SUBJECT-MATTER EXPERT FOLLOW-UP CONFERENCE CALL

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OPERATOR: All lines are in a listen-only mode. Today's conference is being recorded. If you have any objections, you may disconnect at this time. I would now like to turn the meeting over to your host, Ms. Kristi Watkins.

KRISTI WATKINS: Good morning and thank you for joining us. My name is Kristi Watkins and I'm with the U.S. Fish and Wildlife Service. Today's call is a follow-up to the call we had earlier this week to discuss impacts to wildlife related to the Deepwater Horizon oil spill. The format today is, our panelists will make very brief opening remarks, and then we will open the lines for questions for the remainder of the call.

So I'd like to introduce our panelists and then also tell you who else is on the line to help assist in answering questions. First, we have Dr. Ralph Morgenweck. That's M-O-R-G-E-N-W-E-C-K. He is with the U.S. Fish and Wildlife Service as the senior science advisor and the liaison officer at the Unified Area Command. Then we have Dr. Glenn – G-L-E-N-N – Plumb – P-L-U-M-B. He is with the National Park Service as the chief of fish and wildlife for Yellowstone National Park.

We also have Dr. Teri – T-E-R-I – Rowles – R-O-W-L-E-S. She is the director of NOAA fisheries' Marine Mammal Health and Stranding Response Program. And finally, we have Barbara Schroeder. That's S-C-H-R-O-E-D-E-R. From NOAA fisheries as the national sea turtle coordinator. Other subject-matter experts that we have on the line include Dr. Roger Helm. He is with the U.S. Fish and Wildlife Service – the chief of the division of contaminants.

We also have Dr. Sharon Taylor. She is the veterinarian for the U.S. Fish and Wildlife Service, as well as Rhonda Murgatroyd. She is with tri-state bird rehabilitators, and she is the director of the bird rehabilitation efforts for the cleanup. And with that, I will turn it over to Dr. Morgenweck.

RALPH MORGENWECK: Thank you all for joining us this morning. We appreciate your time and interest in the wildlife impacts of the Deepwater Horizon spill. Obviously, the Fish and Wildlife Service is very concerned about this impacts as they impact wildlife in and around the Gulf. The extent of the impacts are not fully known yet, but they're certainly significant. And we know that as the impacts spread through the system, they're going to get worse.

We have seen some wildlife that has been impacted – oiled birds, for example. We'll talk more about that later. But no one should believe that because we haven't recovered thousands of oiled wildlife, to date, that the impacts may not be widespread. We expect the numbers of affected wildlife to increase as time goes on. And many of the fish and wildlife that die from this spill will never be recovered, because they are simply going to be in locations where we don't find them or they'll be scavenged by other animals in the system.

The Fish and Wildlife Service is very appreciate of our other federal partners, the states that have worked so hard with us, with BP, with non-governmental organizations and wildlife rehabilitation centers to do the very best to minimize the impacts of this oil spill on wildlife and

its habitats. And we have deployed booms around Breton and Delta National Wildlife Refuges protecting nesting sites for Brown Pelicans and for other beach-nesting birds.

We're continuing, each day, to do surveys along the coasts of Louisiana, Mississippi, Alabama and Western Florida. We have more than 30 wildlife teams that are out evaluating areas to see what kinds of impacts, to retrieve birds and other wildlife if they are found, and trying to stay up with the impacts of this oil spill. And one of the things that we have to keep in mind is that each oil spill is different. It affects wildlife and habitats in a variety of ways and at varying levels of severity, depending on how much oil and what type of oil is spilled, the season of the year and the weather, the kind of shoreline, the type of waves and tidal energy in the area of the spill.

And oil can harm wildlife through a variety of ways: physical contact, ingestion of the oil by wildlife, inhalation and absorption by wildlife. And direct effects, such as oiling of birds, is a visible and direct measure, but by no means is the ultimate measure of the overall impact. Because a lot of these impacts – and Dr. Helm will talk more about this later – is more subtle than simply oil on the outside of an animal. And so we'll give you the opportunity to ask more questions about that in a few moments. Now, I'd like to ask Dr. Glenn Plumb for opening comments from the National Park Service.

GLENN PLUMB: Good morning, everyone. This is Glenn Plumb. I'm duty stationed at Yellowstone, but I'm currently with the Unified Command in Mobile, Alabama. There are eight national parks located within the range of this oil spill, ranging from Padre Island National Seashore on the Texas Coast down to Biscayne National Park on the South Coast of Florida. But in between that includes the Jean Lafitte National Historic Park and Preserve, the Gulf Islands National Seashore, De Soto National Memorial, Big Cypress National Preserve, Dry Tortugas and the Everglades National Parks.

We're concerned about the potential damage to wildlife across several areas, like Ralph indicated, including direct injury or damage to wildlife from oil or dispersants, but also injury or damage to the marine and inland wildlife habitats. We're also concerned about – (coughs) – excuse me – the extended effects, potentially, across wildlife food webs. And that includes the plants and animals that are tied together in their food chain and habitats so if one species is damaged in high numbers, we would expect others to suffer, too.

