

Meeting Minutes
FBHCP Steering Committee Quarterly Meeting
FWC Bryant Building, Tallahassee
20 September 2012
9am-4pm

Steering Committee members present: Danielle Fondren (FDEP; chair), Thomas Eason (FWC; co-chair), Gary Appelson (STC), Tamara Pigott (Lee County), Brett Moore (Humiston & Moore), Julie Wraithmell (Audubon)

Others present: Kat Diersen, Gene Chalecki, Jackie Larson, Michele Mayo, Bob Ernest, Sally Davenport, Jimmy Sellers, Robbin Trindell, Kelly Roberts, Tom Ostertag, Kipp Frohlich, Mike Flaxman, Trish Adams (phone), Jame McCray (phone), Rachel Bruce (phone), Rebecca Pfaller (recorder)

Minutes

KD Are there any questions or comments on the minutes from the last meeting?

BM Page 3...at the top of the page, I just want to add what I was trying to say was allow for some rock in the corners so that you're introducing engineering issues that need to be addressed as well.

JW Move to approve the minutes.

TP Second.

TE Minutes approved.

(review agenda) – KD

TE I just want to note that Committee members not present are Blair Witherington, Stephen James, and Ryan Matthews.

Staff Report

KD We've been mostly doing legwork on the content drafting of chapters. We're still planning for at the end of this year a large dump of the first half of the HCP on the website and invite public feedback on those. Mike Flaxman and Geo Adaptive have finally been brought under contract. We've also initiated drafting of all remaining chapters of the HCP, so we're working on take, minimization and mitigation, implementation, changed circumstances, monitoring, and others. Starting early next year, we'll start having WebExes on those. Implementation chapter interviews – some of you

have talked to staff about that, and if you haven't done that yet, please carve out a half hour to talk to Coastal Tech (CT) about that.

**resend questionnaire to members who haven't done interview yet.

- KD Meeting dates for 2013. Be prepared for a doodle poll in near future. Webex meetings – we got good feedback on Chapter 7. Chapter 6 is a very large chapter and the team thought it wouldn't add a lot of value to go into great depth on that, so we'll present it to you in a cursory manner today. Chapter 5 is the species accounts, and there will be an introductory portion and then it's broken out by individual species. Because we've been sending out individual species accounts, we probably won't send out the entire Chapter 5. Speaking of species accounts and the peer review process, the feedback has been very valuable but also grueling, so it's taking a bit longer to wrap that up. Chapter 5 may not be quite ready to go by the end of the year.
- TE Suggestion – 2 new columns – total reviewers and how many external to FWC/USFWS.
- KD We struggled to strike a balance between having documents that were current, accurate, and scientifically defensible and meeting the USFWS threshold.
- RT Thomas, we haven't sent other chapters out for peer review.
- KD Grants. We have been awarded funding for year 6, which will start on January 1, 2013. The RFP for year 7 has not gone out yet. It probably won't be the final year; I'm thinking we'll need an eighth year. The Gantt chart has undergone some changes. We wanted to reorganize it to be more reflective of our process.
- JS The big difference in the Gantt chart is we added 'habitat conservation plan documents.' It helps us keep track of chapters and in which order they need to be completed. Under each chapter we have an outline. One step we haven't gotten through is for the incomplete sections, we're going to identify which team member is working on that.
- DF The geographic extent of the plan area – what year are the aerials and does it matter that this is an 8 year process?
- GK 2010 aerials. And we'll stick with that.
- BE We had to set cutoff dates.
- MM It can only be so accurate based on our data sources.
- DF As long as we caveat it appropriately.
- TE Where are we ahead/behind/on schedule?

- JS We're a little behind on chapter 8 – Take. One thing about this Gantt chart is the percent complete is a little misleading. It's based on tasks we've entered. We don't have the outline for mitigation yet, for instance.
- KD The Gantt chart fails to capture a lot of the work we've already put into this, especially with chapter 8. There have been so many man hours put into that. A lot of the background work isn't necessarily reflected in the final product.
- TA This is one of the most complicated HCPs that we're currently working on. In comparison to other HCPs going on, this is the plan that's going the most smooth. I think we have a good handle on things, and I have to give kudos to the team. There's no one concerned at the Service about the timeline.
- KD As you know, FNAI has been doing a lot of work for us. They've developed habitat maps, which we showed at the last meeting. They're at a stage where they're ready to have their product tested. So they are going to start taking that out and work-shopping them.
- GK We're looking at holding the workshops as early as October. The goal is to get feedback and update the maps as necessary. Then we'll turn the maps over to Mike (Flaxman) for the future simulation work he's doing.
- JW For getting that expertise, I'd encourage you to look to land managers. A lot of those land managers are the ones who hold the site specific knowledge. FWC probably has information on those partnerships.
- TE So you and your staff are working on distribution and density models?
- GK It's habitat mapping. They are spatially explicit representations of where species are found. Sometimes we use observation information that has density, point locations with density information and extrapolate from that and turned it into something more spatially explicit. There are two things we've done – detailed habitat maps showing range and there's also been an effort to develop something about habitat quality based on fragmentation, distance from development, multiple species use, etc. So we've got two separate products that both need to be evaluated.
- MM The maps address locations where the species are known to be found. There are limitations to that approach that we're discussing now. Next week we'll be addressing how we deal with unknowns.
- BM Chapter 6 – there's a reference about looking for areas inland of the plan area for potential mitigation. Are you also mapping that?

- GK What we're mapping now is just plan area. But the work mikes going to do will follow up on that and I think his presentation will make you feel more comfortable with that issue.
- KD Danielle is no longer the Bureau Chief. The charter names the Bureau Chief as co-chair. Danielle wants to continue participation on the Steering Committee, so we may need to make a change to the charter.
- GA I would like to figure out a way to keep Danielle on, so my recommendation is to do whatever to make that happen.
- BM Same thing.
- TE The charter clearly says each organization can delegate its member and that member can delegate. So even though the charter designates who the person will be, there's still that delegation. So I think we have authority within the current charter and don't need to make a change to it.
- KD Those are all my updates. Questions? Comments?
- TE Are there staff changes coming up in the coming year?
- KD No planned changes.

Chapter 7 presentation – BE

- BE This is a review of what we did in the WebEx last month. In some of the prior chapters we talked about general threats to species throughout entire geographic range. This chapter deals specifically with threats associated with covered activities in plan area. The Service suggested we include an intro portion that describes basically the plan area, what the challenges are in the coastal zone. So we talk about how unique plan area is, how dynamic, and processes that are shaping beaches. Then we talk about how those natural processes are interrupted when you start putting structures in that system. We talk about impacts from human occupation in that zone, and most of the building that occurs there is regulated under the CCCL program. We condensed the sixty something permitted activities into eight general categories of activities. For each of those activity groups, there are a variety of threats that can occur. If I permit a seawall, there could be vehicles on the beach associated with that, and also excavation, so there's a variety. These are the specific threats we've identified that could occur during a CCCL project. I think this captured pretty much everything. A couple of the biggies are installation of non-habitable structures and then installation of habitable structures. This matrix here was designed to show the eight categories and those activities we went through, and it's our first attempt at showing where each of those impacts are involved in each of those categories. One of the things I pointed out was that when you start talking about all the threats, it sounds very negative, but we recognize that a lot of these activities have

benefits, but there are still impacts associated with them. So the way the chapter is constructed is that we originally ran a threats matrix and this just puts that matrix into narrative. And so you take for each of those threats, we address each species group and for each species group we have direct and indirect impacts. Now we got a lot of threats, a lot of species, it's a rather lengthy amount of dialogue. So based on feedback from the SC, I've begun to revise the chapter and I want to share some of that feedback. I mentioned some of these things have a positive effect and we thought that needed to be stated in the introduction. When we talked about coastal processes and how that shapes the beach, it was suggested that that portion have some input from the coastal engineering field. Some people identified some specific threats that weren't included. Julie mentioned crossovers and how that attracts more people to the beach and may disturb shorebirds. Danielle made the point that sometimes we describe a threat one way for one species group and another way for a different species group. Some people noted that we needed a more neutral tone, so instead of being so absolute in everything, we change it to 'this may occur' or 'this could occur.' There's several issues that remain, and I'm not sure how to deal with some of them. It's obviously long, some people commented on condensing it, and I'm open to suggestions. The whole idea was to take the matrix and put it in narrative, but I think a lot of this stuff deserves explanation. Brett, you had a comment about permanent v. temporary impacts that I was struggling with a little bit. Our job is to address both direct and indirect, and both of those can be permanent or temporary. So I didn't understand what you were getting at there.

