Deposition Testimony of:

Damian Higgins

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Page 6:12 to 6:25

00006:12 Q. Good morning, Mr. Higgins. I'm Brian
13 Israel. We met earlier, and I represent BP.
14 If you could, please state your name
15 and spell your name for the record.
16 A. My name is Damian Keith Higgins, spelled
17 D-A-M-I-A-N. Do you want me to spell my middle
18 name?
19 Q. Just your last name, please.
20 A. Last name is Higgins, H-I-G-G-I-N-S.
21 Q. And what is your current job title?
22 A. Current job title is Regional Coordinator
23 of Environmental Quality Programs for the Pacific
24 Southwest Region of the U.S. Fish and Wildlife
25 Service.

Page 8:13 to 9:04

00008:13 Q. What is your understanding of your
14 designation as a 30(b)(6) witness?
15 A. That I represent the U.S. Government,
16 specifically the Department of Interior, for
17 questions related to data collection under the
18 natural resource damage assessment from DEEPWATER
19 HORIZON oil spill.
20 Q. Okay. And what have you done to prepare
21 for your deposition today?
22 A. I've reviewed work plans that have been
23 developed by the trustees. I have also looked at
24 the online administrative record that the
25 department has on its website. And I've also
00009:01 looked at various other plans as well, including
02 quality assurance plans for the DEEPWATER HORIZON.
03 And I have briefly looked at raw data that's been
04 collected for some of the work plans.

Page 9:25 to 10:14

00009:25 Q. And if you look at Topic No. 1, do you see
00010:01 where it states -- the Court states that "The
02 United States shall designate a representative to
03 testify on your knowledge of data as of
04 December 31st, 2013, regarding the nature and
05 extent of any environmental impacts from the
06 DEEPWATER HORIZON spill, including any
07 environmental resources as to which you contend
08 there has been no or limited recovery."
09 Do you see that?
10 A. Yes.
11 Q. And is it your understanding that you've
12 been designated to testify as to Department of
13 Interior NRDA data responsive to Topic No. 1?
14 A. Yes.

Page 11:05 to 12:02

00011:05 Q. Okay. Just to be clear, sir, you're
06 designated by the United States to speak to the
07 bird data, correct?
08 A. Yes.
09 Q. And are -- and you're designated by the
10 United States to speak to the aerial imagery data;
11 is that correct?
12 A. Yes.
13 Q. And you've been designated -- designated
14 by the United States to speak to the submerged
15 aquatic vegetation data; is that correct?
16 A. That the Department of Interior was the
17 lead on.
18 Q. Okay. Are you designated to testify about
19 sea turtle data?
20 A. Yes.
21 Q. Okay. Which sea turtle data are you
22 designated to speak on?
23 A. Sea turtle data specifically that the
24 Department of Interior was lead on regarding
25 Kemp's ridley sea turtles and loggerhead sea
00012:01 turtles and analytical data that was associated
02 with the -- those work plans.

Page 24:19 to 25:04

00024:19 Q. And who have you spoken to in preparation
20 for your deposition?
21 A. I've spoken to several people, and I can
22 name them off for you for the record. Kevin
23 Reynolds; he is our Department of Interior's case
24 manager for the DEEPWATER HORIZON. Debora
25 McClain, who is the deputy case manager for the
00025:01 DEEPWATER HORIZON NRDA team. Pete Tuttle, who is
02 currently tasked with bird assessments for our
03 team. Also James Haas, with the National Parks
04 Service. And I'm drawing a blank here, so just

Page 25:24 to 26:22

00025:24 Q. Okay. Tell me a little bit about your
25 conversation with Kevin Reynolds. How long did
00026:01 you speak with him and when and about what topics?
02 A. I spoke with him yesterday as well as a
03 week ago and about every topic that's been
04 identified in Table 2 for the Department of
05 Interior.
06 Q. So you spoke -- you spoke to him about
07 birds?
08 A. Yes.
09 Q. What specifically did you talk to
10 Mr. Reynolds about with regard to birds?