We're also concerned and working to minimize either loss of habitat or disruption of wildlife activities due to the response. Because boats and people and booms, et cetera, as part of the response, are capable of damaging sensitive natural and cultural resources. So we are allocating and deploying our people in the field to work with response teams to minimize such disturbances. We have NPS people in the field: biologists, wildlife veterinarians, park rangers, and others – responding to reports of sick or injured wildlife.

We're providing assistance in getting those animals to rehab and getting them out of harm's way. We're working with our partners closely across the incident to assess damage. We're also working hard to maintain a chain of custody, of evidence from wildlife resources

collected from NPS lands, so as to preserve our ability to track that information as part of the damage assessment.

As Ralph indicated, to date, there have only been a few injured or dead wildlife recovered from NPS lands. I'm aware of two slightly oiled northern gannets – that's a seabird that ranges from the North Atlantic, North Sea, down to the Gulf – from Gulf Islands National Seashore. But like Ralph said, we do anticipate long-term, and perhaps widespread, effects to the wildlife ecosystems that may persist beyond, and well beyond, the detection of individual animals with evidence of oil on their feathers or their fur. And I'll pass that on to the next speaker, please.

MS. WATKINS: Yes, thank you. Dr. Rowles, with NOAA.

DR. TERI ROWLES: Yeah, this is Dr. Rowles, and I'm the director of the Marine Mammal Health and Stranding Response Program. That program is charged with evaluating strandings, causes of mortality, impacts on population and effective responses to – (inaudible) – events. We've had a longstanding – over decades – Marine mammal stranding network in the Gulf of Mexico, which gives us some good baselines from which – and a foundation from which to build up and increase our capacity for response in this event.

We have built and added to the capacity in our normal stranding network partnership, and are brining in additional people, as needed, from across our national stranding programs. Similar to what you heard from the Fish and Wildlife and National Park Service folks, we are concerned about the impacts to wildlife, particularly for Marine mammals. And that, in the Gulf of Mexico, would be whales, dolphins and manatees. Some of those are coastal, and hug the coast, and which detectability will be higher. Most of those are offshore, near the source in deep water, and our ability to detect carcasses on the beach from animals that are impacted and die at sea is very low.

So we're working with our historic background, using our established capacity within the Gulf of Mexico, bringing in outside experts and doing rescues when available – and no live animals have come in at this point for manatees or dolphins or whales – and in doing complete necropsies with chain of custody and strict oversight on samples that are being collected, both for several histopathological and cause-of-death determinations, as well as for chemical analysis for PAHs and dispersants. And I'll turn that over to Barbara now.

BARBARA SCHROEDER: Good morning. My name is Barbara Schroeder. I am an ecologist with the NOAA fisheries office of protected resources, and I serve as the national sea turtle coordinator. With regard to the oil spill, I'm currently the unit leader for sea turtles under the wildlife branch of the Unified Area Command.

In my role there, I'm coordinating response efforts for marine turtles, working closely with the U.S. Fish and Wildlife Service, our state agency partners and a number of other organizations, addressing both in-water and nesting/beach concerns for sea turtles across the spill area in the Gulf of Mexico.

I'm going to be very brief because what Dr. Rowles stated before is applicable, as well, to marine turtles. We have very serious concerns for turtles, most of which are at sea, and most of which, the impacts will be extremely difficult to observe. We have been documenting strandings of turtles, which are turtles that wash ashore or are found in, usually, near-shore waters, dead or debilitated.

And we have, as of today, collected only three live turtles from open ocean areas. Those three turtles have undergone – (inaudible) – procedures at one of our facilities outside of New Orleans, at the Audubon Aquarium. And they are – we are cautiously optimistic that they will fully recover and eventually be released back to the wild. I'll stop there.

MS. WATKINS: Okay, thank you. And now, at this time, operator, we are ready to begin taking questions. And I'd like to request the callers to please identify their name and their media affiliation when asking a question. Thank you.

OPERATOR: Thank you. We will now begin a question-and-answer session. To ask your question, press *1. The system will prompt you to record your name. To withdraw your request, press *2. Our first question comes from Steve Davies.

Q: Yes, thanks for holding this teleconference. My name's Steve Davies. I'm with Endangered Species and Wetlands Report newsletter. Two questions, if I might. One is, how much oil is leaking/gushing from the well? And secondly, is there a place on the Web where you guys have posted up-to-date data on the numbers of wildlife that have been recovered or found in the response to this disaster? Thanks.

MR. MORGENWECK: This is Ralph Morgenweck. We are wildlife people; we are not the engineers who are dealing with trying to seal off the well. So we can't answer the question that you have raised. I realize that it's a very hot topic right now, but unfortunately, we're not the people who can help you with the answer to that.

The second part of your question, about posting the numbers – we are working on a way of posting that information as we update it each day. We can give you the numbers today on the phone, and we hope in the next day or so, to have some issues resolved with getting that posted so that it will be available.

OPERATOR: Our next question comes from Mira Oberman.

Q: Hi there, this is Mira Oberman with Agence-France Presse, AFP. I'm just trying to kind of think of a way to explain to my readers what is really going on out there. And it sounds like you're saying that most of these animals are going to die alone and in places where we can't find them, and where they can't be rescued.

