SRIPP EIS SCOPING MEETING

April 21, 2009

Wallops Island, Virginia

TAYLOE ASSOCIATES, INC.

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Telephone: (757) 461-1984

Norfolk, Virginia

6:30 through 7:30 p.m.

Presentations by:

Keith Koehler, Public Affairs Office
Dr. John Campbell, NASA Wallops Flight Facility Director
Caroline Massey, Assistant Director of Management Operations for NASA Wallops
Paul Bull, Shoreline Restoration Project Manager
Josh Bundick, NASA Wallops Environmental Office
Dr. David King, U.S. Army Corps of Engineers

Also present:

Tracy Hand, RPR, meeting recorder

7:30 through 8:00 p.m.

MR. KOEHLER: For the next 30 minutes, we will open up the meeting for questions. For the sake of time, please only ask one question at a time. If you have more questions, you may ask them once other members of the audience have had an adequate opportunity to speak, and questions and responses will be limited to three minutes or less.

So we can begin that. Just raise your hand and I'll call on you. Any questions?

SPEAKER: What's the level of protection are you looking for, hundred-year storm or elevation wise?

DR. KING: The modeling that I have done can't answer that question precisely. It can come close. The beach fill by itself that I have designed, I have looked at a whole lot of alternatives, and the criteria was that the beach fill alone could withstand the impact of what we looked at from the historical record is the equivalent of a 30-year storm; however, the project itself consists of both the beach fill, the sand itself, and the seawall.

If it's bigger than a 30- to 40-year storm, then it's going to expose the seawall. But what the concept of what I have been modeling is that we're changing the seawall from what is currently the

only line of defense that we have on the island to the last line of defense, and this will bring it up to -- I suspect if I say a number here, it's going to get quoted everywhere, so I can say maybe (whispering), but, yes, something significantly over 30-year storm.

MR. KOEHLER: Okay. Next question.

SPEAKER: I don't quite understand the purpose of building a groin that lets the sand through. To me that's like building a leaky boat.

I mean, the purpose of a groin is to stop the sand, and the purpose of the boat is to keep the water out. You know, how do you determine how much you're going to allow to go through? And, you know, seems like to me it's going to be awful hard to fine-tune that so that you're not creating a much worse problem south of you with this groin.

DR. KING: You can certainly build an impermeable groin. You can put a wall out there that will survive for at least a decade or two that will go out and basically stop the sand coming through.

But by primarily building a short groin or building a low groin, you can allow sand to pass through that groin.

The idea is that we know what the erosion

rate on Assawoman Island is now. We want the model that we come up with that we recommend to pass more sand than is passing the south end of Wallops onto Assawoman Island now so that there are no -- we're not exacerbating the erosion.

The idea of the groin is to hold a certain percentage of the sand that we've got so that we don't have massive amounts of sand dumping onto the north end of Assawoman Island because the beach fill is going to be sticking out on Wallops Island. Now, there's going to be a substantial offset in the beach, and the idea is to hold most of that sand.

And this is primarily a question of economics. We could build the thing without a groin, but we would have to end up putting a whole lot more sand on Wallops Island because a lot more is going to spill onto Assawoman; it's going to leak out the ends.

And to answer your question, for several reasons, designing the groin that does exactly what we want to do, we don't have that technology right now. We can come pretty close, but that's what the monitoring program is. If we're saying, gee, you know, not enough sand is bypassing, that will cause some problems on Assawoman Island.

And the monitoring is not just on

Wallops. The monitoring is on Wallops and Assawoman, and, frankly, I would like to see additional modeling on the -- excuse me, initial -- additional monitoring on the south end of Assateague Island just to make sure we understand what's happening in all these locations and we can be able to see that, okay, now we have a clear picture of what's going on.

When we have a renourishment, it may be that we need to put sand on the north end of Assawoman Island. We don't expect that right now, but that is certainly one of the contingencies that we can deal with if this groin doesn't allow enough sand to pass.

That doesn't seem likely from looking at my modeling, but it's one of the contingencies we can deal with.

MS. MASSEY: One supplemental comment on the economics situation: When NASA is working with the Corps, we have to pick the most efficient and effective model. I mean, you know, we are spending the taxpayers' dollars.

So this is all -- the most important part of this project and the most expensive part of this project is the beach fill. And we're certainly not going to spend all that money to introduce all this sand into the system and let it just erode at the same

rate it is eroding today.

So you're right, the challenge is in the design and, also, the monitoring to get that sand retention structure, whatever it ultimately is.

But NASA would find it almost impossible to do this project without some type of sand retention structure because, otherwise, our renourishment cycle would be every two years, and that's cost prohibitive; we couldn't possibly afford that.

MR. KOEHLER: Yes.

SPEAKER: Caroline, are you going to then reserve the capability to modify the design of the groin over a period of years; in other words, go back and decide to change it if, in fact, it appears that there's going to be sand required on Assawoman and that you are losing too much off your beach? In that situation, would you go back and reserve the capability of going back and making it less pervious?

MS. MASSEY: Well, Dr. King or Paul will have to comment on technically how we would do that, but the discussion we have had is, as part of the long-term monitoring program, there will be several alternatives that we could select based on either the storms. You know, if we had an unusually high period

of storms or an unusually low period of storms, it will be the long-term monitoring and the effects that we see that will drive the types of mitigation measures that we will report. I mean, and we will have a variety of them.

