

Meeting Minutes
Florida Beaches Habitat Conservation Plan
Steering Committee
Quarterly Meeting

Wednesday, June 13
9:00am-1:00pm
Florida Fish and Wildlife Conservation Commission
Bryant Building, Room 272

Chair: Thomas Eason, FWC
Co- Chair: Danielle Fondren, DEP

Steering Committee members present: Thomas Eason, Danielle Fondren, Blair Witherington, Gary Appelson, Brett Moore, Tamara Pigott, Julie Wraithmell, Ryan Matthews (phone)

Other participants: Kat Diersen, Tom Ostertag, Bob Ernest, Jackie Larson, Robbin Trindell, Kelly Roberts, Kipp Frohlich, Michele Mayo, Amy Knight, Kim Colstad, Jimmy Sellers, Rebecca Pfaller, Justin Vogel, Sally Davenport (phone), Trish Adams (phone)

Minutes

Welcome and Introductions

Staff Report

KD Review and approval of minutes from March. They were sent out a while ago and again two weeks ago. Any comments, questions?

TP Move to approve

BW Second

****March meeting minutes approved**

KD (Review of agenda) There are a few updates—your workbooks—we are no longer going to provide these documents in hard copy to you, but we have the ftp site up and running, so you can always check in with that site if you want to manually add documents to your binder. September 20 and December 10 are our next meeting dates. September will be all day, and we'll play it by ear for December. Don't forget we'll continue to have interim WebEx meetings to go over the chapters. The next chapter we'll go over is Threats to Species. Be on the lookout for a doodle poll to schedule that. We're also planning a large upload of preliminary chapters on the website—7 chapters (1, 2, 4, 5, 6, 7, 9). This will be accompanied by some outreach to our wider group of stakeholders.

Not much new information on the grants front. We submitted the year 6 grant proposal. Species accounts—there's not a whole lot of change from last quarter. They had to take a back seat due to drafting of other chapters. They are very near to completion, however. We only have one update on current studies. We got direction from you last time to look at the close the gap parcels as it pertains to the armoring study. Jimmy?

- JS At the beginning of this year we went through all counties one more time to identify parcels that would be considered close the gap parcels. I haven't updated the reports yet, but I did plug the data into our table so you can see the results. It ranged anywhere from some counties that didn't have any parcels that qualified for close the gap to other counties that had quite a few, like Walton county, for example. The largest was the northeast region with St. Johns county identifying over 2 miles with potential properties with close the gap. The large quantity is single family homes that could become vulnerable over the next 25 years. All in all, we identified over 100 miles of existing armoring and projected 50 miles based on vulnerability, and with close the gap it adds an additional 12 miles over the next 25 years. The overall result is we expect about ¼ of 681 miles within CCCL jurisdiction would be armored in the next 25 years. Those are the preliminary numbers.
- GA You might want to think about a way to give more value to a close the gap case as opposed to an isolated armoring case when looking at take and mitigation. For people who don't know, when you have close the gap, you have armoring on both sides of the property, so there's already nesting pressure there. In some cases the only places left for turtles to nest on that beach is in the gap. So when you close the gap, there's more impact on nesting in that area. Just something to think about.
- KD We've had very robust discussion on this in the last quarter, and habitat value, and we're working on it. Some of Amy's data may start to address some of that as well.
- RT There's also an opportunity for minimization measures that reduce the impact of closing that gap and that's something where engineers will need to engage. They want a straight line to close that gap, but if you can leave a little more of that habitat, then you can offset some of that impact.
- GA That's an interesting idea. One minimization measure could possibly be using best practices with tie back technology.
- BW I agree gaps have higher nesting densities, but I think we might be pressed to come up with a multiplication factor for take in the gaps.
- KD It probably wouldn't stand independent; it would stand on a sliding scale. We'd have to assign some rule to it.
- BE I think when we get into the take analysis, we're trying to keep it simple, and we may not need to get into that level of detail to accomplish the take assessment.