So I mean, could you explain a little bit more of, maybe, what you've learned from past experience, in terms of the impact on the food chain, or you know, just how deep and how wide is this going to be, in terms of a problem? You say it's going to last for decades; it could affect

multiple generations. But I was just hoping you could expand on that and try to make it make sense to people who don't really understand what it looks like out there.

MR. MORGENWECK: Sure. I'd like to ask Dr. Roger Helm to address that. Roger?

ROGER HELM: Certainly. I'll do my best. The reality that we have in this situation is that we have, as you know, this very deep-water spill – a mile down, far offshore – with, sort of the first questioner asked, you know, sort of an unknown quantity of oil that has been released. To that, we've added a tremendous amount of dispersants at the surface, some dispersants at depth.

What we know about spills, up to this point in time, is almost entirely based on surface releases or near-surface releases. That's where the science in oil spills has concentrated our efforts. So at this point, we don't really understand the efficacy of the response actions; we don't understand exactly how the oil is moving from depth up – whether it breaks into, you know, a bazillion little particles or droplets, or whether it comes up as a stream; when it hits the surface, how much water has been incorporated into the oil – how much it's emulsified; therefore, the efficacy of the dispersants the burning on the surface that they're trying to do.

So there's lots of different mechanisms we're using, but we've never really seen this kind of thing. So then you go back to the science of what the effects are. As we're saying, this is, you know, 50 miles offshore, origin. Birds that may be exposed there, or turtles, or marine mammals – the likelihood that they would land onshore is relatively low. So we're not sure about how that is going to happen. Usually, for instance, birds will last less than two weeks, once they've died, before they sink.

So we do know, once it hits the shoreline, there's going to be substantial impacts – substantial visible impacts, whether it's the marsh or shoreline. Substantial numbers of birds are going to be oiled; substantial numbers of near-shore fish and shrimp and things like that are going to be affected. And those are all real visible and we're going to be able to document that. And that's what we're prepared to do, because that's how these spills traditionally have manifested.

This one is coming in a way that has a lot of us working as hard as we can to understand what is going to be the larger impact – if this is mostly a water-column, offshore, or somewhat-near-shore-but-not-onshore impact. How do we get our brain around all this? This is the best folks we have in the Fish and Wildlife Service and in NOAA and in the Park Service and in the USGS and the universities and the states who are all working on this. It's a very difficult one.

MR. PLUMB: Mira, this is Glenn Plumb, and to add to those comments, you asked about food webs, and kind of, some of the broader, longer-term implications. And placing in context, as we've just heard, earlier science following up on these coastal oil spills and such had indicated reduced fitness amongst the animals, the wildlife that do survive. And that means reduced reproductive capacity, long-term reduction in individual-animal fitness or population fitness.

And so anticipating that, with this long-term expression of the oil spill in the wildlife system that we anticipate, we are concerned about the viability or the integrity of these complex food webs, and food chains in the Gulf, that are so important to the ecosystem there. And that's going to require another kind of monitoring and assessment, and long-term work, versus just documenting oiled wildlife in the contact zone.

OPERATOR: Our next question comes from David Fernholz (sp).

Q: Hello, I was kind of amazed you guys didn't start with this: What the numbers of wildlife you've seen affected so far, either killed or injured by oiling?

MR. MORGENWECK: Dr. Rowles and Barbara, you want to start with turtles and marine mammals?

DR. ROWLES: Yes, this is Dr. Rowles, and I'll start with my mammals. To date, as far as the marine mammals stranded on shore, we've had 18 dolphins since April 30th. None of those dolphins have been externally oiled. Only one of those dolphins has had a complete necropsy with full – (inaudible) – samples collected. All of the animals have been examined.

MS. SCHROEDER: And this is Barbara Schroeder for marine turtles. We have documented 186 sea turtles, of which three were collected at sea and are alive. The other animals, almost all of them are dead, except for a handful – about eight that were collected alive. Two of those died subsequently. Those are animals that came ashore.

We are looking into the causes of those onshore mortalities. None of those turtles that washed ashore or were found very close to shore had any visible external oil. And of the ones that have been necropsied, which is approximately 70, none of those had visible internal oil. There are additional tests and analyses that will be conducted. The only visibly oiled turtles that we have collected were the three that I mentioned initially, that were collected out in the open Gulf of Mexico in heavy oil. And those are the ones that are currently being treated at the Audubon Aquarium.

MR. MORGENWECK: And this is Ralph Morgenweck. For birds, we have a total of 43 birds found dead, 23 birds found live. Several – four – have been cleaned and released, and there are some at the rehab center. And I would like to invite Rhonda Murgatroyd to talk about the birds that are at the rehab center.

And then I'd like to have Dr. Taylor talk a little bit about how do we establish whether the cause of death of the bird is oil or not. There's some science behind that, that I would like her to address. So Rhonda, co9uld you talk a little bit about the rehabilitation, how many birds you have?