A. Status of work plans, making sure that the information in Table 2 is correct and then also regarding data collection activities, standard operating procedures, QA/QC, as well as validation and verification of data.
Q. And did you learn any -- when speaking to Mr. Reynolds, did you learn about any inaccuracies in Table 2?
A. No, I did not.
Q. Okay. Did he mention any problems with respect to validation and verification of data?
A. No.

Page 27:12 to 29:11

Q. Okay. Okay. Can you tell me about your conversation with Debora McClain?
A. My conversation with Debora McClain involved specifically data management of information that's been collected under the Department of Interior's auspices.
Q. When did you speak with her?
A. I believe it was a week ago.
Q. Okay. Did she notify you of any issues or concerns related to data management?
A. Did she notify me of any issues, concerns related to data management? No.
Q. Okay. What did you speak with Mr. Tuttle about?
A. All of the bird work plans that are identified in Table 2.
Q. How long was that conversation?
A. I've had several conversations with Mr. Tuttle.
Q. Okay. How many conversations?
A. I cannot give -- give you a definite number.
Q. Okay.
A. But it was approximately at least 10 --
Q. Okay.
A. -- less than 20.
Q. Okay. Did you meet with him in person?
A. No, I did not.
Q. What was the nature of your conversations with Mr. Tuttle?
A. It involved the work plans, the status of them in terms of whether or not the data has been provided to BP, also what's the status of the validation and verification of those work plans as well as QA/QC processes, and also where is data stored on those various different work plans and how it's being managed.
Q. Okay. Did Mr. Tuttle indicate that there were any issues with respect to any of the data that's been collected as part of the DEEPWATER

HORIZON NRDA?
A. When you say "issues," what do you -- can you clarify for me, please?
Q. Did Mr. Tuttle raise any concerns about any of the data sets?
A. No.
Q. Did Mr. Tuttle indicate any issues with respect to accuracy or reliability of any of the DEEPWATER HORIZON NRDA data sets?
A. Not to my knowledge, no.

Page 33:21 to 34:25

Q. Okay. And you've been employed at the -- the Department of Interior since 1997?
A. Correct.
Q. Okay. At various positions, including Fisheries and Wildlife Biologist, Environmental Contaminant Specialist, and -- and your current position?
A. Yes.
Q. Okay. And when did you first become involved in natural resource damage assessments?
A. In 2000.
Q. Okay. Was that a particular -- particular assessment that you became involved in?
A. Yes. I was involved on the East Walker River oil spill case.
Q. Okay. Where -- where was that oil spill?
A. Approximately 13 miles south of Bridgeport, California.
Q. Okay. What was your role in that natural resource damage assessment for the East Walker River oil spill?
A. Data collection, and eventually also injury assessment and determination, and also claim development and settlement.
Q. Okay. What other natural resource damage assessments have you been involved with?
A. Let's see. I've been involved from my coordinator role at the regional office on all the NRDA cases that are in California, as well as Nevada.

Page 35:14 to 36:15

Q. Are you familiar with something called a bird -- a "beached bird model"?
A. Yes, I'm familiar with that.
Q. What -- what is a "beached bird model"?
A. It is a methodology intended to estimate bird mortality related to an oil spill.
Q. How does a beached bird model work?
A. A beach bird model works by assessing or making assumptions regarding data that's -- using

data that's collected, specifically number of birds that are encountered during searches, also trying to account for birds that are not found during searches with various different parameters. In the end, the whole intent of the beach bird model was to estimate true mortality based upon data that is collected and also some assumptions to come up with a multiplier that's designed to get to a true estimate of the number of birds that may have been -- perished within an oil spill.
Q. Okay. So it's fair to say the purpose -- or is it fair to say that the purpose of the beached bird model is to take the number of birds you find or you have in hand and, through the -- the inputs that you describe, multiply that appropriately to determine the actual number of birds that were -- as you say, perished?
A. Yes.

Page 37:09 to 37:09

(Marked Exhibit No. 12601.)