Technically I can't speak to how the groin could be modified. I mean, it could be taken out I guess would be the worst case.

MR. BULL: What I asked Josh to do is put the cross section of our beach again that we typically would do.

Dr. King talked a little bit about the groin. The idea behind the project is three different phases. We have a first element is going to be extending the seawall south.

Second element is probably just the beach fill, to put in targeted beach fill to replace this volume of sand.

The third element would be the final beach fill, which will put in the target fill and the fill that would be left to go up and down the beach as it pleases.

The groin will be designed and built during that third phase, when you're putting the sand on the beach so you know economically how much sand

you are going to put on the beach so you know how to design a groin that allows -- that basically comes out, right now we're thinking 200 feet. This is in meters, right here.

This sand here is the sand that's subject to go north or south. So the idea behind the groin is to retain your target volume at all times the best you can. And the way we are phrasing it, we hope we've left ourselves enough wiggle room to the third phase, which is we are not building the groin until the end after we understand how much funding we have, what the bids are coming back, so we put in the last two elements of the fill and the groin at the same time, so we don't put in too little sand and too much of a groin.

So the idea again is to put a groin in that retains the target fill, allows the sand that's basically sacrificed.

MR. KOEHLER: Thank you. Yes.

SPEAKER: Have you considered putting any vegetation on the beach to help stabilize the sand, keep it from blowing away?

MS. MASSEY: We have done that. We also have a seawall there.

DR. KING: That's certainly a component

of this. It is not high on my list of viable alternatives. Perhaps in places.

The problem is that most of this fill you are not going to see. Most of the fill is actually under water, and it's building the -- when most people think of a beach, they think of the dry beach, but the beach really extends out to what is the conceptual depth of closure.

And on the right-hand panel there, that horizontal line in the middle is sea level, and you can see how much the fill is above water and below water.

And, yes, to help stabilize the dune, you can plant vegetation. It's a good idea. My concern is that this isn't a design that has lots of extra room in it, and like I'm saying, every -- on the order of every 30 years there's going to be major destruction to this whole beach. And so planting vegetation there is not going to protect this.

But, yes, over the short-term, if we are lucky and we hit long periods where we don't have lots of storms, then, yes, planting high in the beach makes sense.

And it will help hold some of the sand, but most plantings occur up in the dunes and not

necessarily on the seaward phase of the -- seaward most dune.

And even though we are putting a lot of sand down here, we don't have, you know, several rows of dunes there. If we were putting that much out, yeah, certainly stabilizing that area would be very effective, but we're not putting enough out there -- we can't afford it -- to really protect stuff in the real long-term. We expect this dune to get at least portions of it attacked on occasion during big storms.

MR. KOEHLER: Thank you. Okay.

SPEAKER: Is the beach monitoring program going to be confined solely to Assawoman, or are you going to look at the impacts to the south as well, Metompkin?

DR. KING: The monitoring program that I'm recommending will, for at least the first few years, have a wave measuring device associated with it. Those are fairly expensive, and I don't expect that we would need that kind of information for the 50-year lifetime of this project. But for the first few years it would include that.

It would include beach profiling at some level, probably more than once a year, of just going out and taking cross-sections, if you will, of what

the profile is out to depth of closure. And that should be primarily confined to Wallops Island.

The third component is to just measure the shoreline. The standard ways to do that now are you just get a four-wheeler with a GPS unit on it, logger on the back, and somebody gets the very enjoyable task of driving right at the edge of the waterline.

And I would like to see that on Wallops Island. I would like to see that for the length of Assawoman Island. I would also like to see that on the Fishing Point and in Tom's Cove area of Assateague Island. And that, again, would be once, maybe twice, maybe three times a year.

MR. BUNDICK: And, actually, at this point we are very early in the discussion, but, you know, there are certainly opportunities we recognize to work with academia, the Marine Science Consortium, some of the local -- LTER, if that would be the case, to maximize the opportunities for reaching out from our immediate project site.

MR. KOEHLER: Yes.

SPEAKER: The models that you-all have run to measure this 30-year storm, give or take a little bit, is that based on a continuation

of historical data and phenomena, or does it acknowledge the impacts of climate change and, if so, how?

DR. KING: What we have based our design on is the historical data set. And, yes, there's lots of discussion in the literature that we are coming into a period that is stormier than there has been in the past. It's hard to address that to say just how much stormier we expect it to be.

We have good data going back for nor'easters for about 60 years, back to about 1950. We have good data on what their magnitude is, how -- what kind of waves, what kind of water levels they produce.

We have good data on hurricanes back for about a hundred and fifty years. Those two types of storms were used to look at these various profiles that I said, okay, you know, what does this suite of historical storms do to this profile? What does it do to this profile?

And that's the reason that we rejected some of the smaller fills, saying that this doesn't provide the level of protection that we need.

But the renourishment that we are including, we do include a component of renourishment

that allows for sea level rise, that we have projected sea level rise in this area. And so the amount of fill that we're putting back on the beach every five years or so, we're adding in incremental amounts to that to say that we don't want to match what the profile should be relative to sea level today but what it's going to be at each interval into the future.

