

**CFMC 159th
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The draft FEP outline includes six components.

The first is to determine the initial goals and objectives, which is absolutely essential to the entire process. First, you need to develop and prioritize your goals and objectives, and you can imagine, when you're talking about a U.S. Caribbean ecosystem plan, that there is a million different ways that you can look at it and a million different pieces of information that you could bring in, but that's overwhelming, and so you really have to focus it. You have to develop strategic and operational objectives.

Then it's the resource characterization. That is an inventory of historical and available data, and Graciela is working hard on that, along with Orian, and compile the data into a database and do a gap analysis to identify what needed data are missing and then pursue strategies for obtaining those data or getting around them and then potentially suggest ecological status indicators. Is there something you can look at that gives you a broader view of how things are going?

Then process characterization. That is to develop a conceptual ecosystem model, and that's just a model that shows kind of how things flow. It's not quantitative, but it's more of a qualitative model, and develop a geospatial, geographic information system of just sort of how does it look on the map, a geospatial model, and determine the suitable resolution for data analysis. Do you want to do it by square meter or by square mile or by island or whatever spatial level you may operate at?

Then inventory the ecosystem threats and issues, and threats are just things that can affect your decision-making process. You do a risk analysis, and this is pretty far down the road. That's the feasibility of doing these things versus the applicability. Then, of course, prioritization by NMFS, and this is not being done in a vacuum, and then you might include some indicator modeling if you have identified ecosystem indicators.

Then next is determine the relationship between the fishery ecosystem plan and the fishery management plans. This is absolutely essential, because the fishery ecosystem plan is not a regulatory document, and so performance or effectiveness measurements and stakeholder engagement activities. You have to have stakeholders involved. They are a critical component

of the ecosystem, and so how do you get them engaged? How do you assess the effectiveness of current regulations and then what are your data and research needs?

Finally, there's a guidance process. You need a protocol for utilizing your ecosystem plan to guide management decisions, and that can be a loaded question, and you need to provide a mechanism for the FEP to be dynamic and respond to a changing environment and for allowing the incorporation of new information.

In summary, the concepts and aims of a fishery ecosystem plan is it would be a guidance document, and that's very important to keep in mind. It's a guidance document to aid in the refinement of fishery management plans. It is not a fishery management plan. It does not replace fishery management plans, but it does consider ecosystem relationships between species and their habitats, i.e., the concept of from ridge to reef. Everything at the top, everything coming down the mountain, is going to affect those reefs and the animals that live on those reefs.

There are data challenges. Data mining is necessary to compile the data. Fortunately, we have Graciela on the job. Cooperation from other agencies is essential.

We don't even know who the full team needs to be, but I would imagine that it's going to be bigger than the one we have put together right now.

Then organizing the data and building a geospatial database. Data management can be one of the most difficult tasks. Efficient data management can be one of the most difficult tasks that you have to overcome. The next steps are we need to define a defined outline of where we're going with this. We want to develop a draft conceptual ecosystem model that we can use for guidance.

We have to develop a strategy to facilitate partner and stakeholder engagement in the FEP development process. We don't want a riot. We don't want a rabble. We need to have an organized strategy, and then probably the primary focus right now, again, is data compilation and gap analysis.

We need an inventory of data and any opportunities to acquire additional data and, again, the gap analysis and then data prioritization. It's not going to be all of equal importance, and I think that's it for the overview.