Page 39:04 to 39:07

Have you heard of a concept called "searcher efficiency"?
A. Yes.
Q. What is "searcher efficiency"?

Page 39:09 to 39:15

A. Searcher efficiency is quantification of an ability of search teams to find a carcass when searching for it. Another way of describing that is carcass detection rate.
Q. (BY MR. ISRAEL) Okay. And why is searcher efficiency or carcass detection rate important when conducting a beached bird model?

Page 39:17 to 39:22

A. Because it was one of the variables in order to be able to process and reduce uncertainty in beach bird models.
Q. (BY MR. ISRAEL) How -- how does knowledge about searcher efficiency reduce uncertainty in beached bird models?

Page 39:24 to 40:08

A. Because even though a bird may be on whatever particular area that someone is searching

00040:01 for it, whether or not that particular searcher
02 finds it or not is a question that needs to be
03 quantified in some way. Also in terms of space
04 and time, the number of searches that are done and
05 also the location and the length of search is
06 important to be ascertained in terms of searcher
07 efficiency so that any uncertainty with regards to
08 data that's being collected can be reduced.

Page 40:18 to 40:21

00040:18 Q. Okay. Are you familiar with the concept
19 of carcass persistence?
20 A. Yes.
21 Q. And what is that?

Page 40:23 to 41:17

00040:23 A. Carcass persistence is a description of
24 when a carcass is laid on -- in a particular area
25 that's being searched, how long it may persist
00041:01 before its being found. There's other factors
02 that relate to persistence, including scavenging,
03 rewash, or sinking factors should the bird be out
04 at sea.
05 Q. (BY MR. ISRAEL) So, first of all, when we
06 talk about carcasses, we're talking about bird
07 carcasses, correct?
08 A. Yes, that's correct.
09 Q. Okay. And with respect to the inputs to a
10 beached bird model, we're talking about birds on
11 beaches; is that correct?
12 A. Yes.
13 Q. Okay. With respect to birds on beaches,
14 if I understood your testimony, carcass
15 persistence refers to the -- the rate at which a
16 carcass would persist on a beach?
17 A. Yes.

Page 41:20 to 41:23

00041:20 Q. (BY MR. ISRAEL) And some of the factors
21 that might im- -- impact the rate at which a
22 carcass would persist on a beach are things like
23 scavenging?

Page 41:25 to 42:01

00041:25 A. Correct.
00042:01 Q. (BY MR. ISRAEL) Okay. Any other factors?

Page 42:03 to 42:11

00042:03 A. Rewash.
04 Q. (BY MR. ISRAEL) What is "rewash"?
05 A. Basically carcasses that may be moved out
06 to sea and then redeposited on the shoreline in a
07 different location. And also burying is another
08 factor.
09 Q. And why is understanding carcass
10 persistence on a beach important for conducting a
11 beached bird model?

Page 42:14 to 42:20

00042:14 A. Because it will help and form the model in
15 terms of the likelihood of searchers coming across
16 a carcass and accounting for it.
17 Q. (BY MR. ISRAEL) And why is it important
18 to understand the likelihood of coming across a
19 carcass when conducting a beached bird model as
20 part of a natural resource damage assessment?

Page 42:23 to 43:06

00042:23 A. Again, it's one of many factors to help
24 produce uncertainty and implementation and
25 interpretation of a beach bird model and its
00043:01 results.
02 Q. (BY MR. ISRAEL) Okay. Are you familiar
03 with a concept called "carcass sinking rate" in
04 the context of beached bird models?
05 A. Yes.
06 Q. What is that?

Page 43:09 to 43:16

00043:09 A. It's basically an estimation of the
10 likelihood of a carcass or a bird that may have
11 died out at sea, of it sinking and never reaching
12 the beach for it to be surveyed or detected.
13 Q. (BY MR. ISRAEL) And why is an
14 understanding of carcass sinking rate important
15 for conducting a beached bird model for a natural
16 resource damage assessment?

