair, and so, for this last agenda item, we're just going to talk about additional ETC recommendations, and I just wanted to use this section here to provide an update on the ecosystem status reports for the Gulf, and I don't have a presentation here, but, Bernie, maybe if you could pull up the summary, which is 4(a), and scroll to the very last paragraph. Perfect. Thank you.

Okay, and so, at the ETC meeting, Dr. Karnauskas provided an update on the new process for developing and revising ecosystem status reports for the Gulf, and so the new process for ecosystem status reports for the Gulf is going to be an automated process.

Previously, it was a manual process. There were a lot of

indicators, and it took a really long time, and so this new kind of refined and pared-down process is really working to centralize the data and create a process that can automate the production of indicators, as well as the production of ecosystem status reports themselves.

This is a process that the Science Center has recently completed for the Caribbean, using this same method, and so the idea is to apply this same technique to the Gulf here, and so it sounds like it's going to take a little bit of lead time to develop the infrastructure to be able to do this, but, once the infrastructure is up and running, there should be regular updates to ecosystem status reports, and it sounds like annually, and so this is something that the ETC was, of course, very supportive of, and they really were enthusiastic about the modernization of the ecosystem status reports. That's all that I have, but, if folks have specific questions about the ecosystem status reports, we do have Dr. Karnauskas online. Mr. Chair.

CHAIRMAN ANSON: Thank you. Any questions, or comments? I'm not seeing any, and no hands are raised virtually either, and so that leads us to Other Business. There was no other business that was brought forward at the beginning of the meeting. Is there any other business, or any business, that needs to be brought forward? I'm not seeing any. Mr. Chair, that concludes Ecosystem.

(Whereupon, the meeting adjourned on June 4, 2025.)

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