- BM We're making the assumption that we're closing a gap between two armoring structures where there's no nesting habitat. But that's not always the case. I would recommend that you don't make up a number, and you keep it simple at this point. You really have to deal with those on a site by site basis. If you do put a wall further back, you may have to allow for some rock in the corners so you're introducing engineering issues that need to be addressed as well.
- KD We've looked at this and tried to consider relevant factors impacting the issue and sometimes we're able to mentally easily incorporate it, and other times I find myself getting hung up on it. I think this particular issue will keep coming up.
- DF In the CCCL program, in close the gap structures, they get a simpler review. They're treated differently in the control line rules. From a regulatory standpoint, it's sort of, yes or no, do you meet the criteria?
- BE On the take end of things we'll look at that, but I don't know it'll come that much into play. I wasn't inferring we shouldn't look at it in terms of minimization.
- KD From a take perspective, we now see we're looking at potentially 12 more miles of coastline in our estimation of take. The question is on minimization and mitigation, can we utilize those properties to get more bang for our buck. Moving on to the Gantt chart—we continue to be on track for our objectives and deliverables. Take is an ever elusive problem, and it keeps sticking us, but we're getting better at being creative on how to move on with other aspects.
- JS When looking at the Gantt chart, when we update it each month, the dotted line shows where we are in time.
- KD As far as Geo Adaptive (GeoA), it's been an epic struggle, but we're baby steps away from it. We've approved their proposal and budget. We should have them working by July 1. They are aware and sensitive of the time sensitive nature of the project and are scheduled to do a whole lot of due diligence up front and cover lost time with us. That covers updates from me.
- DF GeoA—is it appropriate to review their scope?
- JS They're doing alternative futures modeling where they're trying to incorporate climate change, economic and demographic scenarios to help us determine take and mitigation and adaptive management.
- MM As far as the alternative futures analysis goes, you put different variables in and tweak them, but I haven't seen any predictive modeling. How do you funnel it down to a firm estimate of take over 25 years?

- TE What GeoA does is look at alternative futures, and then it's up to the project managers to decide which to go with.
- KD There is a work-shopping process built into this with experts, and one of the outputs would be the experts weigh in on what the priorities should be for our implementation.
- MM It's not so much the answer I'm concerned with as the method.
- BE We'd talked about doing a best and worst case scenario and then select something in the middle to present to the Service.
- KD And that's the bar—what will the Service accept?
- TE Suggestion—they've done webinars in the past, maybe a webinar on what they've already done in Florida and how they're going to use that in this project.
- KD Great idea. We'll look into that.
- BW If the model does end up being predictive, I've got questions about what we'd do with numbers. Are we seeking a point estimate or some limit beyond which we don't want to go?
- KD I'll hold that for a later part of the agenda because we'll talk about take later on.
- BE The short answer is yes, both.
- KD Any other questions or comments on updates? (none) Next agenda item—updates on chapters 1, 2, 4, and 9. There were truly no substantive Steering Committee comments on chapter 2 (Biological Goals and Objectives), so we'll skip that.

Update on HCP Draft Chapters

- SD Chapter 1: Introduction. We'd talked about using callout boxes, but I don't think there will be any in the version we send to the Service, but maybe in the version for the public. We are going to have a separate section on threatened plants, and we obtained a copy of the new Florida Assessment of Coastal Trends (FACTS) document and we'll be looking at that document to see if there's more animal species we should be discussing and if we can update any growth trends. I sent the FACTS document out to the Working Group, but maybe we should send to the Steering Committee if you want it. There are some questions, I turned to DEP for their response and they felt comfortable with the way the CCCL program and natural resource protection section is now.
- KD On chapter 1, most changes given to us were semantics.

- SD Chapter 4—CCCL Program and Covered Activities. First comment was on acronyms. Standard procedure is we'll have a full acronym list at the beginning of the HCP document. We added a new paragraph to the introduction on why DEP is requesting an ITP. Next, the second purpose of the CCCL program is not in statute or rule. It is implied, but we just left as is. Clarified geotube definition in rule.
- JL Geotubes are characterized as core of dune restoration projects, not as armoring in rule. We talked about where it belongs in the HCP, and I think we decided in armoring.
- SD And that's where it is.
- JL I believe we don't want to describe it exactly how it is there, but I think just some tweaking will be good.
- SD Okay, I'll work with you all on that.
- BE I think our thinking was that an exposed geotube structure intended to act like armoring is completely different than other structures.
- JL But we'd never authorize a tube be left uncovered.
- GA The main clarification was that same rule applies.
- BW I think the Steering Committee would be clear on this, but I wonder if the reader would be. Maybe some additional language, justification to describe what geotubes do and why they might be a lot like armoring may be needed.
- SD We'll work with DEP to make that as accurate as possible as far as existing policy and make it clearer to the reader. Any other questions?
- DF Overall on the chapter—would it be helpful in this chapter to see or get a sense of how many permits are issued as administrative permits vs. field permits or other, because field permits are much more numerous than administrative permits in the office. Is there value to do a pie chart to show the difference there over the last few years?
- JS I think that it could give a better picture of how the program is run, and I don't think that data would be too difficult to get.
- BE Are you talking just for the armoring or for all CCCL activities?
- DF All CCCL activities.
- GA Can you give a clarification on the difference between the two kinds of processes for permits?