Page 43:18 to 44:03

00043:18 A. Again, it's a factor that's important in
19 terms of reducing uncertainty and the calculation
20 and interpretation of results from a beach bird
21 model.
22 Q. (BY MR. ISRAEL) So, in other words, the
23 more information you have with respect to carcass
24 sinking rate, carcass persistence on a beach,
25 searcher -- and searcher efficiency, the greater

00044:01 certainty you have with respect to the -- the
02 beached bird model in a particular NRDA; is that
03 fair?

Page 44:06 to 44:06

00044:06 A. Yes.

Page 44:19 to 45:10

00044:19 Q. Okay. So to conduct a beached bird model,
20 you send teams out to a beach to collect data on
21 carcasses on the beach, correct?
22 A. Correct.
23 Q. Okay. And you take that data and
24 extrapolate to determine or estimate the total
25 mortality for birds associated with the oil spill
00045:01 or other event?
02 A. Correct.
03 Q. Okay. And some of the inputs necessary in
04 order to do that extrapolation include site-
05 specific information with respect to searcher
06 efficiency --
07 A. Uh-huh.
08 Q. -- carcass persistence on the beach, and
09 carcass sinking rate, correct?
10 A. Right.

Page 45:13 to 45:16

00045:13 Q. (BY MR. ISRAEL) Are there any other
14 inputs that are important when doing the
15 extrapolations associated with a beached bird
16 model in NRDA?

Page 45:18 to 46:06

00045:18 A. Scavenging rate is important and also
19 background deposition.
20 Q. (BY MR. ISRAEL) Okay. What is
21 "scavenging rate"?
22 A. That's related to carcass persistence. So
23 scavenging is a particular factor in terms of
24 carcass persistence that is sometimes ascertained
25 in a beach bird model.
00046:01 Q. Okay. And what is "background mortality"?
02 A. So there is what is termed "background
03 mortality." That is, birds will naturally die and
04 occur on shore that are not related to the spill,
05 and that factor needs to be counted as part of the
06 beach bird model.

Page 48:19 to 48:23

00048:19 MR. ISRAEL: This is -- we'll mark
20 this as Exhibit 12602, please.
21 (Marked Exhibit No. 12602.)
22 Q. (BY MR. ISRAEL) It's a document entitled
23 "Bird Study No. 1." Are you familiar with this

Page 49:16 to 49:21

00049:16 Q. Okay. If you could just -- not
17 understanding the -- the out-of-order printing, if
18 you could just satisfy yourself that this is, in
19 fact, the -- the work plan for Bird Study No. 1,
20 please.
21 A. Yes.

Page 49:24 to 50:05

00049:24 Q. Okay. And if you look on Page 2 of the
25 work plan, it states, the first -- first sentence
00050:01 "Obviously mortality of birds occurs from causes
02 other than oil spills and this is referred to as
03 'background' mortality."
04 Do you see that?
05 A. Correct. Yes, I do.

Page 51:21 to 51:22

00051:21 to ask you to mark that spreadsheet as Exhibit
22 12603, please.

Page 53:07 to 54:09

00053:07 Q. Okay. So previously, we were working --
08 we were looking at Bird Study No. 1. And I
09 believe I asked you what the dates were of the
10 data collection?
11 A. Correct.
12 Q. Using the spreadsheet, can you tell me the
13 dates for the data collection?
14 A. Yeah. The dates were approximately from
15 May of 2010 through September 2010.
16 Q. For Study No. 1?
17 A. Correct.
18 Q. And the purpose of Study No. 1 again,
19 could you describe that?
20 A. Yeah. The purposes is "To estimate the
21 rate of spill-related carcass deposition
22 throughout the spill area."
23 Q. And how was that data collected?
24 A. You want me to describe how that data was
25 collected as it's identified in the work plan?
00054:01 Q. Yes. And to the extent the data collected
02 differently than as described in the work plan, if

you could -- if you could explain those differences, please.
A. To my knowledge, there's no differences in how data was collected that deviated from the work plan.
Q. Okay. Okay. So could you describe how the data was collected?