- BM What I was getting at is it's very lengthy and repetitive, and I didn't know if you could take some of the activities and group them, because you talk about excavation, and again some activities are very temporary, and it seems like when you look through the assessments and descriptions it's very repetitive and I didn't know if you could group them. Just a thought of a way possibly to get around some of the repetitiveness.
- BE Trish, are you comfortable with repetitiveness and length of this chapter?
- TA I'm comfortable with how it is. We understood going in that it was going to be a lengthy chapter. Due to the nature of the threats on the species from the different activities, we knew there would be overlap, but at the same time I would rather have it too long and repetitive than to miss something. When this is out on the Federal Register or we're taking this to our stakeholders, we don't want people coming back and saying you didn't discuss this or that. I would rather be more comprehensive and take it from that angle than have to based on public comment have to go back and put it back in.
- TE I hear you, Trish. What I hear Brett saying is not to take out any content, but to be more concise in how we do it. For example, a different way of doing it, for the impacts that occur across, write them once up front and have a caption or title for that or some way to refer back to it. And then if there are elements that are different for different species groups, add that little bit.

- BE That's helpful, because when you say across the board, we've got threats, species groups, direct and indirect impacts, so when you say vehicular impacts. Vehicular impacts have the same impact to turtles and beach mice and shorebirds, so combine those.
- TE Right, and/or up front or in back, just say vehicular impacts and write the statement there. I think there are multiple ways to do it, but the more we can get away from rewriting the same statements over and over again, the better. I'm happy to sit down with someone to try to figure out how to do that. The template I'm thinking about is when we created the State Wildlife Action Plan, we had 45 habitat categories, and a lot of threats, so we created multiple threat chapters and we'd write a write-up on the threat once and refer back to that for each habitat category.
- JW Regarding Trish's comment – I do think there will be members of the public who have their one issue, and they'll go through the document and look for their one issue. So there is some value to being explicit, because they will be more likely to find their issue more easily rather than read a definition and make sure it's keyed into the point where they are relevant. Maybe making a bigger deal of this than we need to but recognizing that it's thinking about the audience. So what's the best way for them to find the definition of a word? And I'm not sure what the answer is.
- TA And that's exactly how I was looking at this chapter.
- MF If there's a single backwards reference, that's not too bad. Because there's an introduction that generally classifies a threat, and it says species don't like their habitat paved over. And then the specific thing about sensitivity of road noise to least terns, and then the write-up about that would be the general statement up front and then any note that needs to be made about least tern sensitivity coming in the difference further on. Even if you start from the middle and you only hear about least terns because you're testing for an activity that's occurred in the past for least terns, that's kind of how statute reads too. You say here's the least tern thing and it incorporates all these impacts from section 3.2 or whatever. You have the one thing to flip back to that says here are the general impacts of roads. That seems to be a reasonable compromise in my mind.
- JW Maybe the Service has experience with the typical degree of savvy of people reading these.
- BE The nuance here is we have to show harm and harassment, and the harm would be pavement in turtle habitat, the hatchlings couldn't get out, so you'd have to dig deeper into the document to find out how it will hurt turtles, which is different than how it will hurt beach mice and shorebirds. So it's those kind of things. I agree that the repetitive language could be melded into one statement. Kat, I think you and I can work on this. We'll see if we can do that without diminishing the information that's in there. Another comment we got was all threats are not created equal and should we spell that out. My feeling on that is no, this isn't the place for that. That will come into play in take and mitigation. The other thing is we really need to refine this. We need to sit down with

- DEP and go through these things to see if all these things actually happen. Is there really ever going to be a time when you'll need to pave sea turtle habitat? Probably not.
- DF I would suggest you include Tony McNeil in that discussion.
- BM I'd just caution if you do that – taking those things out – projects can be under construction and permitted and then, say you're talking about paving, the shoreline can change drastically, and suddenly habitat is much closer to the paving than before.
- BE That almost becomes an indirect impact. Maybe you're not paving a turtle habitat, no direct impacts, but now because of erosion, that becomes an indirect impact. So we'll go through and sort things out that way.
- TE Before we move away from this, I'm still grappling with how pieces fit together. Going back to the statement earlier that the way the HCP is structured, it's the take of habitat that will trigger minimization and mitigation. So this chapter is one link in that step, but we're not trying to equate when you drive on the beach and crush a chick to what the take is going to be. We're setting up causal linkages that show why when you impact the habitat you impact the species.
- BE Exactly.
- KF Did you list potential impacts of just the impact of people on the beach?
- BE Yeah, I included that with general construction and event activities.
- DF Having been the recipient of an email with photos of dune walkovers that show turtles caught in the actual structure itself. That's a permitted structure and positive from the perspective of dune protection. If it's not built to best management practices (BMPs), it becomes a potential take situation. I don't recall that being in there.
- BE It's in there. But BMPs, that an issue we could probably put in there.
- KD A more in depth discussion of that may end up in another chapter, because there are a lot of activities that can have a negative direct impact, but a positive long term indirect impact. So we've grappled with a net negative or net positive.
- BE This lays out all the threats, and the next step is how to minimize all those. That's where your BMPS come in, in the minimization chapter.
- MM I have a question for the whole group. And this is just a thought question. A while back we decided to define take as take of habitat. In the case that Danielle just cited, it's the take of an individual. I wonder if we may want to reconsider our definition of take.

- BE But it doesn't contradict the habitat. Because again CT has defined the acres of habitat that are occupied by dune crossovers.
- KD So, what we're calling take there is the footprint of the walkover.
- MM But will that reflect the actual impact? We have to think about how we're going to set up this problem so that we can put in data and get a reliable answer. We're talking about a hazard. It's a different source of impact. I'm just saying let's put it out there and look at it again.
- KD Fair enough, but it's already been looked at extensively. Trish, I'd be interested in your feedback on this.
- TA It's not appropriate to go with individuals. We are analyzing effects of the actions on the species. The problem is when we're looking at take, we're not saying there won't be impact to individuals, we acknowledge that, but it's impossible to quantify that. And when looking at take, it has to be measurable, and the best way to do that is by habitat. And we acknowledge that there are so many individuals that may be in this area and some of them could become trapped. It's not really necessary to quantify how many adults or hatchlings could be disoriented. It's impossible to do that. All of our Biological Opinions for beach renourishment projects, for instance, we quantify impacts by habitat. And this is the appropriate approach for this. It's not saying we aren't going to acknowledge impacts to individuals, it's just that we're not quantifying it because it's impossible to do.
- RT I think this is a good example of the value of the whole HCP approach. We are seeing an increase in turtles getting trapped under walkovers, and things could change. This is where adaptive management and monitoring comes in. Most of the turtles that get trapped are green turtles who like to nest further back. We also have ADA requirements that have to be met across the beach where the old minimization measures don't always work anymore. We've been working with DEP on this exact issue. So now we have to consider ways to build these bigger structures and the behavior of green turtles to minimize impacts. So ultimately we will be looking at impacts to individuals, but using this as a tool to continue to address those as the shorelines change, species change. And I just want to point out that these are all species we're trying to recover, so we have to expect continual changes in the challenges of actually reducing the impact.
- TE I think we should continually come back to this question and make sure the system and dynamics we're putting in place are going to adequately capture it. Right now is probably not the time to have the whole discussion, but we should each think about this and revisit it and if we get to the point where we have major concerns, then we'll get back into these discussions.
- BE One of the questions that was raised was do impacts have to be verifiable? Or can they be speculative? I think we'll have to defer to Trish on that.

- TA We can talk about that. I'm not certain this is the right venue to do that.
- BE Danielle had asked about piers and non-habitable structures, whether or not that should be included. I don't think that would be included in here because that would be permitted by something other than CCCL, right?
- DF Depends. Generally if it's new, or if the changes to a pier involve a change in the footprint or in the pilings that would potentially alter the coastal processes, then it would require a JCP. But if it was a change that didn't change the footprint, like lighting, then that would be CCCL.
- GA And this is important because there's an increasing desire for business people to develop piers for that particular usage. And it does require the overlay of the CCCL permit. Especially if it's on the section of the pier that runs shore parallel.
- BE So you've got an existing pier, and someone wants to build an adjacent section for a restaurant?
- DF Yes and no. Yes, in that we have some piers that have restaurants on them that change over time, and if the change doesn't change the footprint of the pier or other substantive change that would alter the coastal process, then it needs a CCCL permit. If it needs a JCP, then the control line is covered in the JCP. But if it doesn't need a JCP, then a control line permit gets issued.
- BE But I would suggest if something that's not going to affect the footprint or design of it, it's not creating anything that'll take habitat within plan area.
- DF Specific example – Daytona beach fishing pier – new ownership of restaurant, renovation, no JCP needed. Control line permit needed. Biggest issue with that is lighting.
- BE I think all the impacts associated with piers would be indirect.
- KD I would say it would be direct from construction.
- BM Fishing piers and pipelines are under the control line program, right?
- GC They were at one point, but not anymore. Fishing piers, new construction, since 1995, have been processed as a JCP.
- BM Is there a control line component to that?
- GC There can be a control line component if a JCP permit is being processed.