But, no, that's a very valid point that our data set that we're modeling against may not be the best one we can use; however, it's very unclear what the best one should be.

MR. KOEHLER: Next question. Yes.

SPEAKER: Paul, I had a question here on your summary table of proposed action and alternatives.

You have done a very nice job of telling us why the alternatives that you did not consider were discarded, but you haven't done anything to explain why you chose the preferred alternative one and what you thought the other alternatives, why they were not sufficient or why they were less desired for you. And I would hope that you would do that at some time during your presentation that you put on your website.

MR. BULL: I will about the preferred alternative. The preferred alternative has the right

combination of economic, what we can afford, and what it protects, the level of protection it provides.

It's just in the engineering field, that's first thing you look for, cost benefit analysis. Unfortunately in engineering as well, everything is not cut and dry engineering. What makes the most sense when you sit down with a calculator and pen and pencil is not what you have to budget for.

So Number 1 is combination of what we want to do and the budget we have, which has the best mix of those two features.

SPEAKER: Really what you are saying then is that some of the features of the other alternatives may, in fact, provide better protection for you over the long-term.

MR. BULL: Not exactly. For instance, some of the bottom alternatives don't fill the beach the entire distance. That doesn't appear to be -- while it may cost less, does not appear to be the smartest thing technically to do.

DR. KING: It doesn't provide the level of protection that we need.

MS. MASSEY: This is not the lowest cost option. It is probably about the mid range, but it is that combination of the factors and the level.

We could spend more, but the level of protection providing us did not go up commensurate with the budget. I mean, we have a table of, gosh, how many options? I think hundreds. And this was the one that any improvement major money more was negligible in the amount of guarantee it would buy us.

MR. KOEHLER: Okay. Next question. In the back. Go ahead.

SPEAKER: Where are you right now in terms of the federal funding? What's the future in terms of your federal funding?

MS. MASSEY: Right now we have secured funding for the -- I mean, obviously, you know, when we say these things, I mean, the President approves the federal budget. In fact, President Obama just approved NASA's budget about a month ago.

So when I say we have funding for this, it is all contingent on subsequently what Congress and the President come to agreement on.

But the way NASA's process works is you have to go in and advocate, like right now we are getting ready to go get money for 2012 projects, and so we actually -- we had some '09 funding, which, because we wanted to invest the extra time in the environmental planning when we moved to an EIS level

plan, we wanted to take the extra time because of the impacts.

So we actually are going to have to defer the funding that we were given in '09 to '10. We have a committed level of funding in '10 that will probably cover most of the first phase of the construction.

We have a commitment for the first phase of the beach fill, and then, of course, we have to go advocate -- you can see in the time line, the 2012 on his slide, phase two construction, you see that time frame there is 11 and 13.

So I can tell you for the Goddard Space Flight Center, which we were part of, this is one of their highest priority projects; it is also one of the highest priority projects of NASA.

Every year NASA has about a hundred -- NASA as a whole, that includes Johnson, Kennedy, everywhere, has about a hundred and eighty million dollars that they divide up. They divide those projects based on risks. This project rates one of the highest within NASA because of the severe risk that NASA's assets are that are driving us being able to get the funding.

So I am very confident that we will get that final phase of funding. It is mostly just a

timing issue because of how our congressional budget goes.

MR. BULL: The design and construction that we have laid out here follows construction. We don't -- like Dr. King tried to get across in his presentation, they have learned, you can't put a groin out there and don't do beach fill.

So we are doing our first phase is extending the seawall, drawing a proverbial line in the sand, which potentially will do nothing else but hold back the sea for so much time.

Phase II will be the first part of the beach fill. And, again, Caroline said that funding is already in place.

And Phase III, which we have a promise for, but like Caroline says, is always up in the air no matter -- the government is the government -- that happens, again the last set of beach fill and then the groins.

We don't do things that make bad sense for the projects we are trying to talk about. We are not trying to hurt the situation. So putting sand in the system is one thing, but like Dr. King says, we learned lessons about the groins and not putting sand out there, so we are trying to phase the project so if

funding falls short, we are not left out there hanging.

MS. MASSEY: We also are having a discussion on the renourishment because that is a fairly significant slug of money every five to seven years as well.

NASA understands the technical reasons we have to do that. We actually are going to be talking to our partners, Navy MARS, because, actually, it is protecting their assets.

NASA has made a commitment to fund the first part of the project, and we are talking to them about how we are going to make the commitment for renourishment.

MR. KOEHLER: Thank you.

DR. KING: The way this is laid out in Phase I and Phase II, that if the worst case scenario comes through and you don't get the funding that we expect every year, we've specifically looked at it, okay, well, are we going to do any harm by leaving the project partially done in this state.

And that's the reason that we have developed doing it this way, that the first year there's a fairly small amount of money available, and it's just going to extend the seawall.

In the second year we don't expect to have enough money to do the entire beach fill project, so we're going to spend everything we can get the second year on beach fill.

And then only when we've secured money for the third year will we finish the beach fill and put in the hard structures.

MR. KOEHLER: Thank you. I have one down here. Go ahead.