RHONDA MURGATROYD: Yes. This is Rhonda Murgatroyd. And I am the – (inaudible) – branch director here. I'm not with Tri-State. I was hired by BP, working through O'Brien's Response Management. I have responded to oil spills, along with – (inaudible) – for

the past 12 years as an oiled wildlife responder, and I'm interfacing with all of the wildlife agencies and trustees as it related to this response.

But as far as the number of birds that are at the rehab center at the moment, I've asked someone to go and collect that information for me. We are waiting to – we're preparing to release some more birds here very quickly in the next couple of days. The birds that are at the rehab center are all doing well. And I don't know what else you might like to know about them, but I will get the other information of what species we have currently at the center, here, shortly.

MR. MORGENWECK: Thank you. Dr. Taylor, could you talk a little bit about how the determination is made about the effect of the oil on the bird, when you find a dead bird?

DR. SHARON TAYLOR: The birds are brought into the rehab center, and then they're evaluated and scored based on the amount of oil, from a light to a moderate to a heavy. If carcasses are brought in, those are entered in through a chain of custody and logged in and archived for future analysis. One of those is potentially DNA fingerprinting the oil and then comparing it against the source.

MR. MORGENWECK: Okay, thank you.

OPERATOR: Our next question comes from Allison Winter (sp).

Q: Hi, thanks. First, just a clarification question: A couple of questions ago, when someone was talking about how most of what we know is from near-surface releases, not deep-water, I wasn't sure who that was, talking, so if you could tell me that. And then my other question is, are there any food sources that are in deep water near the water that you're particularly concerned about, like squid for sperm whales or anything? And when do you expect to see the impacts to these populations? Would it be, like, fewer sea turtle nesting next year, or when do you expect to see some of the numbers?

MR. MORGENWECK: the person's name that you were asking about is Dr. Roger Helm – H-E-L-M – that answered that question. And perhaps the NOAA folks would like to address this?

MS. SCHROEDER: This is Barbara Schroeder. I can speak a little bit to that, and then Dr. Rowles can add in for more information on the marine mammal side. But yes, we are certainly very concerned about effects throughout the food web. Our species that live primarily most of their lives in the marine environment – many of the species we're talking about have significant portions of their life where they are at sea in the open Gulf of Mexico.

They obviously depend on food – prey items that are out there. For turtles, we know that many of these prey items are also being exposed to the oil and the dispersants. We do now know what the long-term effects of that will be. This still is really unprecedented in its scope and duration. As was previously stated, this is a very difficult question to understand and to investigate over time. There was a – I think the question was, could this potentially manifest itself in reduced nesting success for adult female turtles? Those are some of the questions that

we are discussing. Those things are certainly possibilities. But we really do not know at this time. But we do expect that the food items and the food web will be affected. How much and how long, we do not know, yet. Teri, if you have anything to add, please do.

MS. WATKINS: And I'd like to remind our callers to please state their affiliation.

OPERATOR: Our next question comes from Mark Schleifstein.

Q: Yes, Mark Schleifstein with the Times-Picayune in New Orleans. The state of Louisiana, several weeks ago, proposed building berms – basically barrier islands – across the coast in strategic areas to block oil from reaching the wetlands. Their request for a permit with the Corps is going through the NEPA process now.

What comments have your agencies made about that plan, which I understand already has led to one major set of revisions in the plan, and then another set of comments? And related to that, what efforts are you making to find oil underwater approaching shore, and could you go through the steps that you're taking to address that when that's spotted? Do you just rely on the booms to catch it? Do you mobilize skimmers, find other ways of getting to the deeper oil and removing it before it goes onshore?

MR. MORGENWECK: Again, this is a wildlife call, so most of what we have, in terms of expertise available to us, are folks that are dealing with wildlife. Obviously, when you're talking about the movement of oil, that is some of the folks from the NOAA and the Coast Guard and BP who are doing that. That's outside of the scope of what we can help you with.

However, as the oil approaches shore, there are a number of things that we are doing. You're well-aware of the booms that have been placed to protect certain areas – also, that there have been, I believe, some absorbents used in and around the marshes to absorb oil. And again, I'm going to just – I'm going to call on Dr. Helm in just a second, but the other thing is that this group is also not the group that's addressing the proposal by the state of Louisiana on the berm. As you said, it's being considered. And this group is not involved in those considerations right now. Dr. Helm?

MR. HELM: Mike, this is Roger Helm. I certainly agree with everything Dr. Morgenweck just said. We're not the people to truly address some of these questions. I was out on an aerial survey yesterday, and I can tell you, in areas that there was oil in areas previously, some of it has washed away. In areas, there's a tremendous amount of shrimp boats out there that are – have boom on their boats and they're doing trawls to try to pick up oil.

So I don't think there's a response technology that is available that isn't being used here in every possible way to figure out and to pick up and to prevent oil from reaching the shoreline. So I think the response folks are doing a fabulous job. It's a very, very difficult job, but I think they're doing everything they can. And I personally know nothing about the berm.

OPERATOR: Our next question comes from Ben Raines.

Q: Hi, there. I'm with the Press-Register in Mobile. I was wondering if you all could talk a little bit – I missed the first part of the call, so if you all have addressed this, you don't have to do it again – but a little bit about any bioaccumulative properties for any of the components of the oil or the dispersants, you know, at the base of the food web on up.