- BM How do you handle the upland part of it?
- GC The upland part of it would be handled similarly to the upland part of a beach restoration project; it's all captured under the JCP.
- BM I think I had a combined JCP and ERP once to handle that issue.
- GC Right. That's also a possibility, and I guess the other issue is whether there's an ERP component to the pier construction where a JCP is not required, and ERP would of course address the issue.
- BM And the only reason I bring all this up is to make sure the Department is covered.
- RT There's a little nuance here that most piers do have a submerged lands lease and I don't think we've been good at looking at these issues under both those departmental programs. We may want to talk to them about that.
- GC That's not part of this conversation, but obviously there are sovereign lands issues when you talked about restaurant building.
- KF Maybe this speaks to Bob's question, it gets back to this definition we have that take is take of habitat. Danielle's example of impact to turtles because of lights on a restaurant on a pier, but does it fit into the HCP definition of modifying that building, what additional habitat was taken? And maybe that's the sentiment that doesn't quite fit. Everyone's saying that's something new we hadn't thought of. We know very well there could be tremendous impacts on the species, but where was the habitat taken and does it fit with your definition in the HCP?
- KD Actually, that might be a little more straightforward than you think. Lighting would still fall under harm and harass.
- BE The footprint, though, is the existing pier. We may have buffers for lighting.
- MF So if you double the lighting you're increasing the buffer, not the footprint.
- GC One final comment on lighting on piers, if one just looked at Florida law and knew there was a light issue, but a CCCL permit was required because of replacement of piles, the owner of the pier could avoid all issues related to lighting by just defer them until the CCCL permit was issued to repair the piles, and then come back and replace any and all lighting because jurisdiction under the control line program can never be triggered by a change in lighting.
- RT Which is where a submerged lands lease comes in.
- GC Which is not a 161 issue.

- BE Bottom line is piers should be included as a non-habitable structure.
- TE Going back to tone – I think you’ve got it covered, but I just want to make sure that you’re changing more than just ‘may’ and ‘could.’ The tone is more than that. I want to make sure when you go back and look at this, it’s things like, “unfortunately the coastal zone also constitutes a highly sought after human environment.’ That’s not an unfortunate, just drop the unfortunate. So to me it’s more than may and might and shall. We should go through with a fine-tooth comb and be as objective as we can.
- BM Other determinations DEP makes under the CCCL program include exemptions, and for example if someone wants to build a second story on their house, they can do that under an exemption and who’s reviewing lighting or harm and harassment issues for that? Is DEP on the hook for that? And is that something they’re going to be covered for under this HCP?
- GC There are two exemptions – one where the agency is stating that they have no jurisdiction under 161. I can’t envision how the agency would be on the hook for that kind of determination. The other talks about measurable effects on the coastal system. Again, that would fall into a gray area under that kind of exemption. However, I would say that if DEP correctly applied the statute, I don’t see where the agency would be on the hook. If they were incorrect in their assessment, they may be on the hook.
- BM The second exemption you’re referring to doesn’t have an impact on the natural function of the beach and dune system.
- GC Exemptions in statute generally focus purely on the coastal system and not species specifically, or habitat.
- TE To me, the bigger picture is we’re acknowledging up front that there’s a lot of detail and impacts that we can’t or aren’t going to quantify, so we’re creating a system that on average will balance all that out, and ideally we’re going to err on the side of over-mitigating to account for the vagaries and all of that. So I think all of us are trying to make it work at the cellular level, and we just need to make it work at the organ level.
- BE But the point is good about exemptions, because we want to be explicit in that. If we say those eight categories as well as any other miscellaneous activities permitted by DEP and anything that occurs as result of exemptions allowed by DEP...so we want to be explicit about what’s covered under take.

Chapter 6 presentation – SD

- SD The chapter is divided into four sections – geographic boundaries of the plan area, plan area climate and natural resources, human dimensions, and physical aspects.
Geographical boundaries – the program for the HCP is required to set geographical

boundaries and define where take authorization is being requested. So the CCCL and mean high water (MHW) line are the boundaries. And the plan area boundaries are dynamic, since the shoreline position is likely to change over 25 years. Plan area from the beginning has been divided into four regions – Northeast, Southeast, Gulf and Panhandle. To further define the four regions, they were divided into sub regions, or Protected Species Management Units (PSMUs). They've been designated based on occurrences or historical distribution of beach mice.

- BE What we did here was unique combinations of species. For each PSMU there would be a set of terms and conditions DEP would attach to their permits.
- GA I don't understand this. I don't understand the PSMU concept and why it's such a major emphasis in doc. Is it primarily for beach mice?
- BE It's for all unique assemblages of species. Again, this isn't something we're totally married to. At the very initial stages we envisioned a series of unique species combinations. There are certain terms and conditions tied to each area.
- GA The way it reads, these are based on beach mice. It seems like this needs to be vetted through wildlife commission folks. I just don't understand how this will relate to take and minimization, etc.
- BE Again, this is just the first rollout of this chapter. So we can get into that once the chapter's been completed and reviewed, and we can abandon that if we want.
- KD I would argue that we do need smaller divisions of those regions. The reason for the smaller divisions is administrative. We have to standardize conditions for mitigation and language in permits.
- TE I think we should be critical of it, but don't abandon it.
- BM I was thinking you meant to say beach mice and covered species.
- BE Should be covered species.
- BM You define plan area as the control line, but then you go on to say if there are impacts beyond the control line you address those...doesn't the plan area have to stop at the control line?
- TA There's a specific definition in the ESA and in our handbook on how we determine plan area, and I think the plan area is the control line, but we also need to analyze indirect effects outside the control line because we have to consider the 'but for.' There may be things that occur outside the CCCL that impact turtles, for example, with lighting that should be considered when talking about a development project. But for is it's the interrelated and interconnected activity. For instance you issue a permit for a

condominium complex. It trips the CCCL, but there are impacts and buildings outside of the CCCL that could also have effects. If it wasn't but for the CCCL permits, those buildings wouldn't likely go in. So those impacts need to be considered as well.

- KD You're talking about cascading effects from a CCCL permitted activity. But for that activity being permitted, those other activities wouldn't happen.
- BE What I'm hearing is even though we need to account for activities landward of the CCCL, for the purposes of this HCP we still can define plan area as MHW to the CCCL.
- TA Right.
- KD There's the geographic side of this and then there's the impact side.
- TE Where I lose the connections in my understanding is technically the state of Florida is seeking an HCP for the CCCL program. There are lots of other programs that they aren't doing an HCP for and where does this but for collide with DEP not wanting to cover the JCP and everything else? It gets very complex very quickly.
- TA I'm not talking about considering JCP in this. We just need to consider indirect effects outside the plan area as a result of a CCCL permit.
- MM The analysis footprint is bigger than the impact footprint. We have to marry the ecology with the state's responsibilities.
- TA More or less. We can talk about this more at a later time. We do need to consider impacts from the regulated activity. The trigger is the CCCL permit, but there are activities related to that that occur outside, because of that.
- TE Can we have a future agenda item to talk more about this?
- BE But for the purposes of Chapter 6 and the plan area definition, we'll leave out that bit about outside the CCCL.
- DF On expansion of plan area, or where you're considering those impacts if the CCCL is the trigger, we're venturing into the ERP world, so if we're considering areas outside, we should stipulate that the only ERP activities covered in this are those with the hook of CCCL. Case in point, you have a residential development that has a portion of development extending beyond the CCCL and the entire development needs an ERP and only certain activities need a CCCL for areas that geographically extend seaward of the CCCL. So the overall development, because of its close proximity to the beach, can have an impact but any activities that require an ERP that do not cross the CCCL I would caution us not to get into that area. And as for moving of the CCCL, I would suggest we not worry ourselves with that now.