- DF Field permits issued in the field, on site. We have numerous field permittees around the state, and field permits are usually for minor activities. Administrative permits are processed in the office and are usually for more involved activities. Activities we're considering here in the HCP, it might lend value to see how much of the Control Line Program is dedicated to certain activities.
- KD I'm seeing utility in such an analysis.
- GA Especially when it comes to beach raking.
- MM How would you access that?
- JS We've started talking about characterizing different types of permits, and that's easy. However when we break those down into activities, that's more involved because one permit can cover several different activities.
- DF We'll get with Gene and Tom Waters to see how well they can be queried.
- KD We will go as far into it as we can and still meet the deliverable.
- DF And I'd suggest it be a graphical display, rather than text.
- BE Chapter 9: Alternatives Analysis. At the last Steering Committee meeting, we briefed this chapter and there were just a few substantive comments that I took to revise this. The first was to add an introductory paragraph to indicate the purpose of this alternatives analysis. I did that. Another thing that came up was we need to be more emphatic in options we present as to why this isn't a good option. I did that. The other substantive issue was one option was to abandon the CCCL program altogether and another was delegate to local governments, and there was a suggestion to combine those, and we did that. Those were three primary issues. Any issues with changes you saw?
- BM If I see anything I'll send an email.

Addressing Beach Lighting in HCP

- BE As way of background, one of our tasks is to develop a method to estimate take, which informs minimization and mitigation and other areas of the plan. It's a very complex analysis because there are many activities and many species, huge geographic area and long term. One of the things we wanted to do was simplify this complex problem, so we compressed the CCCL categories into eight major groups, which we've discussed. We decided to estimate take on the amount of habitat affected for each activity group and species group. The assessment we're using is that activity group on that species group and that impact incorporates direct and indirect take. The problem has been there wasn't a lot of data that speaks to this approach. DEP has a database, but it's difficult to extract things in the format we need. So we undertook studies to fill gaps and look at existing

conditions and use that for a baseline. The four groups we studied were upland development, armoring, dune crossovers and raking. A question came up—what about lighting? And how should we address it in the HCP? We know lighting is a problem. Over the last four years, on average, 1,300 disorientation reports filed. Estimated over 50,000 hatchlings disoriented/year. 668 dead hatchlings per year. There are effective light management techniques.

- BM You said there are 50,000 disorientations, what's the percentage?
- BW I've seen estimates of about 1.3 million. But the most important thing to understand is that 50,000 is not precise.
- BE I failed to caveat that this data is extremely conservative. This is an extreme underestimate.
- TE If we continue to present it, it would be good to put it into perspective, as Brett suggested.
- BW There's some rough expansions of truer to life estimates of disorientations that are old, but for comparison, that light gives the realm of reality.
- BE I think the point here is that lighting is causing take and take is take, it doesn't matter how many. There's the degree of severity, but the point is lights are causing take. So how is DEP dealing with lighting? They do require lighting plans if something will have a lighted structure, and they've worked with FWC, and FWC developed some guidelines for permit reviewers. And on commercial or multi-family projects, FWC is called to consult with on those projects and even on some single family projects. FWC has also developed guidelines for permit reviewers to incorporate as terms and conditions of the permit. They're not always incorporated, but sometime they are. Then there are closeout inspections where DEP goes to the site and that include a lighting review. It's a process, not perfect, but there's a process in place. So how do we want to deal with this in the HCP? We provided three options—Option 1 is address lighting within the existing framework for how we're estimating take. Lighting is an indirect impact associated with upland development. We've described the scope of impacts through the minimization and mitigation process, so we'll address lighting the same way we address other impacts. Pro for doing this is that's consistent with how we're addressing other impacts. DEP is not specifically requesting take for lighting, because it doesn't permit for lighting. I'm unaware of any FWS ITPs for lighting, because they feel impacts can be addressed. Our assessment of take is based on amount of habitat affected, not individuals. Option 2 is let's not assess take for lighting, but undertake an assessment of how affective DEP lighting plans currently are, and then make sure that lights are installed according to those plans. The other thing is to determine if lights are in concordance with the plan, why not? New owner? Not installed correctly? A pro for this is these would inform if procedural reforms are needed.