Page 54:16 to 55:16

So there were survey teams that were deployed, typically two-person teams, to search for carcasses on identified segments. Those segments, I believe, were 2 kilometers in length. They were checked -- the intent was to check them as much as possible. But the time between surveys ranged, I believe, anywhere from three to ten days. And then there were forms that were used for collection of data during those particular surveys, and those forms are identified in this particular work plan.
Q. And -- and who were the individuals that made up the -- the teams, the two-person teams that you -- that you referenced?
A. They were trustee representatives or contractors under trustee supervision and control. And on occasion, I believe that BP also participated or were observing on those surveys.
Q. And how -- how were the individuals that were working on behalf of the trustees trained?
A. Yeah. There was a training program that was implemented for the survey teams that went over the protocol and the methodology for the particular work plan.
Q. That was true for all of the -- all of the bird studies?

Page 55:18 to 56:19

Q. (BY MR. ISRAEL) In other words, were the -- the observers who were responsible for doing the fieldwork and collecting data associated with the Department of Interior avian data collection, were those fieldworkers trained?
A. Yes.
Q. Okay. What was the nature of their training?
A. Either it was tailgate or more structured training, depending upon the work plan.
Q. What does "tailgate" mean?
A. Training that's provided to observers out in the field.
Q. And if you could -- if you could look on Page 3, where it states "Data Collection," do you see that?

A. Yes.
Q. And it states: "Crews of two will search sample beaches on foot by zigzagging to get complete coverage"?
A. Correct.
Q. What does it -- what does it mean to zigzag to get complete coverage?
A. Zigzagging, as the, you know, term implies, moving back and forth in a forward direction to ensure that maximum area of a particular segment is covered by search teams.

Page 57:09 to 57:13

Q. Are you aware of any reason to -- to doubt the accuracy of the reliability of the data collected pursuant to this work plan?
A. No, I have no doubt as to the accuracy or reliability.

Page 57:17 to 58:03

Q. But sitting here today, you're not aware of any issues associated with the validity or accuracy of the data collected pursuant to Bird Study No. 1, correct?
A. No. I'm not aware, correct.
Q. Is there a particular geographic scope that Bird -- Bird Study No. 1 was meant to address?
A. It is my understanding that Bird Study No. 1 addresses beach segments that are in the states of Florida, Alabama, Mississippi, and Texas.

Page 62:01 to 62:03

for Bird Study No. 1 to confirm that field notes and forms that are completed as -- as included in -- in Exhibit 12604 and 12603, that the -- that

Page 62:13 to 62:23

Q. Okay. The -- in any event, when birds are encountered on beaches as part of the carcass detection effort, are those carcasses then reported to the -- were those carcasses then reported to the Unified Command?
A. So the question is, bird carcasses that were detected as part of this particular work plan, were they accounted for as part of incident commands in terms of bird mortality?
Q. Yes.

A. Yes.

Page 64:21 to 65:17

(Marked Exhibit No. 12605.)
Q. (BY MR. ISRAEL) Do you recognize this document?
A. Yes, I do.
Q. What is it?
A. It's a DEEPWATER HORIZON bird impact data spreadsheet that was extracted from the DOI-ERDC NRDA database as of May 12th, 2011.
Q. And to your knowledge, are the data reflected on Exhibit 12605 accurate?
A. These numbers are accurate as of May 12, 2011.
Q. Okay. And would the -- would bird carcasses that were detected as part of the DEEPWATER HORIZON NRDA be included in the counts reflected on Exhibit 12605?
A. So repeat the question. Is --
Q. Would the bird carcasses that were detected as part of the DEEPWATER HORIZON NRDA be included in the data that's reflected on the table, Exhibit 12605?
A. Yes.