And also, I was wondering about creatures such as shrimp or crabs, that are growing out from larva in marshes that are affected, moving around the Gulf and sort of, you know, like little Typhoid Marys, potentially spreading things to other portions of the Gulf. I was wondering if you all had – if that's something we're going to have to worry about.

MR. MORGENWECK: This is Ralph Morgenweck. I'd like to ask Dr. Helm and maybe Dr. Plumb if they have some observations on this question.

MR. HELM: This is Dr. Helm again. Oil – petroleum hydrocarbons do not particularly bioaccumulate, so it's not like you get a lot in one organism and then you find 10 times – you know, a lot more – in other organisms. And different organisms have different capacities for getting rid of hydrocarbons in their body.

So a lot of the upper-level vertebrates – the birds and the mammals – can get rid of hydrocarbons in their body moderately rapidly – you know, over the order of weeks. So what you see is, you see acute mortality – so you kill things almost right directly with hydrocarbons – and then you see, as the organism is doing its work to get rid of those things, the organ systems – the kidneys, the livers, sometimes the lungs – have developed problems – you know, lesions and things of that nature.

So that's really the effects that you see, but you're really not expecting to see any kind of movement of a contaminated – seriously contaminated organism going somewhere else and then spreading a disease thing. That's not going to happen. And definitely, I would ask Dr. Taylor to expand on this, please.

DR. TAYLOR: I think that we're all concerned, and then I'd like to reiterate what I think Dr. Plumb said about, long-term monitoring is going to need to be going on out there at many levels of the food web, you know, including the species that you mentioned, such as shrimp and crab, and some of the other ones, because the long-term effects – this is an unprecedented spill, the use of dispersants and the oil – and the science right now doesn't necessarily cover all of the questions everyone has. We don't have those answers, yet. So the long-term monitoring is really going to be key in following this out to more accurately assess what has gone on.

DR. ROWLES: And this is Dr. Teri Rowles. I just want to speak on behalf of the deep-water marine organisms, as well. Since day one, those animals have been exposed, and not like they've been exposed and they have a time to clear it. They're daily exposed to the oil and the dispersants in the water column, both from the oil and through the food web.

MR. MORGENWECK: Yeah, that long-term exposure is what has a lot of us very concerned. You know, organisms can deal with some insults for a period of time, but the long-

term, chronic insult that happens to both the organism itself and to its food and to the rest of the critters and their interactions – it has all of us very concerned.

OPERATOR: Our next question comes from Cammy Clark.

Q: Hi, yes, this is Cammy Clark of the Miami Herald. I want to know what your concerns are for the coral reefs and the ecosystems in the Florida Keys, primarily based on how the oil will appear there, you know, 450 miles away from the source.

MR. MORGENWECK: Perhaps Dr. Plumb, Dr. Rowles, would you have some observations?

MR. PLUMB: This is Glenn Plumb. I'll acknowledge right out that while I was born in Florida and I have dived on the reefs, I am not a coral reef expert. I guess that's why I live up in Yellowstone National Park. But we are concerned, because the movement of this plume of oil – both the surface movement and the underwater movement – you know, the folks down in Biscayne and the Everglades and the Dry Tortugas, in our workforce, are documenting baseline conditions.

We are out there photographing. We are remeasuring our long-term data sets, trying to get ready for the unexpected. And if we were to see mass movement or mass transport of either weathered oil or unweathered oil that makes contact with coral reefs, there would be substantial damage and we would be documenting that and learning about that. But we would anticipate significant damage to coral reefs on contact with those kind of oil resources.

DR. ROWLES: This is Dr. Rowles, and I am also not – I'm a veterinarian, but not a coral reef expert. But the coral reef program that NOAA coordinates does have a health and disease component that's made of multiple agencies and academic partners, and if we can have experts address that question from the health and disease and impact perspective on future calls.

OPERATOR: Our next question comes from Matt Brown.

Q: Matt Brown with Associated Press. I have a question about the oil that's beneath the surface – two, actually. The first is, if – since you can't see it, it's obviously very hard to track. That means we're not going to realize what a lot of the effects are on the coastline until it actually starts showing up, and when Glenn was just saying about the coral reefs, I'm wondering if that's – again, we'll only know that when it happens and it will be somewhat impossible to predict when it's going to show up?

And then the second is, I'm wondering if there's any – the use of dispersants, you all have addressed that – I'm wondering if there's any thinking that that's essentially concentrating the impact of this spill in the marine environment? In other words, it's keeping it from coming to the surface, where it might move to the shore, might be wrapped up with booms and absorbed. But instead of that, it's being concentrated underwater.

MR. MORGENWECK: This is Ralph Morgenweck. Just a couple of thoughts, and then I'm going to ask others to join in. I'm not an expert on dispersants at all, but my understanding is that dispersants act to create smaller particles of oil that allow microorganisms to have a larger surface area to act on that oil to break it down naturally. And that's one of the purposes.

I'm not aware – and I'll ask Dr. Helm and others – I'm not aware that these dispersants actually concentrate the oil; I think they do just the opposite. So that is, at least, my understanding. But you're getting into a place that I am admittedly weak. Dr. Helm?