- DF The lighting issue in terms of whether the plan can reduce disorientations is challenging because you may have two neighboring structures with lights that are not within CCCL.
- BE That's a good segue into reasons why we can't do this. First of all, we'd have to look at individual lighting plans. Then we'd have to go into the field and make a determination as to whether or not it conforms with lighting plans. That's very labor intensive. There'd be difficulty determining why lights are not in compliance with the lighting plan. There's also the problem with disorientation data itself. Often you can't distinguish disorientation to certain lights. Interior lighting can be just as bad as outdoor lighting. You've got transient lights—flashlights, headlights. For those reasons, we don't think it would be very productive. Both options two and three are very onerous. Also an analysis is not necessary to develop effective minimization and mitigation for lighting impacts. So that leads up to our recommendation is Option 1.
- BM We don't know if there's a problem with permitted lighting and improvements made over the years. We don't know how affective or ineffective those are. There's just a lot of grandfathered lighting out there. It seems the best way to deal with that is through public awareness because you don't really have enforcement opportunity with grandfathered structures.
- BE For the ITP, we wouldn't have to worry about previous structures. This would kick in at the point of ITP issuance.
- KD That having been said, part of mitigation could involve looking at existing structures and seeing if we could improve them.
- BM But that's making an assumption that it's not working.
- KD I said seeing if we could improve, if there's a need to improve.
- RT The process in place now is a lot of coastal cities have lighting ordinances in place. And they've complained that there are new projects coming in with bad lights. We try to compromise between good lights and public safety. So it's all part of a multi-pronged approach to improve these lights. To me the program is going to the mitigation option. This will really enhance our efforts through the HCP in working with local governments.
- BM I think we're in agreement. The way to deal with a lighting program effectively is through local governments because even local governments can't legally go in and make them change things. I have to bring this up because the technology in lighting, there's been many advancements and we've had situations where some people can go to expensive extremes. I think it's important that we keep these options available because it's simple to say let's have strict turtle compliance year round, but the real factor is people with spend 30 million dollars for a property and they won't even be there half the year. So if they can develop two types of programs, then they're willing to not press the limit year

- round, but compromise. If there's a program already set up, that helps address those issues.
- RT Our argument is always, we want it to be safe all year.
- KF This is something we've been working on with DEP, and I just don't understand how this will calibrate if in 6 months the rules change. Does this team go back and have new a presentation?
- GA It would be nice for this group to know what changes are coming down the pipe. Option 1 allows tweaking of the process DEP uses for lighting. That opens a lot of flexibility. That can be coordinated with whatever they're doing. Fixing lights is relatively simple. It's the process that I'm hoping we're going to get to through this process, and it seems we can coordinate that.
- RT That's my hope...this process will get a link to local governments that will enable this to work seamlessly.
- BW Relative to process, I think the review of the lighting plan is helpful to a property owner because it makes it less expensive to solve lighting problems. It's much more expensive to retrofit. Less expensive to get it right in the design phase.
- GA We need to be clear that's what we're looking at...lighting for new construction moving forward. And the greatest benefit is helping the property owner if we can get it right in the beginning. The dovetailing with local government, I don't know where that's going. I would caution moving into that direction without fully assessing the success of moving in that direction.
- KD That'll be part of the implementation plan.
- TE So do we stick with the current approach for looking at lighting as part of take? My answer is yes. I'm comfortable with Option 1.
- BE One other thing—with respect to DEP in review of lighting plans, if they abandon that, it's not like they're off the hook for take. In the review, we're not talking about interior lights, and we haven't talked about impacts to beach mice and shorebirds. I just wanted to lay that out.
- BM I do agree with Thomas that lighting is sufficient enough to be considered, but from some of the comments just made, up front guidance on lighting is in process now. If we're going to sell this to the public that you're going to start regulating lights in home...
- BE No, no, no, that's not what I meant.

- KD Lighting causes take; we know it does. It's considered an indirect impact of other activities permitted by the CCCL program, so it will be a piece of the puzzle. But it is not necessary to treat it as its own source of impact for all the reasons we've discussed here. Some of these more specific details will come out in future.
- KF Thomas, someone said it's habitat based assessment, and I'm not sure I fully understand what that means. So far this has been measured on an individual basis. So how would you measure this?
- KD Habitat. If you have a CCCL permit for development of a single family home, you look at all direct and indirect impacts and you do it in a geographic way. So the direct impact would be the footprint, and the indirect would be that outer circle of impacts. So the footprint of take as you incorporate different aspects...
- BE Not exactly...What we've done is we're looking at activities. Single family home, we're saying everything associated with that house will be covered by x number of acres or linear feet. And that's it. That encompasses all direct and indirect impacts associated with that.
- KF Unlike a site specific project, the light from that house can disorient turtles from 3 miles down beach.
- BE To try to quantify all those indirect impacts...you also have people with cats. How far is the cat going to roam? All those things are difficult to quantify. So we try to do the simplest thing and take a physical permit of activity and that's going to be take. And we've asked the Steering Committee to let us go on with that approach and really address lighting through minimization and mitigation.
- BW I agree with Kipp about the circle of influence with lighting. I wonder if we could add a little complexity in including a property use to help understand that circle of influence.
- BE But that assumes the lighting in those facilities will be bad.
- DF This is so germane to a lot of things going on at DEP right now.
- TE We need to get back to the question of whether or not we're okay with approaching lighting this way. The way I'm picturing this is I'm okay looking at take on a habitat basis as long as when we look at those categories there will be linkages with indirect impacts. We don't have to solve the minimization and mitigation issues now, we just need to decide if this is the right approach. Is there comfort in this?
- BW If there's any forecast for controversy, it might help to have a Steering Committee vote on it.