- SD So this is an attempt to show you the data we revised. FNAI's done more accurate figures for us. The actual linear miles in the plan area and miles of shoreline within each region. Sometimes that's exactly the same, and sometimes the plan area is smaller. This is a few figures we picked out to show you the trends. They've shown a 13.9% population increase since 2000 census. Florida has approx 367,000 coastal properties. This is some data done for each region to give an idea of beach activity and how that fluctuated. Here's some physical characteristics, erosion data.
- GA Erosion chart – that shows that in the plan area, 80% of beaches are critically eroded. The plan area is sandy beaches, and according to all the data in the beach management summary information in your reports each year, only about 48% of beaches are critically eroded. So I don't know how that goes with that figure. I'm wondering if, Thomas said earlier there needed to be some peer review. I'd say that if I'm right about that, this points out where you need some peer review.
- JS I think the answer has to do with there's 825 miles of sandy beaches and not all of that is in the plan area because federal lands are excluded. So maybe that's how the percentage jumps up.
- GA But this references back to the previous graph that shows the shoreline as 800-something miles.
- JS Well the shoreline is 800-something miles but the plan area is only 691 miles.
- GA And I'm not saying the information is inaccurate, I'm saying when you read it all, it doesn't make a lot of sense. So you're saying within the plan area, 80% of beaches are critically eroded?
- SD We'll work with DEP to make sure our figures are correct.
- GA Well the point is it's just not clear.
- KD You're absolutely right. We'll definitely go back over all this.
- DF I have a question, is this chart just based on the plan area shoreline?
- KD Right.
- JS Well actually that's a good question. Does the critical erosion report include federal lands?
- JL It includes all 825 miles of shoreline.
- JS We need to check and make sure we've subtracted those out.

- SD This shows non critically eroded beaches. Climate. This is something Bob's folks did. This is a brief summary of, we've got numerous charts in the actual document that show which storms have affected particular regions. It appears there have been only 18 seasons without storm fall, and this influences movement of shoreline. Next we get into long term effects of climate change and sea level rise (SLR). We got some of this data from the Intergovernmental Panel on Climate Change (IPCC), and I think their estimates are actually conservative compared to some of the others.
- DF SLR – Florida doesn't have a SLR policy, and the unofficial policy is to use the Army Corps of Engineers (USACE) policy. And they have three scenarios for SLR – low, moderate, high. I would suggest we use the USACE model and pick the moderate one.
- MF We still can adjust that in the chapter and the work I've done. In 2007, IPCC came up with Ar4 and it has three scenarios. Depending on who you talk to, the issue is historic change since that time has tracked highest of scenarios and there's been a lot of peer reviewed work that argues for higher numbers than IPCC has used. So in our five year project with USGS, we heard all those different arguments. It's kind of a policy decision what to use for this project. The curves are actually parabolic, so in 25 years, it doesn't make that much difference, and the numbers Bob has here are not that different from current science. So it's a lot less controversial 25 years out versus 100 years out.
- BE And what Mike's going to do is not pick one model, but bracket it and look at best case scenario and worst case scenario.
- BM I just want to point out that I thought it was good in the beginning of the section the statement about not being able to precisely predict change in timing and magnitude. Good qualifying statement to have right at the beginning there.
- KD It gives us room to address it in adaptive management.
- SD Again, a few more statistics.
- DF You have two different statistics. You said 64%, and now you say 75% live in coastal counties.
- JS I think the inconsistency is from the 2010 census vs. another data source we used.
- SD We'll rectify that. We have an extensive section discussing all the natural communities within the plan area. Beach and dune system is by far the largest. There are eleven others within the plan area. And that's it for this presentation.
- BM There's a table in the beginning of chapter 6 (page 7) that shows that linear miles within the plan area exceed linear miles in the county. 928 for plan area but 800 for county.

- MM This is a classic problem in geographic analysis, and it has to do with the resolution you're using.
- KD This is an actual typo, though.
- BE The other thing is no matter what method we use, it has to be consistent.
- GA Regardless, it still has to be done for the general public, and we need to make sure it's not only consistent within the chapter, but consistent with all other chapters too.
- TE I would like to get a read from the committee on the PSMUs.
- JW For me, it'll take seeing how it plays out.
- TE Until we see how it affects take, minimization and mitigation, it's hard to see how they're functional. So let's continue to think about it and see how they work out.
- GA It's also the descriptors in the document itself about why we're going down this road and what it does. Needs clarification in the chapter.
- DF In the Bureau of Beaches, one direction we're moving now is a coastal cell approach – inlet to inlet.

Scenario Analyses for FBHCP presentation – MF

- MF I want to go over a review of our approach and SOW and show you some results from initial work and talk about our proposed work plan. The guidance from the Work Group in terms of dealing with deadlines and calendar was to get something up and running that was credible, using best available and models. So the way we set this up was to concentrate on incidental take computation on three species groups and then to defer the avoidance and mitigation until next year. This quarter started in August improving representation of beaches and their ability to migrate under SLR. Were in the midst of the second piece of work which is developing base future habitat models for the three species groups. As of last week I got historic permit data and those are individual activities geographically located. The plan is to put those two pieces together in November and start simulating take, giving ourselves a little bit of time in December to adjust and finalize. The other decision was to leverage as best we could the prior scenario work.

Why use scenarios? Because incidental take occurs in the future and its influences by future environmental conditions and because we can't measure that today, we have to use some form of modeling. A single projection could be used for any of those things, but my practice uses multiple scenarios to get a bracket a range of uncertainty and it also lets you encapsulate multiple dimensions. The two main concerns for the beaches HCP are human settlement patterns and SLR. So there's enough variability in our understanding

of those two things that if you took three versions of SLR and three versions of coastal erosion, and three versions of human population change, you'd end up with 27 scenarios. The driving thing that forces us into this position is climate change. This is a graph of 2007 IPCC data and we're using the scenarios where the sea level range is imbedded in the scenarios that we did for USGS, because they're available. And this can be adjusted depending on what this group wants to do but the starting position is actually using three IPCC scenarios. The A1F1 scenario was historically considered the high scenario in by IPCC in 2007 and recent data shows that the trends are tracking that scenario. So therein lies a bunch of controversy. The USACE has three scenarios the base of which is a linear extrapolation of historic trends, which is lower than what most people think is reasonable, but it's still in there. Their moderate scenario is basically like B1 and their high one is A1F1. So we're confident with their scenarios right now on the middle and high end, but we disagree on the low end. And there's a data issue in there as well, which is if you only go to 2040, and you use the low SLR numbers, we don't have actually the vertical resolution of the data in most parts of the state of Florida to compute anything sensible about that. The other point, the blue line, if we go out to 2040, the range of variation in SLR numbers is actually fairly tight. If you take the same scenarios out to 2100, obviously you get a much, much bigger range.

So as part of this broader planning scenario we did with USGS, we ran a simulation model that I developed call AttCon. It basically tries to balance supply and demand. On supply side, for the state of Florida for instance, we used the population numbers from UF Bureau of Economics and we came up with our own spatial attractiveness models for different real estate sub markets and that basically says where do beach condos want to go and where do big golf course developments want to go and we combine them with a rule set that included which are public and private lands. We generated a set of scenarios for 3 time points – 2020, 2040, 2060 – in the form of spatially explicit maps. So you can think about this as allocating development, conservation and agriculture across the landscape where it's legal and where it's attractive. And obviously this works broadly at a larger scale, so as you go closer and closer at a geographic scale, you have higher and higher uncertainty. But at broad pattern you can simulate these things, and indeed when we do, we can start to see the differences in some of the basic scenario settings. So we're taking those two bracketing scenarios and putting them on top of a lot of the species habitat maps that have been created as a part of this project and we're looking at that in two different ways, concentrating on SLR and on the general change in human footprint.

So on SLR, we started off by asking basically is SLR likely to be a significant threat to the species of concern within the FBHCP? If so, where and when? We used the simplest possible method, which is bathtub modeling. One caveat first, unfortunately the scenarios we have don't run for the whole state of Florida and neither do the available SLR data. There are some projects underway to try to improve this, but nothing available as of today. So for now I'm using the Peninsular Florida Landscape Conservation Cooperative (PFLCC) boundary. As mentioned, we used a bathtub model and what that means is you take current terrain elevation, and if it's less than projected SLR, then you assume that the habitat is lost. So it's a static habitat map, which goes against beach

geomorphology, but beach can't move. So it's a vulnerability assessment. So don't think of it as a detailed calculation of what we think might happen. What we're trying to do is test which areas are more and less sensitive, and there are two ways of measuring this. You can count the area or you can count the percent area, and in the case of percent area what I did was use the percent of FNAs habitat polygon as the basis for that percentage. So to get to the conclusions relative to static inundation analyses, yes the technique does show significant vulnerability for some species in some locations. In general, impacts appear modest relative to coast erosion within a 25 year period. And as I explained, that's not entirely surprising. So then we started doing semi-dynamic beach modeling, for lack of a better term. And that's trying to address some of the issues I just mentioned with static modeling. However, a lot of the geomorphological models are very difficult to apply at the scale we've got. We are testing a new version of SLAMM model, but the results appear oversimplified so far. The other alternative is coastal engineering models, and I'm still learning about it, as far as its process. But, in general, they have not been previously deployed at scale, and they require survey input that are not currently available in GIS format. So we're looking for some intermediate approach that we think we can operationalize in GIS in the short term, and longer term we can talk about how we're going to do things in the next year that follows.