MR. HELM: What you're saying is correct. The dispersants are making the oil into smaller droplets. So what we have is some very, very large number of oil droplets out there. Even as the oil has been coming up from depth, it tends to be coming up in droplets. When it hits the surface, it's somewhat coalescing. But in the water column, it's staying as, you know, a bazillion little droplets of oil out there.

That is what the technology of dispersants is about, is to try to keep it in droplets and in the water column, because then you have three-dimensional movement of that oil and three-dimensional dilution factors, as opposed to two-dimensional, when it reaches the surface. That's the concept behind the use of dispersants. And you know, it's really unclear in this situation what is going to happen, as the caller asked and as we've tried to say, as to how this is moving below the surface and whether these droplets will eventually surface, you know, several tens of miles away from the location.

This is why the concern about Florida – a lot of concerns. We just don't really understand the modeling of, or the movement of all of these particles. And so we'll just – this is a giant experiment that's going on and we're trying to understand, scientifically, what this means so that, in the future, we will be in a much better place to answer the type of questions you guys are asking. Because you're asking the same questions.

OPERATOR: Our next question comes from Lauren Schenkman.

Q: Hi, this is Lauren Schenkman at Science magazine. I was wondering – I have a few questions, actually. First of all, you mentioned that long-term effects are going to need to be monitored. And I was wondering if there are any specific research projects that are getting underway that will track effects to turtles and marine mammals and really, just, you know, the rest of the food web, over the long term to see, you know, in a year, how these populations are doing?

MR. SCHROEDER: This is Barbara Schroeder. I can speak to the sea turtle part and then Dr. Rowles can add in for marine mammals. Those longer – immediate and longer-term monitoring plans are under development. And we are working with Fish and Wildlife Service and our state partners to develop those.

For general monitoring, though, as Dr. Rowles stated at the beginning of the call, and that also applies to sea turtles, there are long-established networks in place that monitor near-shore and on-beach strandings of sea turtles. And all of the states that have nesting turtles in the Gulf

of Mexico also have long-established monitoring programs in place for nesting turtles – to count and record nests. So there are some programs that have been in place for a long time. That's valuable and important because it provides a baseline. And then we will, most assuredly, be enhancing our monitoring. But as I said, those plans are under development.

DR. ROWLES: And this is Dr. Rowles. I would say ditto for marine mammals, as to what Barbara referred to. We currently have two programs that have been out for the last two weeks or more doing some evaluation of abundance and distribution of marine mammals, both for manatees and whales and dolphins, as well as some on-water assessments in coastal bottlenose dolphins utilizing photo identification, overall visual health assessments, distribution and biopsies for baseline levels in areas prior to the oil reaching into the coastal bays if it's to be found in that area.

And we are in the process of developing TRUE, the national resource damage assessment, both short term and immediate actions that need to get out to begin the monitoring, and then long-term plans for after the response effort is over and long-term monitoring for impact.

MR. MORGENWECK: This is Ralph Morgenweck. In the bird world, the Fish and Wildlife Service has been working with several states to do some surveys – long-term surveys, for example, on mottled ducks, which is a hunted species along the Gulf and it both nests and winters in the coastlines of Texas, Louisiana and Florida primarily. And there are annual surveys that are being done.

Now, mottled ducks are nesters that nest on freshwater wetlands – inland a little bit farther than where we are seeing oil impacting now. However, we do have these annual surveys that give us a long-term data set to make some inferences from should the oil get into those marshes.

In addition, we have been working, again, with state partners and some other federal agencies, working on development of marsh bird surveys. And some of those surveys, again, independently have been begun for things like Clapper Rails, King Rails, species of that nature, and they were begun because we don't know a great deal about the populations of some of these species. And so it was just fortuitous that, that work was going on when the spill occurred.

MR. HELM: And this is Dr. Helm. One last comment within the context of doing a natural resource damage assessment: The trustee agencies, NOAA and the state and Fish and Wildlife and a few others, perhaps – excuse me, the Park Service, for sure – will be looking at long-term impacts. The responsibility of the trustees within this context is to return the national resources back to as close to the baseline conditions as we can possibly, with the responsible party paying for that restoration.

So we have to establish what the injury is and then we have to establish what are the appropriate restoration actions, and so we'll be looking at all aspects of this to our best ability. And it will be based on the baseline that we're collecting right now.

OPERATOR: Our next question comes from Dave McBride (sp). (Pause.) Sir, your line is open. Please set your mute button. (Pause.) We will go to the next question. Larry Price (sp), your line is open.

Q: Yes, hello, how are you doing? How are you doing? My name is Larry Price. I'm a representative of (Priced ?) Innovations. I have a comment and a solution for the panel as far as pertaining to wildlife or habitat in the marshes.

One, I'm suggesting if you can, if you can, try to have them to stop – have Congress stop the used-up chemicals – the dispersant – because they have a long-term effect on not only just the wildlife, sea life, all the seafood that we eat. And I'm predicting it will have a long-term effect as far as birth defects, skyrocketing of food, of seafood.