TE Is there anyone who can't live with going this way? I don't think we need to take a vote. (hearing none). So direction from the Steering Committee is to proceed as you have been.

KD And we will explore the possibility of a webinar devoted to lighting issues.

TAKE

KD We've spent a lot of time figuring out how do we calculate how much take is occurring and what are the components of that. The goal is to develop a model that produces a quantitative estimate. The complexity of factors related to coming up with an estimation—geographic scale, uncertainties, length of permit, data gaps. As always, the onus upon us is to use the best available data. Our historical timeline—the new items highlighted in yellow. We had two more take workshops and meeting with FWS. The meeting with FWS on June 8 was transpired as a result of two things—an offhand comment Thomas made at the last meeting that isn't this just going to result in take of the whole state? So we wanted to consult with the Service on is that threshold acceptable. Given the other edict of the Steering Committee to simplify our approach to this we needed guidance from the Service on how much we can simplify. And just to review this again, these are the 7 components of the take calculation. Four is highlighted because there was concern on utilizing time of year and it resulting in an overly conservative estimate. The other 6—species group, activity group, location, likelihood, amount of habitat and duration. Our thought process in time of year—the issue was we originally had 4 items to tell us take or no take, then the next three would tell us how much. We had time of year as item 3 to tell us take or no take. An example is a sea wall constructed not during sea turtle season. It doesn't account for indirect impacts. So we had a lot of conversation on is time of year relevant at all? The group agreed that we consider it now. Timing of activity is a required component of CCCL permits. Ultimately we decided to completely scrap it from the original 7 step approach and add it in as a filter in the minimization strategy. It's in effect already an existing minimization measure. So we'll still be looking at it, just on the back end now. So our chart you've seen before, and I'll point out two changes. Top left, item 4 goes away. And item 8 changes. We've changed the bottom box to 'change to existing to habitat quality.' And this gets at how bad.

TE I think I like where you're going with changing habitat quality. Are you thinking that's where indirect impacts will get factored in?

KD More or less.

BE I don't think so...the approach we're using is the suite of direct and indirect impacts associated with an activity on geographical scale. We're not going to come back and look at indirect impacts later.

KD That's what I thought he meant.

- TE In my mind, part of the how bad is how many indirect impacts are going to be layered on top of this.
- KD There's the quantitative aspect and the qualitative aspect. The qualitative aspect gives us how bad. And that is something that in our original conception we'd factor in before we came up with the final estimate for take, but have since decided it probably won't end up that way. We spent a lot of time assessing what we mean when we say how bad. Essentially we had been toying around with catchphrases and concepts, like fragmentation or unique genetic population, things that continued to rise to the surface as being impactful on the severity of an impact. So we conducted a brainstorm to identify the entire universe of factors that could impact the seriousness of take. And then we prioritized and lumped. We also grappled with the notion of to the FWS, take is take. When they issue a Biological Opinion, it authorizes take up to a certain amount. The analogy is you can't be a little bit pregnant. It's either take or not take. So there is no how bad calculation as far as what the Service authorizes. Yet we understand that all take is not created equal. So we started with the realm of impacts and came up with uniqueness of habitat to surrounding area—we've understood that if habitat is unique to habitat in the surrounding area, it could be of value to the species. Change to habitat quality—there's a whole lot under this—fragmentation, degradation of structure and function of habitat, any sort of impact that results in increased human use, attractive nuisances. Other factors were proportion of available habitat affected by activity. This is relevant in species with small patch sizes. How do you deal with the cumulative/layered issue of affecting habitat for multiple species? Species density, relative abundance, proportion of population. And then genetic/population distinctions. So that's the universe of how bad factors. The next question was if the Service will only authorize take is take and yet we know intuitively that different habitat has different value, how do we address it? Essentially the result of the conversation was that we have to address these value judgments and come up with way that shows we're addressing the fact that take in the real world is not created equal and mitigation should be proportional to that.
- BE It's important to consider that an ITP is different from other permits. Congress had envisioned a process for balancing land use and species conservation. It's not as if the Service is trying to hammer anyone who causes take. So they want to work together to try to balance that. So that's why in mitigation for this ITP, it's much more fluid and a negotiated process. We need to show how much take will occur so we can determine how much mitigation will be required. Ideally you'd like to have a net conservation benefit, but this is a negotiated process.
- KD And that was the main influencing factor in where our conversations wound up. If the Service says take is take, that's fine, but we can address the fact that take may occur in more sensitive areas by minimization and mitigation. So we originally thought how bad would be box 8 in this formula, but there is a very reasonable place for it in developing the mitigation strategy that's realistic in its approach to addressing....