My attempt at the simplest possible model is what I'm calling now 'shift and clip.' And that's basically trying to leverage the prior CCCL work and the CT erosion modeling work, knowing that they're not 100% consonant, but the concept is this, so the idea is that unconstrained beaches will erode inland or accrete at a rate proportional to the historic R-monument measures done in their neighborhood. And the idea is simple, that you don't know much, but you're going to take a polygon of the beach and you're going to move it back from the beach at a rate that you're going to estimate from the R-monuments. The R-monuments give you historic data, and you can also add on top of that the Bruun rule. And the 'clip' part comes from the second issue, which is when do beaches not migrate, and the obvious example is when they hit a seawall or other large immovable object. There are some subtleties in how you apply this, and one would be how do you treat a low density development. And what we're planning to do is simulate what's legal, and then within what's legal, what's likely. The limit on that, I think, what we have right now is the economics of such things. So this is a first approximation. It uses the SBEACH modeling profiles that were already developed by CT, and it's got a few limitations. One is the CCCL and the CT erosion methods differ. CT erosion lines simulate near worst-case, not expected average. And it also doesn't account for SLR. So now to some preliminary results. Here's an example of a state park survey, an unconstrained beach environment, and the projection that this method would give for potential beach migration area. And I'll state about this method, it works very well in very simple cases, and least well in very complex cases, like spits and inlets. Here's another case, which I thought was interesting, which gets at the issue of what happens when you run into barriers. And so on the north half you've got an existing seawall, and therefore there's no potential for beach migration. And you've got an occupied parcel, and so this model is showing that's an area of potential beach migration. If you take this up to the state scale, you start to see some patterns. You see a lot more potential in the

panhandle, for instance. And I haven't looked at how much that might be attributable to the beach not being constrained. Not surprisingly, in the southeast, you have the lowest potential for beach migration under this model. Again, this is kind of the first draft of the model, and the idea is to bring this in front of some coastal engineers and geomorphologists and get some feedback on whether this is the best simple model.

JW Migration slide – In the big bend, is there little potential for migration because there's so little beach there?

MF I probably should have dropped the big bend from here, I meant to put an asterisk in here. Yeah, this is in absolute numbers.

JW And similarly for Pinellas county, which is highly urbanized, I would not anticipate having as much potential for migration, is that affected by the Tampa Bay estuary?

MF Well, it's only coming off of white sand beaches, so if there isn't enough energy to keep a beach there, it won't show up.

GC That's primarily an armored shoreline, too.

JW Then why would it have a high potential for migration?

GK Well, there's a fair amount of state coastal lands there, and state lands are part of the CCCL.

MF And I would eventually like to make that pac-man graphic showing which factors are contributing to this.

JW Right, and on those pac-man graphics I also wanted to say this will settle out like you said when you workshop it biologically, but when we are dismissive and say we're not losing that great of a percentage, not all species are able to exploit even a small unit of habitat, so we will hit a tipping point at some point where the remaining habitat is not of sufficient size or configuration to function. So I would caution us about being too linear about that.

MF And that's a good point. That's one of the very things we want to learn from the workshops, because this is a real paradox of take computation, among many.

KF So is there an idiot's way of thinking about tide? Areas with great tides, are they more impacted or less impacted by SLR?

MF Well, the idiot's version that I use is kind of NOAA's distillation of that into what's known as tidal adjustment grid. So you take the normal SLR grid, which is just a bunch of numbers with elevation in it, and you add on top of it their tidal adjustment. And it basically captures the fact that embayments have higher water levels, and there are

seasonal high tides that are higher in some places and lower in others. And NOAA has done that for a portion of the state, but not statewide.

One of the motivations for bringing in scenarios is to use the population allocation work and see what it means to beaches. The main three uses for these population figures are to drive expected changes to permit activities, look at indirect impacts from non-permitted activities, and estimate possible interactions. I looked at human population near beaches, but instead of taking the whole county, I looked at beach management zones, which happen to have approximately a 20 mile inland span. There is literature out there about how far people are willing to drive to go to the beach, and at least half are very willing to drive on a frequent basis 20 miles. So I looked at the population within 20 miles of the coast. We looked at 2000 and 2010 census data and the change is dramatic, and it is not near the major cities where change is occurring. It went from 9.7 million people living within 20 miles of the coast in 2000, to 15.2 million in 2010. The implications of this are numerous, but here's one way of doing it. I looked at it in terms of percent change, and my take home lesson was all the action is occurring far away from the traditional planning areas.

So the summary of this is basically Floridians, like everybody else, live disproportionately near the coast. Very little of this activity is governed by the CCCL program, but we'll try to estimate how much of that is. However, these indirect impacts must be addressed by the plan, so we want to be prepared for the analytics. And the equation goes something like beach access point, plus beach facilities, plus nearby population is predictive of beach utilization. And the first two of those obviously involve DEP permits, so we're trying to come up with a viable approach that considers that information so that the overall analysis is scientifically credible. And we think this will be particularly important to avoidance and mitigation.

TE Before you leave that slide, Florida's coastal economy is driven massively by tourism. Are there data out there that you can add to this easily to look at tourism as well?

MF Actually, I've been meaning to talk to DEP about this. I did a preliminary look for some of that data and it's easy to obtain a county scale, but what I don't know is behind the scenes, somebody must've aggregated that from some source. The only thing I've been able to find publicly available are things like state beaches that have gate counts or particular state facilities. In terms of general levels of tourism activity consistently measured across the state, I'm not aware of anything less than county level. The level of modeling I'm doing here makes a very simple assumption, and it's probably wrong, which is people will go to the closest beach to them. And we all know that surfers will go to the best surf spots, and families with kids don't want to have to carry the wagon very far, so they'll go where they can park very closely. And indeed there are methods and there's literature out there for tracking that if you have a good measure of the dependant variable, but I haven't found a dependant variable here yet. Hopefully the Beaches program and DEP does have the breakdown of that data.

- DF We don't, and that's something we're challenged with right now because our beach erosion control funding program, which uses about 18 or so different criteria to rank beach projects in terms of qualifying for cost sharing with the state, one of the criteria we can look at is economic impact from beaches. And tourism, and tourism data and tourism dollars, that would be a great way track economic impact, but the tourism data doesn't go beyond county level, so we're faced with the exact same issue.
- MF Well I have one more thing to add to that. Our other data source that I was going to bring up if I had to, and it gives you things like hotels by class of hotel and number of rooms. It seems like we're going to need to get an indirect measure, if no one is physically counting.
- JW Can you separate that out by beach hotels?
- TP Understand that you can buy that information, but different organizations have a different idea of coastal. You've got a hotel that's in Estero Bay, but not on the Gulf of Mexico.
- BE But this analysis is 20 miles inland.
- TP Right, so that would be everything. That would be the whole county.
- BM A lot of counties have a tourist development tax, don't they keep records of the amount of tax, the amount of tourism that's generated?
- TE Well, we're swirling here for good reason. But the point I was trying to make was there are 7.8 million people coming into the state and they're either going to Disney or they're going to the beach for the most part, or both. So my point is in your equation of beach access points plus beach facilities plus nearby population, I was wondering if there was some way to add in nearby population plus tourism.
- TP I think there's definitely a way to get at least the hotel information you're looking for. It gets more complicated when you talk about condo units that are rentals. And one person owns it, but over the course of a year, maybe a hundred people stay there. So it gets complicated. We have state visitor population data, so we can give you in this particular month, we had this many visitors. And then we ask them what they did while they were here and 85% of them went to the beach, so you can that number and apply 85% of it. Now that doesn't say whether they went to the beach once or 10 times, but you could almost apply...
- MF That's the kind of general logic I was planning to apply. The worst case is the crude estimate I just showed you, everything within 20 miles of beach will only get better than that. How much better we can get depends on the level of dependant variable we can find.

I just wanted to show one last map. This is fresh data as of last week, so I haven't analyzed it much, but we've got now this permit data, and one of the things we need to figure out is the meaning behind these 100,000 permits from 1975 to current. Again, I haven't dug into the data yet, but I was anecdotally surprised that it's not the most famous places showing up with the most permits. We need to peel back the question of how much of this is new stuff going on. And this is not total count of permits, it's total number of activities that were permitted, but they're all CCCL activities and permits.

GK And I would assume this includes field permits, which is a high percentage of permits issued.

MM No, actually this does not include field permits.

GK Okay.