Another thing as far as solutions, for example, if you can take sawdust and a blend of hay – blend them together – it will be great to put along the coastlines, the marshes because it will absorb the oil. And if you have a plane to spread it over the oil, it would keep it clogged up. This is where you can collect it a lot better. All right, thank you.

MR. : We can go to the next call.

OPERATOR: Sheila McNulty, your line is open.

Q: Hi, just wanted to get back to the animals. Sorry, I'm with the Financial Times. You said there were 18 dolphins stranded but none were oiled outside and one had had a full autopsy and showed no signs of oil. So is this something that occurs just from time to time that we shouldn't jump to any conclusions and it should be to the spill? I'm just trying to understand what the other causes could be or whether you're considering this an impact from the spill.

MS. ROWLES: This is Dr. Rowles. So yes, we do have strandings in the Gulf of Mexico year-round with peaked strandings of dolphins running from December through March. The year 2010 was higher than normal, than the historic averages for January, February and March of this year.

We are investigating all the animals that have stranded since this event in a geographic area from the Louisiana-Texas border to Apalachicola, Florida for evidence of external oiling, injected oil and a complete sweep when possible for impacts of whether it's associated with this event. That data will take some time and those analyses will take some time to do. But they are being thoroughly investigated. But again, I want to reiterate, there are strandings every month in the Gulf of Mexico and have been historically.

OPERATOR: Our next question comes from Nicole Killian (sp).

Q: Yes, so if you can just clarify that, so when you see the dolphins have been stranded, does that mean 18 dolphins dead? Just scientifically, I don't understand what that means. Now, are these dead dolphins or just dolphins that have been stranded and some have been recovered?

MS. ROWLES: So these are dead – dolphins that have stranded onshore that are dead and that have been confirmed by a biologist. We have had no live dolphin strand during this timeframe in that geographic area.

OPERATOR: Our next question comes from Leslie Kaufman (sp).

Q: Hi, this is Leslie Kaufman with The New York Times. You mentioned earlier that there were 30 teams out there searching. I was a little confused about that number. Is that just on the shore? Are you doing any searching, since a lot of the impacts are out at sea, out over the water? And if so, could you quantify those?

MR. MORGENWECK: This is Ralph Morgenweck. I'm going to ask Dr. Helm to talk about that a bit more but as I understood it, there have been around 30 teams – wildlife teams – that have been doing a variety of things both on the ground as well as in the air. Dr. Helm?

MR. HELM: Yes, in terms of – I can only speak to the birds and turn to my NOAA colleagues vis-à-vis the marine mammals and the fisheries. For the birds, within a few days after this event started happening, we mobilized a team that review in spills mostly along the West Coast of the U.S. to do aerial surveys to determine the species compositions – i.e., what kind of birds are offshore and near-shore and the densities of those birds offshore and near-shore.

And we fly about – the team is flying about three days – it takes them about three days to cover the area that we're working in and to document exactly what they find out there, what those species are and how many. And we use that information along with the birds that will come onshore to model and get the best handle that we can of precisely the impact of this event.

And this is a real standard technique we've been using on spills. It really started during the Exxon Valdez. That was sort of the genesis of this process and we've been refining these models ever since and the process ever since and it gives us a fairly good – in the end, a fairly good bounded estimate of the likely impact of this event on birds.

OPERATOR: Our next question comes from Richard Fausset.

Q: Hi, it's Richard Fausset with the L.A. Times. One, I just wanted to double-check with Ms. Schroeder. If you could give me a sense again of the number of sea turtles who died, can you go over those numbers again?

My other question for any of you guys out there is I know that you guys are talking about this as an unprecedented event, but I'm sure as you're preparing for this and in your planning documents and in your briefings talking about effects that in some ways were analogous historically. And I'm wondering if you could give me an example of a couple of those events that you're looking to, and particularly talk about the kinds of long-term effects that those analogous events had on the ecosystem.

MS. SCHROEDER: Hi, this is Barbara Schroeder. I'll answer the first question regarding future – (audio interference). The numbers currently stand at 186 sea turtles that have

been documented and verified. Almost all of those except for three were recovered onshore or very near shore. Three were recovered and dedicated on water surveys, which goes a little bit to the previous reporter's question about what efforts are happening at sea for mammals and turtles. But most of those 183 were documented onshore. Almost all of those are dead stranded.

As Dr. Rowles said earlier to a previous question, turtles do strand along the shoreline of the Gulf of Mexico and the entire Atlantic Coast throughout the year. There are annually several thousand turtles documented dead or debilitated through our stranding network.

The numbers that we are seeing in the northern Gulf of Mexico and the response there is, as Dr. Rowles mentioned, are much higher than – (audio interference) – levels. Some of that is likely due to increased awareness and human response in areas that normally we are not out in. All of the bird survey efforts and all of the response efforts are getting people out where, normally, we don't have many operations along the shorelines or on the water.

So we are, as Dr. Rowles said with regard to the mammals, we are doing the very same thing for the sea turtles that have stranded to the maximum extent possible, depending on their condition. We are collecting samples, we are doing thorough necrosis and we will continue to do that for the duration of the event.

OPERATOR: I think we have time for two more questions.

MR. : Well, I don't know that we answered the question. We answered the second half of the question.