SPEAKER: I would assume you are aware there is an artificial reef out there off of Blackfish Bank?

DR. KING: Yes.

SPEAKER: I just wanted to make sure you are going to protect that?

MR. BUNDICK: Yes.

MR. BULL: Yes.

SPEAKER: We spent a lot of effort making that, and we would hate to see it destroyed in some way.

MR. BUNDICK: Absolutely. And that is, again, part of the several different components of the studies we are doing. We are talking to folks, charter captains, people in Ocean City, Jersey when they come down, figuring out where the primary areas

for the fishing. And, obviously, the artificial reefs are number one on the list. We have an offshore -- I like to drift for large flounders out there as well.

Again, we are trying to get the issues up front so that when we are working with the Corps when it comes time we can figure out what a dredge plan might look like so we can avoid whatever those areas might be.

Same thing would go if we uncover a ship wreck or a pile of rocks we didn't know was out there, the same thing would apply.

And, again, being the EIS and, again, both shoals are given equal consideration, equal level of analysis. Despite the economic one, they have an economic benefit versus the other; they are both about the same level of scrutiny.

MR. BULL: What we don't have, if you have it, we could use the coordinates of the exact reef.

SPEAKER: I have got them.

MR. BULL: I don't know that we have got them.

MR. BUNDICK: What we have been provided is what the VMRC makes publicly available as to where those have been placed, but we would love to talk to

you about that.

MR. KOEHLER: Back in the back.

SPEAKER: I was wondering, you mentioned that the reason that the groins have a bad reputation is because they desert them, and so I was wondering why the second choice of breakwaters was not decided upon, why you chose the groin over the breakwater specifically as you looked at it.

MR. BULL: Again, what we tried to get across in that final presentation is the groins have a reputation because they deserve them in the way they build them, if you build a groin and they never did a beach fill.

It is a project. One can't -- you can't make a recipe with one ingredient; you need all three to make the recipe. That's why the groins have a bad reputation, because the people weren't treating it as a project, say would put a groin in, not put sand in, and that's why they have a bad reputation.

As far as breakwater versus a groin, they do the same exact thing. They retain sand. They don't pass any more sand or less sand, but you can imagine from an economics standpoint building in the open ocean versus building from land into the ocean. That's a consideration for us from a project

standpoint.

MS. MASSEY: Significantly more expensive to build breakwaters.

MR. BUNDICK: The alternatives, of course, are numbered, and I guess maybe some of it is misleading, alternative Number 1 is the preferred and Number 6 is the worst.

Each one was given equal consideration, you know, as far as which is actually selected at the end of the process.

And just to kind of put it in perspective in all things being equal, the groin component, as proposed, could possibly cost around a million bucks, whereas the detached breakwater could cost anywhere from 7 to 8 million bucks. So, you know, some economics in there.

MR. BULL: Do you want to talk any more about the groin versus the breakwater?

MS. MASSEY: No.

MR. KOEHLER: We have time for one more question, so go ahead.

SPEAKER: Josh, when you do the studies on the Blackfish Bank Shoal, that's close enough inshore to the southern tip of Assateague that I hope you look at that very carefully. I don't know

how you are going to be able to evaluate a reduction in wave energy that provides for the southern tip of Assateague, but it is obviously significant because it's there.

And I hope you weigh that very, very carefully because reduction of that shoal could have a major impact on Assateague.

MR. BUNDICK: Yes, sir, absolutely. And I can sort of do what Paul did and let Dr. King finish, but the project as currently scoped from the environmental impact statement side is Dr. King down in Vicksburg would essentially take the existing shoal as is existing with the wave climates and figure out what the baseline is and then compare it to what the quantities for each alternative would be as removed during the process and would then be able to quantify those impacts into whether it be shoreline transport or whatever effects that might have.

And you may want to speak a little more about that.

DR. KING: Yeah, I will be specifically addressing that question. I haven't done that model effort yet, but that's pretty much the next thing I'm doing when I head back to Vicksburg later this week.

SPEAKER: It would be quite

interesting to read that on your website when you do that.

DR. KING: Okay. Yeah, basically, Josh laid it out. I will be modeling what the sediment transport is on the south end of Assateague Island now and then going back, changing it to say, okay, we have now taken the sand off of this shoal versus taking it off of that shoal and how does that change how the waves come in and how does that change the sediment transport on the beach. Obviously, we are looking for as minimal an impact that we can.

SPEAKER: The important thing I think is after this project is done is to compare what your evaluation of your models are to what actually happens, and I think that's a very important learning process and to have this well documented and your evaluations of this before you go into the project, have those down for the public so that down the road we can look and say, are your models any good or were they faulty.

MS. MASSEY: There is one supplemental piece of information to I think the previous question as well.

Paul spoke of this recipe, the relationship between the different elements of this

project. And they are related, the beach fill, some sand retention structure, and that.

What we also are factoring into that is what effect any of those together have on the renourishment cycle.

So I think it was the question back here, well, what if you don't put anything in or you do this. Unfortunately, that makes the renourishment cycle to maintain the level of protection we need too frequent for the economic analysis part, so I want to throw that fourth component into the recipe because when we make our final decision, it will be all of those pieces together.