Page 66:18 to 69:21

(Marked Exhibit No. 12606.)
Q. (BY MR. ISRAEL) This is a document entitled "Work Plan: Detection Probability (Searcher Efficiency)(Study 1B)," dated October 12, 2010.
Are you familiar with this document?
A. Yes.
Q. What is it?
A. It is a work plan to ascertain surgery efficiency or otherwise detection probability in order to have information to be inputted into a beach bird model.
Q. And we were talking about searcher efficiency earlier with respect to an input for the beach bird model, correct?
A. Yes.
Q. And this -- this document, 12606, is a study designed to determine searcher efficiency for the DEEPWATER HORIZON NRDA, correct?
A. Yes.
Q. Specifically, it was designed to estimate the rate of spill-related carcass deposition -- strike that.
It was designed to provide direct measure of the rate at which the searcher teams detected carcasses on the beaches in the northern

Gulf of Mexico, correct?
A. Yes.
Q. And if you look on the second paragraph, do you see the second paragraph that begins the bird beached study [sic]?
A. Yes.
Q. And see the last sentence, "Because carcass-detection rates are variable, dependent upon a range of local factors, the trustees believe it is important to document detection rates on a site-specific basis."
Do you see that?
A. Yes.
Q. Do you agree with that statement?
A. Yes.
Q. What are some of the variables that would affect carcass detection rates?
A. Weather, also frequency of surveys, as well as habitat contained within those surveys. Because some areas naturally, because of geography or currents, will have a tendency to collect birds in other areas versus, you know, some others that may be searched.
Q. And the purpose of a site-specific study is to account for all of the local variables that could affect detection rate, correct?
A. Correct.
Q. Okay. What was the methodology utilized in the DEEPWATER HORIZON NRDA for determining searcher efficiency for birds?
A. In general, the method basically is documenting through the placement of carcasses in known locations for searcher teams to find and documenting whether or not searcher teams found those carcasses.
Q. Approximately how many carcasses were -- were placed in known locations for determining whether searcher teams would find those carcasses?
A. If you give me a moment, I can take a look and see at least in general. If you look at Table 1 in this particular work plan on Page 18, it has a description of carcass placement descriptions for each transect that were done as a part of this work study.
Q. And is the methodology described in Work Plan 1B, to your knowledge, an effective way for determining searcher efficiency for carcass detection?
A. Yes.
Q. Is the methodology described in Study 1B a methodology that's commonly utilized in natural resource damage assessments?
A. Yes.

00069:24 Q. (BY MR. ISRAEL) Okay. And this is a
25 study that was done with the -- under the
00070:01 supervision and -- and direction of the Department
02 of Interior, correct?
03 A. Correct.
04 Q. You have no reason, sitting here today, to
05 doubt the accuracy or the reliability of the data
06 collected pursuant to Study 1B, correct?
07 A. I have no reason to doubt.
08 Q. Okay. At the conclusion of the surveys,
09 searcher -- search efficiency investigators would
10 fill out a form called a "Searcher Efficiency
11 Study Data Sheet," correct?
12 A. Correct.
13 Q. Have you reviewed, in general terms, the
14 Searcher Efficiency Study Data Sheets collected as
15 part of the DEEPWATER HORIZON NRDA?
16 A. Yes. In general, I've reviewed some of
17 them.
18 Q. And if I could ask you to look on Tab 57.
19 MR. ISRAEL: If you could mark this
20 as Exhibit 12607, please.
21 (Marked Exhibit No. 12607.)
22 Q. (BY MR. ISRAEL) Do you recognize the --
23 Exhibit 12607?
24 A. Yes.
25 Q. What is it?
00071:01 A. This is a Searcher Efficiency Study Data
02 Sheet that was used to collect and document data
03 from Study 1B.
04 Q. And it's a collection of these data
05 sheets, correct?
06 A. Yes.
07 Q. I'll just represent to you this is a
08 complete set of the data form -- the searcher
09 efficiency forms that the DOJ has produced to BP.
10 The only difference is we added page numbers to
11 them so you could easily reference.
12 A. I appreciate that.