I can take a bit of a stab and encourage others to weigh in. One of the reasons we keep talking about this as being unprecedented – it isn't the volume. It's the release point. It's this deepwater spill. And there really is not a lot of information historically on these kinds of releases.

You're probably aware of the Ixtoc spill that happened in the Gulf of Mexico. I think it was in 1979. But there was very little science really done on the effects of that spill. And we've done ecosystem work based on the Valdez spill and a few of the more recent spills like the Prestige spill where more holistic ecosystem view of the impacts has been done.

But again, we've never dealt with this kind of deepwater spill, we've never dealt with this amount of dispersants, we've never done anything here in the Gulf. Alaska was very different with a lot more seabirds, for instance, and that was a lot of the focus of that work.

So that's why we really are in a very early phase of understanding the science here. And we don't have a lot of experimental work or a lot of practical work upon which to base a lot of the work that we're doing.

MR. PLUMB: And this is Glenn Plumb to follow up on that. I agree when we're talking about deep oil spills. There is a body of science derived from tanker spills – the Exxon Valdez, the Sea Empress, the Erika, the Prestige, the Tasman Spirit, the Amoco Cadiz.

That science has been conducted over the last 35 years or so. So we are working with the reliable knowledge from that science but it is limited and it is not across the scale or the scope of the ecosystems that we are working with now.

So there are limited inferences but generally they can point to areas that we should be concerned about and that includes direct and acute mortality or injury, long-term effects in, say, freshwater mussel communities or in the fitness of aquatic birds and so on, so we are drawing upon the best of the best science that we have to work with.

OPERATOR: Barbara Kessler, your line is open.

Q: Yes, Barbara Kessler, GreenRightNow. It sounds like you're taking stock of populations as they exist – I understand, about the birds and the shoreline, animals. I'm curious, we keep hearing about the dolphins and the whales and the manatees that will just drop off and we'll never know. Is there something going on to take – can you give us some idea of the populations out there and how you're going to look at that to ever know any impact there of those particulars – deeper water and marine mammals?

MS. : So for marine mammals, we have manatees which are closer inshore and likely more detectable. There are some tagged animals along the West Coast of Florida. There are aerial surveys that are being done. Since they move from grazing habitat to grazing habitat, there's an idea of – (inaudible) – collected by the state of Florida and U.S. Fish and Wildlife on where congregation areas are normally. They're going to continue those observations and they do have fairly good numbers and estimates of abundance and distribution.

In the upper Gulf of Mexico, there are aerial surveys that have been conducted and will likely be conducted over the next few weeks or months as well as identification and information to all of the aerial and boat assets that are out there along the coast so that we get reports to the wildlife branch of manatees in the area. For bottlenose dolphins, there are efforts along the coast to identify animals through photo ID and through biopsies and monitor those animals over time.

For the offshore animals, which are bottlenose dolphins, other dolphins, deep-diving whales like sperm whales or beaked whales. We're currently using aerial over flights looking at animals in oiled areas and animals outside of oiled areas, trying to get an idea of distribution and abundance as we move through this event.

Prior to this, in February 2010, there were sperm whale prey sampling studies done so we have those pre-event prey samples available for study and for comparison to post-event on prey samples.

In addition, there are a lot of plans going forward to come up with ways to monitor the animals in the area of the oil and areas outside of the oil and to monitor the individuals themselves.

Similar to what Barbara and others have said, we do have communications with all of the aerial and boat assets that are being deployed so that if injured animals are observed or dead, floating animals are observed, those will be reported to us as quickly as possible. But the long-term plans are currently being formulated to be able to understand the populations in that area.

MS. WATKINS: We have time for one last question.

OPERATOR: Our next question comes from John King.

Q: Hi, how are you doing? Thank you for this opportunity to speak. I worked for the U.S. Fish and Wildlife Service from 2007 to 2009 at Pelican Island. And in the process of working for them, I learned a lot. But my question is, what do we know right now about what it's going to do to the ecosystem as far as microorganisms because it starts from there and it works its way up.

My other comment is while I worked at U.S. Fish and Wildlife Service, we had a problem where we had had two artesian wells that had been broken and we had to come up with a plan on how to fix them. Now, these artesian wells were spewing out about 450 gallons of water and we came up with a plan, we came up with an idea. We tried it; it worked.

My question is, I've gotten with BP on this. I haven't heard nothing back. I'm sure they have experienced scientists and engineers but my only question is, if they still don't have any other ideas, we at Fish and Wildlife in Vero Beach came up with a plan that works, that shuts it off. And don't we have to first stop the problem and then clean the problem up?

MR. MORGENWECK: This is Ralph Morgenweck. This call was for media questions and the only question I heard was, is it not the first responsibility to stop this? And the answer is, there are an awful lot of people working very hard 24 hours a day to do that. So we have high hopes that, that will happen soon. Thank you.

MS. WATKINS: I'd like to thank everybody for calling in with us today and we encourage you to visit the website for the Joint Information Center at www.deepwaterhorizonresponse.com. And we will be holding these calls periodically, so thank you very much.

OPERATOR: This concludes today's conference.

(END)