8:30 through 9:30 p.m. MR. KOEHLER: Thank you. Thank you for the questions. We hope that the responses from our team members have fostered a better understanding of the proposed project and the EIS.

Now, for the next hour we will open up the floor for public comment. These comments will be entered into the EIS administrative record and will be addressed in the EIS.

For those speakers that pre-registered, I'll call upon you first in the order that you registered. For those who did not register who would still like to speak after we go through this list --

we have nine folks that have signed up -- please raise your hand once they have finished, and we will get to your questions and answers.

Again, as before, please limit the questions and answers to three minutes each.

MS. SILBERT: For logistics sakes, if you are speaking, we are keeping a time on this. At two minutes you will be given the yellow card. When your time is up, you will be given the red card. I tried that before but it didn't seem to work, so I will try it again.

MR. KOEHLER: I'm sorry, we are not providing answers this time; we are just listening to you, just listening to your formal comments. This is where you help us out.

So Steve Parker is up first.

MR. PARKER: My name is Steve Parker. I am director of The Nature Conservancy's Virginia Coast Reserve. Our mission is to preserve plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

The Conservancy has over one million members and has protected over 119,000,000 acres around the world. Working with public and private

partners for more than four decades here in Virginia's Eastern Shore, we have protected 17 of the 18 islands, 14 of which totaling 18,000 acres, the Conservancy owns and manages as preserves. These islands are located south of Wallops.

The Conservancy applauds NASA and its public and private partners for its past, present, and future accomplishments here. Your work is important to education, to science, to the nation, and to our local community, where it provides much needed jobs and other important benefits. We appreciate the information provided so far. We are consulting with coastal geologists and other experts as we continue to learn and evaluate information before submitting our written comments in May.

Our major concerns and questions relate to the direct impacts of armoring, particularly the proposed groin, and the increased risks these impacts have to the existence of Conservancy and other islands to the south.

Blocking the southward movement of sand at Wallops threatens structural integrity of these lands, as well as properties on the mainland. Without the islands, all the wildlife that depends on these beneficial barriers is threatened. Disturbing the

sand shoals should also be carefully evaluated.

The Conservancy, and I'm sure others, will readily join with NASA to more thoroughly explore the long-term opportunities offered by phase relocation of some facilities to the mainland. The 10,000-foot launch safety hazard buffer is required for some, but not all, operations. This buffer encompasses significant mainland properties, where public activities and uses will be restricted.

Working with private landowners can lead to more equitable and fruitful solutions for NASA as it adapts to barrier island migration in general and storm events, storm waves and flooding in particular.

Given multiple likely impacts of climate change in this region, and specifically on barrier islands, this strategy will significantly reduce infrastructure risks and costs in the future.

The Conservancy looks forward to continuing to work with NASA in finding pragmatic, science-based, cost effective solutions to NASA and community needs, while protecting our conversation lands and other valuable public and private properties and resources.

MR. KOEHLER: Thank you. Mr. Art Schwarzschild.

MR. SCHWARZSCHILD: I am a site director and I work with the University of Virginia and our long-term ecological research program. I am not a coastal geologist, but I have been speaking with some of our coastal geologists.

We have several concerns, and I would like to address some of those issues right now if I may. They sort of follow three different main focal points. One would be down drift or downstream transport of sediments in the stakeholders' water downstream, the second would be talking about some sediment supply issues, and, finally, the fact of sea rise, which is real and measurable going on here on our sea line.

So with our 20-year plus data records that the LTER program has on the research that we have been doing on the islands, we still don't exactly understand what is going on with island movement and sediment migration and sediment transport, so we are wondering what studies you-all are basing your models on, and we're hoping that you will continue to monitor and reevaluate as you get better data, and, also, perhaps have an outside advisory panel who can provide some additional input and information about each of these proposed plans.

I'm also curious myself about whether you have some adaptive management. Seems like you have addressed some of those concerns tonight, but as you go about these programs, you might see that things are not as you expected, and how do you address those issues and do you have a budget to deal with those sorts of contingencies, particularly if you have stakeholder losses and compensation and mitigation expenses. Those things can be very expensive.

And we are particularly concerned about impacts to some of the down drift islands. For instance, what happens to the town of Wachapreague if we start to lose significant portions of Cedar Island and then the barrier marshes behind those as a result of changes in sediment transport processes?

Moving on to the sediment supply issues, we are interested in the impacts of dredging, future sources of material for your renourishment, and long-term funding and maintenance of these issues.

And, finally, I'll talk about sea level rise. Like I say, we know it is real. It is happening; we are measuring it up to 4 millimeters per year in parts of the seaside.

And so it seems to me in particular that there's a limited time span for this project, what it

can do, and how long you can continue to do it into the future.

And so we wonder about the potential for proactive approach, considering relocation of some assets, as Mr. Parker mentioned, thinking about the short-term versus the long-term expenses of those options, considering how much it will cost to continually maintain what you are doing and what's going to happen in the future. So thank you.

MR. KOEHLER: Thank you. Next up is Grayson Chesser.

MR. CHESSER: My name is Grayson Chesser, and I'm on the Accomack County Board of Supervisors. I represent District 3, but I'm here as a private citizen. My wife and I run a hunt club, and during the winter I guide quite a bit right behind Wallops Island. I'm 62, turned 62 Sunday, and thank you all in advance for my present.