Page 73:02 to 73:23

00073:02 Q. Okay. Just to be clear, what's happening
03 here is that actual bird carcasses of various
04 species and sizes are being intentionally placed
05 on beaches in order to determine whether the beach
06 survey teams are able to find those birds; is that
07 correct?
08 A. That is correct.
09 Q. Okay. And the column entitled "Carcass
10 detected by BBS team" indicates whether or not
11 those carcasses that were intentionally placed on
12 the beach were, in fact, detected by the -- the
13 fieldworkers working on behalf of the Department

of Interior, correct?
A. That is correct.
Q. Okay. And you would collect all of this information from the various searcher efficiency study data sheets to determine in total what the searcher efficiency is, correct?
A. Correct.
Q. For the local site-specific conditions, correct?
A. Yes.

Page 74:05 to 74:08

The purpose of determining the searcher efficiency rate in the DEEPWATER HORIZON is to reduce uncertainty in the beached bird model, correct?

Page 74:12 to 74:20

A. That's correct. It's to determine detection probability from the information that was collected as part of Study 1A.
Q. (BY MR. ISRAEL) So, for instance, if half of the placed bird carcasses are detected by your searcher teams, then you would use that as a variable when calculating the total mortality of birds based upon your actual collection of carcasses?

Page 74:23 to 75:11

Q. (BY MR. ISRAEL) Correct?
A. Correct.
Q. Okay. And if I could ask you to turn to the next tab, 58. This is a --
MR. ISRAEL: If you could mark this as 12607 -- '608.
(Marked Exhibit No. 12608.)
Q. (BY MR. ISRAEL) This, Mr. Higgins, is a spreadsheet that includes a row for every carcass that's listed on the forms in Tab 57 that we just looked at, sorted by whether or not the carcass was detected by the beached bird survey team. Do you see that?
A. Yes, I see that.

Page 76:08 to 76:11

Q. -- Tab 58, Exhibit 12608, the first table includes all of the bird carcasses that were not detected by the beached bird survey team. Do you see that?

Page 76:13 to 76:17

00076:13 A. Yes, I see that.
14 Q. (BY MR. ISRAEL) Okay. And the -- this
15 table shows that 17 of the carcasses were not
16 detected by the bird beached [sic] survey teams,
17 correct?

Page 76:19 to 76:23

00076:19 A. According to this table, that's correct.
20 Q. (BY MR. ISRAEL) And if you look at the
21 table that shows carcasses that were detected by
22 the bird search -- searcher teams, there are 114
23 carcasses that were detected, correct?

Page 76:25 to 77:05

00076:25 A. That is correct. There's 114 on this
00077:01 table.
02 Q. (BY MR. ISRAEL) So the -- the total 131
03 carcasses that were placed by the trustees as part
04 of the searcher efficiency study, 114 were
05 detected by the searcher teams --

Page 77:07 to 77:07

00077:07 Q. (BY MR. ISRAEL) -- correct?

Page 77:10 to 77:11

00077:10 A. According to the data that's been
11 summarized in this exhibit yes.

Page 77:17 to 77:23

00077:17 Q. Okay. In any case, assuming that these --
18 that these tables accurately reflect the forms
19 that were provided by the Department of Justice to
20 BP, these tables would indicate that about 87
21 percent of the birds that were placed by the
22 trustees were detected by the -- by the bird
23 survey teams --

Page 78:03 to 79:09

00078:03 Q. (BY MR. ISRAEL) Correct?
04 A. I'd agree as is defined on beach habitats,
05 which was the intent of the survey.
06 Q. Okay. And if I could ask you to turn to
07 Tab 21.

MR. ISRAEL: And mark this as Exhibit 12609, please.
(Marked Exhibit No. 12609.)
Q. (BY MR. ISRAEL) This is a document dated June 7, 2011, entitled "Work Plan (Bird Study 1C): Beached Carcass Persistence Study."
Do you see that?
A. Yes, I do.
Q. Are you familiar with this study?
A. Yes.
Q. And the purpose of this study is to evaluate the daily persistent -- persistence rate of carcasses on beaches that were surveyed during the beached bird surveys; is that correct?
A. That's correct.
Q. And the reason you want to evaluate the daily persistence rate is in order to estimate the proportion of carcasses that persisted long enough to be found by the beached bird survey crews, correct?
A. Correct.
Q. And you agree that carcass persistence can vary due to site-specific factors, correct?
A. Correct.
Q. And that site-specific factors could include habitat type, correct?
A. Correct.