- BE “To the extent practicable” is very vague. The Service isn’t going to make you do something that’s unreasonable.
- KD So, added to all this extremely brain draining work, the directive you gave us is to simplify. The reality we’re coming to is we can present it in a manner that’s simple, but it’s just not a simple process. There are some short cuts we’ll try to take and others that we can’t take. We’ve tried to think about how to simplify in this concept of lumping vs. splitting—activities, species, how bad factors. Addressing activities descriptively vs. numerically. Part of this came from the conversation with FWS and part is something that’s been necessary to our process. There are some things that maybe it’s not so terribly important that we run every number and come up with an exact estimate.
- BE Lighting is good example.
- KD Agreed. There’s a term that came up in our conversations and in the past the Service has authorized take to the extent that it may occur. That’s potentially really scary, but it’s not. It’s within reason and limits, and provided minimization and mitigation are sufficient to address the entire universe of take that may occur. We know that this is a controversial concept, and we agreed with the Service that there are some activities, like raking, where if you come up with BMPs and mitigation, you could authorize any raking that might happen. Other impacts that are more permanent, like development, sea walls, that there really should be firm thresholds on. So one of the things that we are going to look at to simplify is prioritizing, what are the things to get a hard number on and what things can we descriptively address?
- BE The idea being that there may be a couple activities that result in permanent elimination or alteration of habitat, and for others that don’t result in that, the Service might say this adds up to the whole plan area so we’ll authorize take throughout whole plan area to the extent that take may occur.
- KD I get fear in my chest when I hear that, but it’s addressed by the Service won’t authorize that until mitigation is approved. Finally, one thing thrown out at one of our discussions is we talked to you about running that model thousands of times. We thought maybe we could come up with a numerically defensible way to select out a subset of representative variables and extrapolate. That’s something we’ve been throwing around, but haven’t acted on yet.
- DF Is that something GeoAdaptive is weighing in on?
- KD Not yet, but we hope they will.
- DF Is there a statistician in FWC that could weigh in?
- TE Yes.

- KD So that's the simplify issue.
- MM How did you decide to look at the possibility of extracting a subset? In the past you've been running many iterations, but what if there were a way to take the whole database and quantify each observation and use all that to run a projection?
- KD That would be preferable and was the original way we wanted to go. This just came up as a way to simplify. The other issue is we don't have to run all the examples to know that what will happen is we'll need take authorization for the whole plan area. Any way you cut it, after 25 years it'll add up to that number. When we started treating that idea seriously, we realized we had need to consult with the Service on it. It seems like everyone at the Service seemed to see it coming. So how then do we treat that number in such a way to end up with no net loss? Something that passes the straight faced test? Trish, do you want to talk about some guidance the Service had for us as a result of this conversation?
- TA We do look at take as a question of occurrence, yes or no, but we understand there are degrees of impact. So take in its purest form, and we're looking at harm and harass. And then what Kat mentioned is as far as how bad, that's where we analyze how much harm and harassment is actually occurring. So we know what end result of take is going to be because we understand somewhere within the CCCL jurisdiction, within 25 years, it's likely that some activity that DEP authorizes will result in take, so we're charged with focusing on factoring in exactly how bad is that and then breaking that down into direct and indirect effects. Bob was talking about looking...it'll be hard to come up with hard numbers, so we think it'll be best to focus on calculating how much habitat will be permanently altered as a result of direct impacts—things like upland construction, sea walls, etc. We know those will result in direct alteration of habitat. For indirect effects, that's where we get into the more descriptive aspect of the take analysis and how does that translate into mitigation? It isn't hard and fast. A lot of time you hear of a ratio, and that's not what we're suggesting.
- KD Thanks, Trish. Additionally, that guidance helped solidify our current thinking on the fact that the exercise of putting value on habitat is a useful one because if the ultimate number is the total plan area, then you'll have to have a defensible argument for how to get the most conservation value out of mitigation.
- JW I'm confused—when we say take is statewide, is that saying given the spectrum of species we're looking at, there will be take of at least one of those species? I think there are some parts of Florida that are uniquely horrible for some of these activities, and some that are not. I would hope that this would incentivize for not doing such horrible things in some areas.
- KD Take is going to be calculated on a county by county basis. We're also estimating for each suite of species. The only other thing I want to add is, unfortunately, the fact that

we already know the take calculation, we still have to show our work. We're not off the hook.

- BE It's an additive thing, but we still have to go through the exercise.
- KD In conclusion, we're moving 'how bad' to mitigation, and the scope and quantity of mitigation will be negotiated with the Service.
- BE I think, keep in mind, you get focused on take and results, but in the end where the meat of the HCP will be is in minimization and mitigation.
- TE I agree. Analogy—to me it's not one to one, but highly analogous to development in upland areas. We know our whole coastline will have impacts to development at some point. To me we need to think about, given those impacts, how do we design a process and system that ensures species can exist?
- KD It has given us a target, and that's been useful.