So my life pretty much parallels Wallops' existence here on the shore, and I have seen, through everything that has happened here, you know, from when I was a small boy and we used to go on the south end of Wallops, that's where everybody went, on through everything that's been done there.

And I have to tell you what I've seen, I

think Wallops has had a very negative impact on the coastal area south of it.

Now, that's not to say I'm against what you are doing. Lord knows I'm in favor of what you are doing. My friends work at Wallops; my relatives work at Wallops. We are putting a vast amount of money in the research park with you. We want you to be successful.

But I hope you realize that what you are doing is only fighting a holding action. You know, I've spent a big part of my life on the barrier islands. I have read about them, studied them, and lived to see a lot of it. I have lived through like two dune cycles on Assawoman.

My personal rule has always been don't put anything out there that you're not afraid to lose. I can understand you operate by a little different rules than I do. But it concerns me what will happen if something bad happens. It concerns me what will happen to the county because I am old enough to remember what happened when the base closed, and all of a sudden about every third or fourth one of my classmates disappeared overnight, and businesses were closing here. And that's why I want you to be successful.

I don't think this groin is the way to go, I really don't. It worries me what will happen if you run out of funding to keep your beach replenishment. And we all know that government funding is a fickle thing.

Wallops already sticks out much farther than Assawoman, partly because of your shoreline hardener. That makes you more vulnerable. The sea level, since you-all have been here, since I have been here, has risen about a foot. That means every high tide is a foot higher now than it was when I was born and when you-all came here.

I think any assets you have that can be moved to the mainland need to be. I realize some of them can't be. And I want you to protect them the best way you can, and I'm willing for you to do it any way you can, but I really believe you need to rethink the groin. I don't think it's going to work, and I think it can cause damage.

You know, our barrier islands here on the Eastern Shore are some of the most unstable on the East Coast, the most unstable, and, you know, everything I've seen through my life agrees with that statement.

And, you know, when you look at the slope

of your beach, the reason your beach is so steep is because your hardened shoreline. I'm sure if you go down to Assawoman, that beach is low and narrow. Yours is like this.

The reasons yours is like this is because it's been hardened. I understand why you hardened it; you had to. But, you know, you have -- there's so little that we know about these things that is scary, but the things that I do know about I think that, basically, you might as well be trying to stop a Tiger tank with an M1. I don't think you are going to be able to do it. All you are doing is fighting holding action, and I pray you will incorporate into your plans things for moving all assets that you can to the mainland, doing everything you can to prepare for what is coming, because it is coming.

If I had a choice between somebody giving me a project of putting a man on the moon, stopping the ocean, I would say give me the man on the moon. You-all have done that, but I don't think you can do this.

I think the only thing you can do is make the best of the situation. I pray you will do it, not just for your sake, for the entire country's sake, for the county's sake, because we are depending on you to

do the right thing, and to be successful. And, you know, I want to help you any way I can. And I pray to God that you will be successful.

MR. KOEHLER: Thank you. Mike Handforth.

MR. HANDFORTH: Mike Handforth with the Charter Boat Association on Chincoteague.

One of our members came up with a suggestion which I thought was something I should pass along. For several years now we have been trying to get some dredging done on what's called the VIP, Virginia Inside Passage, which runs from the north end of Wallops Island all the way down to Chesapeake Bay, and we have been told at many meetings over the years there's just no money; we are fighting a war and there is no money available.

It looks like there is a little bucket of money coming up here and maybe we could get some action here on the VIP, do some dredging in the VIP and not so much out in the ocean. Just like you to consider that.

I mean, we have gone through our local representatives, they have been to the state representatives and all the way up the chain, and there just is nothing available to do any VIP dredging.

Wanda Thornton, who was one of our local representatives here in Accomack County, and she is very familiar with the dredging efforts that we have been trying to get done, and she would be worth talking to. You know, she could certainly give you more information than I can.

MR. KOEHLER: Thank you. Next up is Dave Wilson.

MR. WILSON: Thanks. I am Dave Wilson, actually from Maryland. I'm the executive director of the Maryland Coastal Bays Program, which basically protects -- or attempts to protect the watershed of Isle of Wight, Assawoman, and Chincoteague Bay in Worcester County.

We're a National Estuary Program. We work very, very closely with Senator Cardin's office to not only get our estuary program funded, but also to do conservation work in the barrier island system.

Judging from -- I know you have put a shot of Assateague up there. When the -- in 1933 when the hurricane hit and the seawall was not really a seawall, but what happened with Assateague, the northern end with the jetty, basically took the eight -- the northern eight miles of Assateague and moved it back several thousand feet.

Our concern is that, you know, with the proposed groin, we are going to have a little bit of that, not just in Assawoman, but in Virginia as well, so we hope you take that into consideration. We certainly look forward to working with you on a lot of these projects.

MR. KOEHLER: Thank you. David Burden.

MR. BURDEN: My name is David Burden. I'm here with the Virginia Eastern Shorekeeper. And I want to start by telling you-all I welcome the continued presence and growth of NASA on the Eastern Shore of Virginia. You guys are vital to the economy for the entire Eastern Shore, and we encourage you-all to keep doing the good work that you do here.