MF So for 2013, we already started talking about work I thought about slating for there under what I was calling the beach utilization models. The other thing to be clear is we're only doing the three species groups. We've been talking with DEP and FWRI, and need to do more so. I mentioned earlier this issue that once you start to build the full geodatasets for this kind of analysis, they get heavy quickly. We've got a lot of very, very big data, and that's the challenge of this project is you've got a state scale project and you want local detail. And then the last thing that I didn't talk about here, but use resilience planning to inform mitigation. And the idea behind that is that everyone would agree that the mitigation places with the highest priority are the ones that we think we can save, basically. Conversely low mitigation priority are those that you know you're going to lose anyway. So the idea is to take the scenarios as a set and look through them to inform mitigation. They'll have a biological component and a socioeconomic component. And we'll be able to take a look in map form and say, look this is doing biologically well, but we don't think we can hold it because of factors x, y and z. So the idea is using some of the impact assessments, it'll drive decisions for what's most important for conservation. And that will be done starting with some of the workshops we'll be holding.

GK Going back to something that was brought up earlier, and that's the movement of the CCCL, and we talked about it not happening regularly, does beach migration data suggest that's something that will happen more regularly?

MF It's something we could simulate. It's a slightly different question than predicting when the policy will shift. In terms of simulating the likely biophysical future, we'd like to show where that CCCL biologically or physically currently is, and where it is at any point in the future. The tricky thing is it does indeed have legal impact and simulation would vary if you show it moving in the future.

GK There's a big difference whether it actually compresses or expands along with the beach.

- BE I don't think there's a right or wrong way of doing this. I think if we keep a static line for 25 years and express the reasons why we did that, I don't think that's going to be a problem with the Service.
- GK If you adjusted the CCCL, even though it doesn't legally change, along with the beach over time so that your plan area was more or less staying the same. Because if we move forward 25 years and the line isn't adjusted, we're getting less and less...
- BE And that might be the better way to go.
- GC Just a clarification on how the shoreline changes, the calculations. We took a background historic erosion rate and applied it to 25 years and then applied a 15 year frequency storm event on top of that. Why would we apply a 15 year storm event?
- JS Because that is the storm event you have to demonstrate vulnerability to qualify for armoring.
- GC But what does that have to do with what we're saying is the shoreline position in 25 years?
- JS We did that to identify properties that could potentially be armored within 25 years. There may be a mismatch.
- GC I think it's a mismatch and you're doubling your acreage calculations. Your background erosion rate accounts for the storms. I think you're probably doubling you calculations...
- JS When using that for a shoreline change as opposed to looking at vulnerability issues.
- GC Right.
- JS Well we may need to go back and look at that.
- GA Gene, when you calculate shoreline position, you include storm events? Like when you do the 30 year erosion, do you include storm events?
- GC Let me give you an example of that. I have to do a 30 year erosion projection in Franklin County. So I'm looking at historical shoreline position. Say I have a survey taken 6 months ago after a 50 year frequency event. I would throw that calculation out because it would skew my results and I would anticipate some sort of shoreline recovery after the storm.
- DF If we're using background erosion rates from the historical trends, and if we anticipate an increase in frequency and intensity of storms moving forward, how does that get taken into account?

- MF That's a good question.
- TE The short answer is, it doesn't. What Mike started with is this is all best available, currently available stuff. So we're doing a lot of just grabbing what's out there, but I think these are good conversations, and I think staff can take notes here and look for the best ways to address these concerns.
- MF I've been reading the literature and it gets complicated fast, but that's a very hard issue about using designed storms in the future of climate change. The Australians have done the best work that I saw out there, and they now tie their design storms to climate cycles. We haven't done that, and it's hard to know where to start on that. I don't know right now when I see a 25 year storm, whether the parameters for that storm were derived in a way, how do I judge that relative to now future climate change. So I think we've got a big set of issues in terms of those storms, and I guess we'll have a side conversation about how do we want to best address it. I was under the mistaken impression that the function was the max of the baseline erosion and the storm, not the sum of, but that's a real issue. But I guess as a group we're reopening that question of how the shoreline change rates are being computed now for this other purpose. And when CT did it originally, their goal was to bound the estimate by let's over capture it, and I think they did that, so it served its original purpose. I think we can address the stuff that Gene brought up fairly easily.
- JW I just want to make a quick point, this is slightly off topic, going back to the last slide. The point you were making about how helpful this will be to help us decide where to direct mitigation. I just want to make sure this ties back to a point that Bob made about watching how this change occurs over time, because what we're going to see with a lot of these species is from now to 2040 is a lot of generations and so they're not going to be able to collapse that quickly from where they are now to where we expect them to be in the future, so there need to be some transitional sites to get them there. So I like the tidy idea of being able to focus entirely on that model, but I want to make sure that we keep that in our thinking.
- RT I think this is definitely going to need thorough peer review, and we'll have to go after the right experts. That's a process that the Working Group, now that we have products, will have to start putting out there, and I think a lot of these issues will come up through that process, too.
- BM I concur with what Gene was saying, and what CT did before was appropriate for determining vulnerability. In terms of the other application, it is sort of like double dipping.
- TE Mike, I appreciate the work you do; this is massively complex. And I just want to remind myself and all of us that we're not going to get all the answers out of this but it'll make us ask better questions and create a better system and a better program that addresses it as best we can and I think we just need to keep coming back to we're not going to answer

everything to the nth degree, but the more we can look at it from multiple angles and get the most answers we can, the stronger it will be. I'm really happy you're here presenting and part of the team.

Beach Lighting

DF We are in rule development and 62b-33 is one of the rules that's most pertinent to our discussions, and as a part of that rule there are lighting considerations. In this rule revision, we took the approach of coming up with BMPs for lighting to try to steer people towards the way we would want them to design their lighting and reduce the amount of staff review that needs to happen, where we could just take the lighting information and back check it against the BMPs or the applicant could commit to using the BMPs and that could be conditioned in the permit. So staff developed a list of BMPs, with others helping as well. I consider this a cookbook approach where each of the different activities, whether it's single family residential or landscape or pool, if your project includes each of those components, you can go to that section and cut and paste those into your permit. The way the rule is written to reference these, in the main body of the rule it says if the applicant follows these lighting criteria, the lighting impacts on turtle habitat will be considered minimized. So if you follow these guidelines, DEP will assume you've minimized your impacts. Later in the rule it says if you want an individual lighting plan review because you won't be following these guidelines, you have to submit all of your lighting plans to DEP for review. One thing we anticipate doing is putting example diagrams so you can see what this means in terms of how lighting will be directed down onto just the portion of the beach that's being worked on. One of the goals for this is not just to have BMPs that go along with CCCL permits, there's a lot of activities on the front line of development that aren't captured in the control line program because they're either not required to be permitted or they're grandfathered in or they're not tripping the jurisdiction of our program, so these can also be used with all the coastal communities, so if they're looking for guidelines, they can turn to this as a resource manual. I'll also mention that one idea not yet written into rule right now is if the project is included in the CCCL program but has an ERP associated with it, the lighting considerations can be deferred over to the ERP since the ERP has both a construction and an operational phase. CCCL permits are construction only, and have no operational phase. What really does that mean in terms of lighting? Well, if you're a fishing pier or a restaurant on the beach and you want to be able to have more freedom with your lights during non-turtle nesting season and then reduce those lights during turtle nesting season, that is an operational constraint that a construction permit cannot adequately cover. So the ERP would be a great place for those types of operational constraints. The other thing is these lighting criteria were preliminarily screened by an engineering group, SES, and feedback was 'are you kidding me, this is a little overreaching.' We anticipate that this will generate a lot of enthusiastic and heated discussion during the workshop.

BE When will those workshops be held?

- DF The rule package has been sent to upper management for review, and once they give it back to us, it goes to the Deputy Secretary. We are waiting for his approval to schedule workshops. They're planned for this year, but we can't schedule until that approval.
- BE How many workshops do you intend to have?
- DF It depends on how the first one goes.
- GA If that professional group came back with that remark, 'are you kidding me?' isn't the BMP pretty consistent with what's already being required through lighting plan development by your agency and FWC?
- DF Overall, yes, but there are probably some wish list items on it, that in a perfect world to be the most protective, this is what we would include.
- GA Did the Deputy Secretary in presenting to that engineering group convey to them that this is in line with what's being done now?
- DF I think it was just in passing. Don't overanalyze that reaction. I think the length of the rule and the complexity was more the issue, rather than the details. But these are more stringent than what's currently being used.
- GA I would suggest that feedback from contractors is critical, and when we provide feedback we'll have gathered comments from contractors as well. Are you considering the BMPs a requirement of a CCCL permit? Is it an optional thing? When you read the rule you really can't tell.
- DF If you follow the BMPs your impacts will be the most minimized. You won't have to go through any additional efforts. You won't have to submit lighting plans. But if you want to defer from them or suggest an alternative, then you go through a thorough lighting review, and that lighting plan has to be approved. So it's not the end all be all; you can vary from it. But if you want to recommend something different for your project, it's still going to have to go through the normal vetting process.
- GA So does that mean generally that the guidelines have to be followed by the permit applicant?
- DF Generally, yes.
- TE I would term it differently. The BMPs are a streamlining of our process, and if you want streamlined, easy access, then follow the BMPs. If not, there's the normal process you can submit your plans and have them reviewed.
- DF Absolutely.