FNAI – Habitat Value Model

- AK When I say prioritization, I'm really saying conservation value. Starting with sea turtles. We only had two criteria we considered, and I should say that all the criteria, we're attempting to relate back to the 'how bad' factors, but it really comes down to available data. For sea turtles, we considered nest densities and distance from developed areas. In all slides you'll see a prioritization scheme. For loggerhead densities, right now the data we have is per km per county. We're working with FWRI to get more specific data. We will consider nest density, and we have here differently for different regions of the state (PSMUs). In this example we calculated a priority difference for the panhandle and the peninsula. Development distance—here we prioritized areas farther away from intense development. By development here we're talking about high, medium development that we could pull out of land cover. Then we can combine different criteria for an overall prioritization for the species. We did this on species by species data and got feedback from the Work Group to do it by species group, so we'll make that change. For beach mice, the criteria were distance from development, habitat size and persistence. This example is for the St. Andrews beach mouse. For distance from development, the highest priority are those areas further from development. Habitat size—the habitat was divided into 25 acre blocks and those were the more habitat that filled the block, the higher priority. The way these criteria were designed can be changed. The idea of persistence—for this we're relying on published literature and will take suggestions at workshops. Again, here's an example of where all those criteria are combined into an overall priority. Shorebirds—the criteria here were same as for beach mice except applied difference. Persistence here means we have a lot of survey years for those species, so the more years the occurrences were consistently surveyed in that location contributed to this persistence. This was to illustrate that we have mapped habitat for

shorebirds. Previously we focused on linear distance, and now we've mapped habitat in vicinity of habitat locations.

KD This is something we identified at a previous meeting—we realized that the concept of distance from development might be causing us to superficially devalue habitat, because of the close the gap parcels in particular. So I think we're going to take another look at how to value that.

TE Value depends on what purpose you have. If the purpose is to identify a threat, we're doing that backwards. If we're looking for where to mitigate, then this is the way to go.

BE This slide, you see the clustering around lake outfalls, and it shows good places for mitigation.

JW Absolutely. How many years of data are you using for presence or absence of birds? We want to be sure we consider where they've nested this year but also in the past 5 years because they tend to cycle.

AK That's one of the things we need to settle on—the timeline we use for these species.

JW For quality, I wonder if there is data on source and sink sites to place added value on areas that are still cranking out offspring.

BE Those could be additional criteria you consider in here.

AK Right.

KD This is going to be a process. We came up with our value judgments and we're initializing those values into a geospatial system and we'll need to vet that to make sure we're considering all the important factors. So this is a moving target...

BW Do you have any effort data to overlay?

AK We have it in database format. I think I could show that. It would take some work, but I could do that. I used exactly that to get at the persistence question.

BW You hinted that when in the absence of recording a colony could be because there's not one there or because no one is looking, so if you had effort data you might be able to tease that out.

AK I think we could get at that.

JW Pairing that with some life history characteristics may also help us get at that.

- BW If a colony was recorded on this stretch here, you might assume something was known about the adjacent stretch.
- RT Number of nests is just one indication. You have to know how successful...you have to look at that sink issue.
- AK At some point we have to say if the data are good enough to tell us what we want to know and to base decisions off of. But where we do have data, you have to say those are important areas.
- BE I think details are very important but can start to bog things down. This is going to inform mitigation, but once you start to put costs on that, it adds up.
- JW The other side of that is it's presenting opportunities for mitigation applications. I just don't want to narrow us so far that we're missing mitigation opportunities.
- AK Absolutely. The point of this is we have to decide on our inputs. Once we've got everyone behind that, we have to understand results will inform mitigation priorities. So this is incomplete in that we don't have all pieces to plug in yet, but as far as a preliminary framework for understanding priority areas in state, it's really exciting.
- TE In addition to looking at it from the resource perspective, it will be good to overlay the sea level rise perspective, demographic perspective, etc.
- BW I'm pretty sure I've seen maps by the Parks Service, National Seashores, for shorebirds.
- BE Julie, do you think there are important nesting sites for our covered species that haven't been identified? Granted, effort has been spotted, but is there potential for there could be important areas we don't know about?
- JW There are offshore sites that won't be impacted by these activities, but maybe opportunities for mitigation. So we may be able to invest efforts in island sites. The other thing is, because birds are transient, there's always the possibility of not knowing new nesting sites. Instead of chasing the rabbit, one of the best things we could do is include several years of data with the understanding that every one of those sites is not occupied every year, but has the likelihood of being occupied in the future.
- AK We have the ability to put multiple species together. And then next steps, we'll have a workshop to revise methods, fill data gaps with sea turtles, apply priorities to species groups and apply timeframes.