As a key player on the Shore, you surely recognize that we are a community that is realized -- when we talk about economics, we are not just talking about your dollars and cents bottom line.

It's irresponsible to talk about the economics of your project in terms of how much you get of what you want for how much money. There are environmental costs and social costs to be considered that are significant.

On the Eastern Shore, we are asking residents to make decisions and some significant

sacrifices based on their impact on the greater ecosystem and their neighbors.

As one of the most significant economic forces in the region, as well as a world leader in the scientific community, I think we should be able to expect NASA to be a leader in this arena rather than a proponent of compromise.

As you look at the impacts of this project, you say you don't want to have -- you don't want to negatively impact the erosion patterns of the islands around you, and I'm wondering if you think there's really such a thing as a positive impact on the erosion patterns around you since, left to their natural rate, there is a lot of erosion out here.

We tend to think of erosion as being a bad thing, but, really, it's just bad because our stuff is in the way of nature, and I would like to see you minimize your impact in any direction of the erosion patterns of the islands to the south of you.

Long-term my concern is how much we plan to spend in order to continually take care of the project that we know will be minimally effective in order to preserve structures that were poorly placed 60 years ago. Why is this a better plan, other than the bureaucratic complications mentioned earlier, than

over time properly placing your structures behind rather than on the natural barrier?

While it's true that we cannot know for certain what the exact implications of this are, we do know there will be impacts. Based on our understanding of our future, on our understanding of the past, it's analogous to taking a look back at that first Model T and planning for 20th century transportation based on the previous hundred years of horse and buggy transportation.

MR. KOEHLER: Thank you. Jim Rapp.

MR. RAPP: Jim Rapp. I am also from Maryland. Two things I want to say: One, I work for an organization called Delmarva Low Impact Tourism Experiences, so our mission is protecting natural resources so we can derive income from nature-based and heritage-based tourism. So I appreciate what The Nature Conservancy has done, protecting the Islands.

The bird nesting goes on, we are bringing in a couple hundred people this weekend for the birding festival. So there are also economics there.

So I agree with what a lot of earlier folks said, particularly Mr. Chesser about looking at the mainland, all the other issues we have.

But I'm also here as a family member of

landowners. We have a house down there that my grandfather built in 1974, and he moved down here to go flounder fishing behind Cedar Island.

And it was mentioned briefly tonight, somebody in the audience talked about the islands further south of Assawoman. We still go down there as a family to go fishing, to appreciate the birds, and I'm just a little concerned about what may happen at the northern end of those islands. It's an amazing place for birds to raise their young, and those flounder fishing areas are just world class.

Just keep those things in mind as well, the recreation dollars that come with this that we may lose potentially, and the impact further down the chain. Thanks.

MR. KOEHLER: Thank you, Jim. Lou Hinds.

MR. HINDS: Thank you. I want to say that official comments will come from my ecological services division over in Gloucester. They asked me to pass along their regrets that they couldn't be here tonight. They said, Lou, you will be there? I said, Yes. They said, Good, pass along our regrets.

First I want to say any of the comments I say tonight may be subordinate to the official comments coming from my agency; however, having said

that, I want to thank all those people that -- and the Army Corps of Engineers for taking Assawoman into consideration.

I'm the official wildlife services manager that manages that island and the islands south of them, Metompkin, and, also, we have land ownerships on Cedar Island.

So we're concerned not only just with Assawoman but all the islands south of that, and for our partners, also. We have The Nature Conservancy and the State Fish and Game and VMRC and all those people, so we are concerned about our partners' real estate also.

Thank you for being concerned about the impacts on Assateague Island. We are concerned about that, too, and the sand dredging and sand mining that will take place offshore.

I think you will find from my agency, our comments are going to be supportive of your work to protect the facilities, but if we can, we speak from the standpoint of wildlife. That's what we are about and that's what we do, endangered species, Neotropical migrants, that whole suite of species that our government has charged my agency to manage for.

We are going to be looking at issues of

sand mining and those impacts to removing that sand off the coast and how that impacts suites of species like sea ducks, shore birds -- I'm trying to think of that -- the seabirds, there's the word I'm looking for -- that feed heavily in those areas.

So we will be looking at that and working with Mineral Management Services and make sure that that mining of sand out there is not going to detrimentally impact those suites of birds. We are going to be looking at those impacts south on Assawoman.

And I will tell you, Assawoman is one of our higher densities of the Piping Plover, so we are hoping to work with you on it.

My point out of this whole thing is I heard you say there was to be no negative impacts to Assawoman Island. I would like to turn that around a little bit and say let's have positive impacts to Assawoman Island and all of the other islands south of there.

Let's look at, whatever work we do, whatever amount of money that the United States government dumps into this, that it supports not only NASA's mission but the mission of the Fish and Wildlife Service. Let's have a positive beneficial

impact for wildlife.

And I have said this often enough, and this will be my closing little topic: Prior to my coming here, I worked very closely with NASA down at the Merritt Island Space Center, and we had the Merritt Island National Wildlife Refuge that was an overlay of the NASA facility down there.

And when I would meet with the center director, we would often talk about the relationship between NASA and Fish and Wildlife Service and our joint management of natural resources.