- KF I'm trying to think of how we can focus the few minutes we have on how this relates to the HCP, because there are going to be lots of meetings and it's good to get an update, but I know Gary and I and others won't be in a lot of the exchange. So, the Department issues CCCL permits. Part of my limited understanding, and part of this process is so that in the future part of issuing that permit, the Department under the HCP, there will be coverage for take that could occur with that. Currently DEP issues permits for certain things, we review the lighting, we have a stamp that shows lighting is covered. I'm trying to figure out in the HCP world, if you put requirements out and you follow them but there's no checking of that, then I would think the need for that HCP, the coverage that it provides DEP is lessened, because there's no actual check. You're just saying if you follow these, you don't need to submit details that you are following them, so therefore, the Department would not be liable if take did occur because the Department did their diligence and told the applicant to follow them, but there's no actual check. Am I way off? That's where I think it would intersect what the HCP is about.
- BE I don't think that's true, because, as Danielle said, she's attempting to minimize impacts, but that doesn't mean their avoiding impacts, so there's still some take issue associated with it. But at the beginning, as Brett brought up, if there's a CCCL and ERP linkage, then you address the operational component, but if it's just CCCL independent, does DEP go out and check to make sure BMPs are implemented? And what happens if they change somewhere down the line?
- DF In terms of being changed down the line, an applicant can go in the first year of a permit with approved lighting plans that have been verified by field staff, then at the end of permit, 4 years later, the owner can change out the lights to what he wants. And the Department can't do anything about that. So that's the way it is today. Now, if you put those criteria into an ERP, then there's more of a perpetual component to them, but not all CCCL permits have an associated ERP.
- TE To me we're trying to get better clarity on how lighting affects the HCP and if that's what's occurring, and/or if we're concerned about it, the HCP will have other mitigation measures to make up for that. So even though this one aspect of what DEP is doing may not give us all the comfort we want, it gives us clarity about this is what's happening or not happening and then the HCP addresses anything we feel needs to be addressed outside of that.
- DF Where control line program ends, in many municipalities, the local programs pick up. For example, Palm Beach County has a pretty good turtle lighting program, and they'll go walk the beach at night and see who the offensive light owners are, and they'll try to work with that homeowner to try to get them to change their lights. So the local effort in minimizing light impacts to turtles is critical. If there was a way that the state could transfer all that responsibility to a local building official, we would, but we're struggling with that now.

- GA I think a possible mitigation would be to do the linkage between CCCL and ERP. As you said, CCCL is 5 years and ERP is essentially perpetual. In terms of people changing lighting after 5 years, we don't have a lot of evidence of that. It's expensive. I'm sure it happens, but I don't think it's a real serious problem. But I think there's a lot of opportunity in the HCP to address shortfalls in this process, and we can have that discussion. And another shortfall is compliance, and I think that could be addressed through the HCP as well. One other comment, I think it's important that the strength of the BMPs not be too compromised as it's work-shopped because if it is, it really will affect the HCP process. And I think it's important that the agency let people in these webinars know that this is indeed a streamlining, because a vast majority of these requirements are already there.
- RT If I may offer a clarification – under the existing program, FWC assists Beaches with review of multi-family structures. Beaches staff do single family homes. When we review these multi-family structures, we do not recommend balcony lights because we were contacted by the local code enforcement, telling us that those lights could very rarely meet their local code. So in order to streamline and make sure that what we're approving is consistent with local code, we've moved away from approving balcony lights on these very tall buildings. I mean you have 100 balconies, each one with a light, and there's just no way that can meet the local code. I mean, we'll do it on a case by case basis, but I just wanted to offer that because I don't think it's much of a change from what's being done now.
- BM I look at this as advanced implementation of a minimization approach that we would expect coming out of the HCP. Right now DEP already does this through general permits. You get a general permit to build a house, and you don't have to submit lighting plans. You submit a statement saying you're going to comply with the guidelines. How do you get assurance that they're actually installed in an appropriate manner consistent with those standards? The Department right now relies on a certification. You get the contractor or engineer to certify that it's in compliance. But with regard to the long term, that's the weak link in this process. What is involved in trying to amend, there was a section about all different codes and statutes that need to be amended. What is involved in amending control line program so we could have operational fix?
- DF It was part of the consideration, adding an operational phase to the CCCL program, and we didn't go too far down the line.
- GA Is that something that could that be done through statutory change to make lighting an operational component to the CCCL program?
- DF First you'd have to get an operational component.
- GC I agree with Gary, I think it would require statutory change. And I have a question for Robbin. With regard to entities at the local government level looking at lighting, I assume that in most instances it's not the building department, right?

- RT Where it works well, the building department works with the code enforcement, but a lot of them are not engaging and there's still a lot of work to be done.
- GC But it does fall under the building department?
- RT It varies county by county.
- KF This seems to me to be unique this thought about turning it over to local authorities. I'm trying to think of other parallels where impacts to federally listed species are turned over to cities and counties to implement and regulate. Or is this really new ground? Because you have federal take of federal species in a state permit.
- TE The most relevant example I can think of is the Perdido key beach mice. It wasn't just a handing over, but there was a joint effort by lots of people, including the Feds and the State and the local county and municipality. And the trust fund and the actual implementation is all run by County staff.
- TA The way we always envisioned this would work is through Section 10 we're trying to, you have the HCP that fully evaluates the impacts to the actions comprehensively at a programmatic level. We come up with avoidance and minimization measures, and we come up with a mitigation strategy. All those things typically could happen on an individual basis if the state required that prior to issuance of a CCCL permit, they come in and get their own ITP. Then the applicant would be negotiating directly with the Service. But we all know that that's a very cumbersome process. We have that already in place. This isn't a delegation of authority. The USFWS is issuing an ITP to the State for the implementation of the CCCL program. In the HCP we'll outline all those avoidance, minimization and mitigation measures which will then be included in the state CCCL permit. So it's not delegating, it's just furthering what we've already agreed to at a comprehensive level, instead of requiring it at a project level or even at the county level. Does that make sense? We aren't delegating anything down to a county. What you're doing is coming up with measures that will be within the state permit. And I think we've all agreed that there may need to be changes to some statutes to allow some of these minimization and mitigation measures to be implemented.
- BM I think we got a little off track, because the intent of this where we get into the delegation if authority was to pick up where there's a shortcoming in the control line program, with regard to it not having an operational phase. If the HCP has minimization measures, and they're followed, the idea of the local government having an appropriate ordinance in place, it's so when the permit expires, it still stays in place.
- TA This HCP and those avoidance, minimization and mitigation measures need to follow through in perpetuity. It's not a 5 year thing.

- TE I think what is tripping us up is Chapter 15: Compliance, Monitoring and Reporting. Who will be responsible for that? And I think that can all be spelled to be anybody we want, as long as it makes sense and everyone agrees to it, and there's some way to make sure that happens. But I agree with Trish, all that's got to be spelled out.
- TA Yeah, we need that clearly outlined in the HCP. Otherwise, it won't meet our issuance criteria.
- GA This seems like a real quandary because a CCCL permit is 5 years and there's no compliance after 5 years. If you're looking for perpetuity on lighting management, that would clearly require statutory change.
- TA That's exactly what we've been talking about all along.
- TE We're layering a lot of assumptions on here, and I don't want to make it like we're making a decision, but if lighting rises to the level where it's significant and the post 5 year effects are significant and there's not comfort with how it's being handled outside of what our current statutes are, then we'd need to go to statutes. But my personal opinion is that there's a lot of room to maneuver prior to going to statutes, and I would hope that we can solve most of these prior to going to we need new laws at the state level.
- BE I think a lot of us envision some roles for local governments above and beyond lighting impacts, but the state can't just delegate to local government and expect everything will be fine with the Service. There will need to be some sort of MOU. So I think there will be more issues that we'll address as we go through, but I don't think the local government committing to light management is not necessarily untenable. I think that can be incorporated, but there just has to be commitments there that the Service can look at and say this is going to work, and if the county doesn't follow through with then we've got a problem.
- BM Whereas if they do, then they're protected under the HCP.
- BE Yes.
- GC I would assume the HCP would address this issue and it would be clearly spelled out, because we always envisioned having a component of the HCP that would allow the local governments to share the bounty of the ITP.
- KF I think Brett said it earlier, this is the precursor of the HCP, with the rule being considered it's sort of like a start. But listening to the conversation, it's all wrapped around, and yes we can incorporate all this into the HCP, and that's what we intended to do, and that's all good. But what I'm trying to understand about this initial rule making, is almost as if the Department is going forward with a rule change that we envisioned would be all wrapped up in the HCP somewhere down the line, and I know you have a very aggressive rule schedule, so how is it that you're moving forward with all these

things that we say can be part of the HCP with the local governments being covered and so forth, through rule making, without the HCP?