MITIGATION

- TE We want to be clear this is in addition to any avoidance and minimization.

- BE Mitigation is now something we need to start thinking about, and this is an opportunity for brainstorming. The biological goal of the plan is to wherever we can improve quality and quantity of habitat. So we started listing out some ideas we have for mitigation, and I hope you've all had a chance to look through these, and we're looking for your ideas of others.
- KD This is very preliminary and we have to enumerate all possible mitigation activities we could conduct, then talk about net benefit of conducting them, to what extent we're going to conduct them, and then link it back to how much take. Have we thought of everything? Is there anything really important or helpful for mitigation? To what extent do we need to explore these? Are these practical for mitigation?
- BE Ultimately they'll have to be prioritized. We'll have to do this for each species group. And in some cases I've proposed opportunities for some things, like management for state regulations dealing with lighting, or something less onerous is to provide assistance to local governments to implement their lighting plans.
- KD When we do a critical issues analysis, we list out all possibilities, pros and cons, and when we go into developing a mitigation strategy, some of that discussion will be in there.
- GA Under coastal retreat initiative, I'd say get rid of that moniker. Change it to something like post-disaster relocation or something like that. The other thing that's missing is tweaking the regulatory process. It seems there should be a category for regulatory change.
- BE Are you talking more generally?
- GA For example, there could be a condition in the permit for lighting on a construction permit for 5 years. So tweaking of that process could allow for a longer period of compliance.
- BE You start juggling what's minimization and what's mitigation. What you just mentioned seems more like minimization to me.
- TE Part of the HCP process in getting federal authorization, and it will include a whole framework and process that could include regulatory changes that will have to happen prior to the HCP going live.
- GA There's regulatory changes to make this possible, and then there's regulatory tweaking that could be part of minimization and mitigation.
- KD Right, and keep in mind this is just brainstorming.

- JW Some options I think might be available are opportunities for manipulation of dredge spoil sites for shorebird nesting habitat. So, we may have offshore opportunities to improve or create habitat to offset onshore impacts. I didn't see predator control in here. That's going to be a persistent thing that's often limited by funding. I'm highlighting spoil sites because we may have more to play with than just the plan area.
- BW How about mitigation being management of rooftop colonies?
- JW I'm not as excited about using that for any species other than least terns. Also, gravel rooftops are being phased out.
- BW some of those rooftop colonies may indicate pent up need for hab.
- JW I agree. Other things, there may be options for local governments, like addressing their own beach driving, not recreational, but other local workers, so if they could create and abide by best practices. Similarly is local governments interested in pursuing no dogs on beaches policies.
- BE What's the benefit to them for doing that? The DEP could do a public awareness thing, but if it's incentive based, it might be more desirable.
- JW Or it could be mitigation. If local government is the applicant. Along the enforcement issue, don't underestimate the value of law enforcement training. Even in FWC, LE doesn't get a whole lot on non game species. So providing biological expertise and knowledge on the laws to LE.
- BE These are all good, but just keep in mind how we weave this into the HCP.
- JW I would say funding for that training, maybe out of the trust fund for mitigation fees. Another thing is oyster rake augmentation particularly on the east coast. There are oystercatchers that will nest on oyster reefs, which are declining. Also exotic vegetation removal, that could be used not just on public habitat, but private and adjacent. We have a big problem with Australian pine, which brings predators much closer to beach nesting birds.
- KD Any time any of you are aware of this already being done, and we can pilot that out and take to the Service, let us know.
- BE One thing not on the list is the certified wildlife community concept. This could be a whole program—dog leashes, exotic vegetation, etc.
- JW The challenge to that is the risk of your status being revoked because it needs to be perpetual. My last two things are a raking initiative, where you talk to hoteliers to provide an incentive for not raking. My last thing is funding for continuation of FWC's CWA program. I'd want to see strict deliverables out of that. An alternative to that

might be there are lots of sovereign submerged lands that become shoals, and if there's some way for DEP and FWC to work together on management of those.

KD Thanks for that list, Julie. Are there other things? As we stated, this is a preliminary foray into mitigation, but for now, is this good? Are we barking up the right tree? A fully fleshed out mitigation strategy is in the future.

TE The service has got to be asking for some mitigation now for other HCPs, so let's make sure we capture that. There may be ideas there that we're not thinking about or ones we don't want to consider for this project. And then there's lots of examples, one way to make this work is to create a trust fund. The easiest way to mitigate is to pay. I would encourage us to think more about that and how that would work.

KD The objective was to expose you guys to our work on this. I'm excited GeoAdaptive will be coming on board. Plan for a full day next time, In September. Thank you for showing up and for your feedback.

Adjourned 1:00 pm

DRAFT