And we were very proud of the fact that we could have such a heavy industrialized site, yet have so many rare and endangered species thriving there. It was because of that working relationship between our two agencies that got us there.

So there was no detrimental impact. There was actually a positive impact. And I think we can get there with this project. But it will -- and I think we all know -- it is going to cost more money.

So I don't think we should be afraid of that, especially in this economic climate. People throw around dollar figures of trillions of dollars like it is pennies. You know, 3- or $4 million more, 5- or $10 million more, I think we can go back and we

can -- if we can show, prove that it would be a positive impact for wildlife, wildlife that this country has treaties with other countries to protect, I think we can find the dollars. So that's my closing statement.

MR. KOEHLER: Thank you. And last in the registered group is C -- excuse me, I'm having trouble reading it -- C. Seybolt?

MR. SEYBOLT: That's all right. I can't read my own handwriting, either. Well, everyone calls me Ace.

Dr. Campbell and other members of the panel, my name is Calbert Ace Seybolt. I live in Mappsville. I own about one and a half miles of waterfront farms directly behind Assawoman Island.

And like everyone else, we appreciate the money you bring into the county because I run a big rental business.

But more importantly, my family owned Assawoman Island from the 1920s until we sold it to Fish and Wildlife around 1992, and we had an arrangement with the Chesser family - he hunted it and we paid taxes on it.

My brother and I kept residual rights on Assawoman Island, which in legal parlance makes me an

interested party, plus I own 1400 acres behind the island.

I went to a hearing in Norfolk around 1990 when they were talking about the rip rap seawall, and we were told that was the answer, and they said groins and jetties don't work because they cause sand shadow, I believe is the expression.

As a matter of fact, those groins now litter Assawoman Island and drifted up onto our mainland farms. So I've heard -- in the '90s I heard the seawall was the answer. Now you're proposing another answer.

During our ownership of 70-something years, Assawoman Island, we have charts going back thousands of feet, and it got progressively narrower.

As a matter of fact, it was 400 acres less than even we thought it was when we sold it. If you stand on Assawoman on the beach and you look north, Wallops stands out like a sore thumb. And this is really due to your hardening of the shoreline. Everyone else's has moved back. Wallops has not.

You say you don't want to see the Assawoman Island erosion accelerate, but the number you have is an artificial number because it's faster than it should be because of the sand shadow cast by

Wallops.

I just -- and I'm not a scientist, but as an owner, I don't see how there's any way a 100-foot by 500-foot groin will not affect Assawoman Island. That's common sense 101.

And what happens -- I dealt with the government. What happens when the inevitable cost overruns, the budget crunch, and they say we will delay the sand replenishment for a few years, and then it gets lost in the shuffle?

You will have the groin out there causing the exact damage that you told me back in 1991 groins did and you were afraid they would cause.

I'm afraid your actions would eventually lead to the breaking up of Assawoman Island and exposing the mainland to the direct ocean. Thank you very much.

MR. KOEHLER: Thank you. And now we'll open it up to anyone else that would have comments to make. Just raise your hand. Yes.

MS. BOETTCHER (phonetic): My name is Ruth Boettcher, and I am with the Virginia Department of Game and Inland Fisheries, but I'm speaking more as a private citizen.

I think one thing -- and, you know, I

don't want to reiterate what everyone has already said, but I think it's important that some sort of threshold of failure is sort of established, saying, okay, enough is enough, it's not working, it's time to perhaps start moving the infrastructure further inland. And I think that really should be pointed out in the EIS. I think that's really critical.

MR. KOEHLER: Anyone else? Yes.

MR. MYERS: My name is Robert Myers. I'm a resident down in Northampton County. I'm going with Ms. Boettcher's comment and Mr. Burden's comment about the structure.

I would think that with the project, it would make economic sense to start looking at moving those facilities that are not critical to your operation inland. And I just have a Google Earth picture of a UAV runway down in, what, less than a hundred feet from the waterline. I mean, that certainly was not a brilliant piece of engineering.

And I would think that you would start thinking about moving some of these facilities. That certainly could be used on the main runway up at the airport.

I think you ought to start looking at the facilities that are not absolutely essential to your

mission here and start looking at an inland area for those facilities.

Those things that are absolutely essential for your mission, fine, you have to keep them here, but you better be prepared with a storm to lose those.

So you need to evaluate just how important those facilities are to maintain, because you're not going to beat mother nature in the long run. You're just doing a holding action. And I would like to urge you to look at the cost benefit of that movement of those facilities over a scheduled period of time to an area where they will not be subject to mother nature. Thank you.

MR. KOEHLER: Thank you. Anyone else? Okay.

Well, this will conclude our public comment portion of the Scoping Meeting. Over the next six to nine months the project team will be preparing the EIS. Announcements regarding the availability of the draft and final EIS will be published in local newspapers as they become available. Also, please check the project EIS website on a regular basis; the website will be continually updated with the most current project information.

This concludes the public Scoping Meeting of the Wallops Flight Facility Shoreline Restoration and Infrastructure Protection Program EIS.

Again, on behalf of the entire project team, we thank everyone for coming out tonight and their interest in the project. Thank you.

(The proceedings concluded at 8:20 p.m.)