- KD I would say it's a non issue. Basically, the HCP, when the HCP is submitted, it can incorporate by reference and reaffirm existing rules and statutes. So whatever DEP already has in place at the time of ITP issuance, we just reference them within the HCP. There's nothing stopping them from going ahead and being aggressive in conservation reform, and we just incorporate that.
- DF The driving factor for rule development effort on this rule was not the HCP.
- BM And being on the other side as someone getting permits, I would look at that as a streamlining process as well. It means that Danielle's staff isn't as burdened with having to do lighting reviews.
- DF And also an applicant, we hear it all the time, the applicant's are saying all the time, 'tell us what you want to see, tell us what you recommend.'
- MF Just a suggestion, having worked at Harvard graduate school of design for a long time, having graphical diagrams in those BMPs is a huge win, because it makes it a lot more tangible and a lot more realistic. I've dealt with a lot of municipalities in similar contexts, and because it's not a law, it's BMPs, you have the latitude to have nice photographs in there. And that, for me in public meetings always really helped. And it seems if in that rule making process if there's a way to get feedback from county about what would make this package the most compelling for them to adopt into local ordinance, that would be a huge win for us.
- GA In terms of overall protection for turtles, do you look at this as improvement over the current system?
- DF I would say yes.
- GC It's a difficult question to answer. It's been my experience that our property owners for the most part are very sensitive to the turtle issues and want to do the right thing. Under this proposed rule, we're laying out what the right thing is up front. It does make us somewhat vulnerable on the compliance side, but I think overall it's a positive step forward.
- KD I wonder if that could be part of mitigation in the HCP is compliance monitoring for that.
- BE Do the BMPs have in them, in addition to these guidelines, compliance with local lighting regulations? Because under the current program, we've seen lighting plans approved by DEP and then the county goes out there and find certain lights to be non-compliant. So, it seems to me you'd want to have somewhere in here that in addition to

these, the permittee should make sure their lights are fully compliant with local lighting regulations.

- GC Whenever you have two standards, generally the more restrictive applies. So you would think that general assumption would address most of these problems, but it would be wonderful if state and local standards were the same. But it's unclear how we would get there though, because you'll always have municipalities that want to be more restrictive than the state could ever possibly be, yet we would not want to stop that municipality from being more restrictive.
- DF And at points in certain permits we have conditioned the activity be in compliance with local lighting standard, as opposed to any other lighting review done by the state. Not commonly, but we have done that.
- RT But there is a lot of variability and there are a lot of local ordinances that are less restrictive. For this to work, there has to be a way to get local ordinances up to at least the level of the state.
- DF In general when it comes to lighting, compliance is challenging. As a state agency, we can't have our field staff going out at night all the time. In addition, lighting compliance inspections aren't going to necessarily tell the difference between different wavelength bulbs. You can easily see if it's recessed or not, or if it's shielded, but you can't necessarily say it's this wavelength.
- RT I just want to make one suggestion. In looking at the BMPs, there is language that makes the reference 'if you need more light for safety,' and that is always what you'll hear back. So I would suggest, that if you're asking for more money, it would be good to bring in a light safety expert to consult with for the HCP.
- DF I want to put Gary on the spot and ask for an update on the research project some of your volunteers have been working on regarding lighting ordinances around the state.
- GA We have a 30 page excel spreadsheet with all lighting ordinances in the state broken down into all the components of those ordinances, what they cover and what they don't cover. And we're trying to compare that with BMPs and the model lighting ordinance. We're having full day marathons where we go through the spreadsheet ordinance by ordinance. It's not finished yet. It's not timed to the HCP, unfortunately. I don't know when it will be done, but it's being aggressively worked on. Hopefully we'll be able to provide you with a lot of information on the variability. I think we're going to find, though, that the BMPs, which is reflective of the lighting plan approval process that FWC provides, is by far the best thing going, as it is currently written. And I also think there's room to make improvement in the BMPs and we'll provide comments on that. That process is driven not just by our organization. We're just helping. So we don't control the timeline. There are graduate students, law students that are driving that finished product.

- TE Thanks for that Gary. Lighting is clearly a hot topic. Kat, so you have anything specific for parking lot?
- KD Any questions people have, anything that had to be tabled. Just a reminder to please respond to a doodle poll which will be going out soon to schedule the 2013 quarterly meetings. December 10th is our next meeting date, and I have not yet determined whether or not we'll need a full day.
- BE For those of you on the Steering Committee who did not submit comments on Chapter 7, and would like to do so, you still have time to do that. You can send comments directly to me.
- GK The last conversation about potentially handing off responsibilities between CCCL and ERP and your comments about management plans that are ongoing took me back to the 'but for' discussion we had earlier with regard to species and habitat outside the plan area. And I'm particularly thinking about gopher tortoises, and I was wondering if the planning that FWC is moving forward with for gopher tortoises outside the plan area would be adequate or does the CCCL process need to also make sure it's given its due?
- TE Well, we could spend a whole day on that. My thoughts on that are we just got the management plan approved, and we're working on revising the guidelines, and the majority of what the gopher tortoise has going on from a conservation perspective is outside of the Beaches HCP. I see the CCCL work and this HCP as being additive to what we're doing, but I don't think it's going to make or break the gopher tortoise itself.
- KD Our tack on that, up to this point, has been basically we're going to address the gopher tortoise by reference. If you're in an area where there may be gopher tortoise impact, if you refer to and comply with the management plan and permit process for gopher tortoises, then you'll be in compliance with the HCP.
- TE Any other comments or items? I tried to keep track of next steps, and I can walk through that if no one else has anything. In no particular order, we want to continually look at and revisit species impacts versus our take of habitat approach, and make sure we're keeping that in the back of our minds. The 'but for' discussion is a biggie, so Work Group if you could work on that and wrap your minds around that and think about how to shepherd us through that conversation, that would be helpful. Mike brought up what happens when the CCCL changes, and that's something that's a little less of an issue, but something we want to have an answer to that makes sense with what we're doing in the HCP. Staff is working on revising Chapter 7 based on previous feedback. Send comments to Bob if you haven't already. The species habitat modeling workshops are coming up and we should all be on the lookout for that and help make those a success. Mike and Geo Design have a lot of work ongoing, and he's going to take our feedback from here and continue to work that, and Gary, I assume you and Mike will work together to make sure all that flows together seamlessly. There are the remaining

chapters that I assume staff is working on, that we haven't seen yet, so that's a lot of ongoing work. There's a survey on the Implementation chapter, which staff would like for us to schedule a call to discuss. There will be a doodle poll out shortly for the 2013 meetings. Anything else?

DF New columns on the species table for peer review information, and also Chapter 6 is going to go out for peer review.

TE Anything else? Comments, questions?

DF I'm very excited to see how far we've gotten, and particularly the Geo Design work, and I'd also like more information on the upcoming workshops. I'd like to get those on my calendar, and get plugged into that a bit more. I think we're working well together as a group, and I'm very appreciative of the efforts of the Working Group.

MM One other thing for your list. This is important, particularly from an analysts point of view, and that's how we're going to address the issue of unknowns with the species occurrence data. That is something that we've struggled with for a while, and it's just something that we need to continue to do some work on that.

KD That is ongoing, and part of our regular day to day work. And just to comment on what Danielle mentioned about the workshops, if more than one of you want to participate in those, I'm going to need to look at the Sunshine about how to handle that. So as we get those schedules out, just be sure to let me know if you plan to attend.

TE This is definitely the current biggest HCP going on, maybe biggest ever, it's massively complex. And even with all of that it's running very smoothly. The Service is happy with where we are. From my perspective, FWC is very happy with where we are, and that's all on the Work Group. The Steering Committee is just kind of coming along for the ride. I appreciate the organization and the work and teamwork and effort across a broad spectrum of people. We tend to gloss over that and take it lightly, but I've been involved in very small HCPs that still aren't done and are many, many years old and they don't have near the complexity that this one does. So, don't take it lightly that things are going well. That's not by accident; that's by a lot of hard work. I appreciate everyone's time, and I will officially adjourn us here and see you next time.

Meeting adjourned 3:45pm