Page 79:11 to 79:12

Q. (BY MR. ISRAEL) And carcass density, correct?

Page 79:14 to 79:15

A. Correct.
Q. (BY MR. ISRAEL) Besides the carcass --

Page 79:17 to 79:17

Q. (BY MR. ISRAEL) -- correct?

Page 79:19 to 79:23

A. That's correct.
Q. (BY MR. ISRAEL) Carcass persistence rates -- or strike that. Other site-specific factors that can affect carcass persistent rate include scavenger abundance, correct?

Page 79:25 to 80:02

A. Correct.

00080:01 Q. (BY MR. ISRAEL) And the -- the season of
02 the year, correct?

Page 80:04 to 80:05

00080:04 A. Correct.
05 Q. (BY MR. ISRAEL) And the weather?

Page 80:07 to 80:08

00080:07 A. Correct.
08 Q. (BY MR. ISRAEL) And the tidal conditions?

Page 80:10 to 80:15

00080:10 A. That's correct.
11 Q. (BY MR. ISRAEL) And it's important to
12 understand how the -- those site-specific
13 conditions impact the carcass persistence rate in
14 order to reduce uncertainty when conducting a
15 beached bird model, correct?

Page 80:17 to 80:24

00080:17 A. That's correct.
18 Q. (BY MR. ISRAEL) Okay.
19 A. One factor you didn't mention was degree
20 of oiling on carcasses.
21 Q. And -- and that's another factor that
22 would be a site-specific condition that would be
23 important for understanding the carcass
24 persistence rate, correct?

Page 81:01 to 84:13

00081:01 A. Correct.
02 Q. (BY MR. ISRAEL) Okay. And carcass
03 persistence rate could -- could vary depending
04 upon those factors, correct?
05 A. Correct.
06 Q. So the rates could be different in the
07 Gulf of Mexico than Alaska, for instance, correct?
08 A. That is correct.
09 Q. Or in the Pacific Ocean, correct?
10 A. Correct.
11 Q. Okay. Can you describe generally the
12 methods that were used by the trustees in the
13 DEEPWATER HORIZON NRDA for determining the site-
14 specific beached carcass persistence rate?
15 A. If you would bear with me a moment to
16 review this work plan --
17 Q. Please.
18 A. -- and jog my memory.

Q. Please take your time.
A. So as I understand it, there were carcasses for which Fish and Wildlife Service were in possession of that were unoiled and specifically marked and placed and located, and the information was collected on the placement and the location, as well as the habitat, and also those locations were revisited to determine the rate at which scavenging may have occurred on those particular carcasses on where they were placed.
Q. And is the method you just described a standard method for determining carcass persistence rates in natural resource damage assessments?
A. As is described in this work plan, yes.
Q. Okay. And the work plan was done with the supervision and support of the Department of Interior, correct?
A. That is correct.
Q. And you have no reason to doubt the accuracy or the reliability of the data that was collected pursuant to this Work Plan Bird Study 1C, correct?
A. I have no reason to doubt.
Q. If I could ask you to turn to Tab 59, please.
MR. ISRAEL: And let's go ahead and mark that as Exhibit 12610.
(Marked Exhibit No. 12610.)
Q. (BY MR. ISRAEL) So when completing a transect, the surveyors would fill out a form entitled "Carcass Persistence Data Form." Is that correct?
A. Correct.
Q. And does Exhibit 12610 appear to be a collection of the carcass persistence data forms that were completed as part of Bird Study 1C?
A. Yes.
Q. And what -- could you just -- let's look at Page 1. If you could just describe the information that is being collected as -- as part of this form called "Carcass Persistence Data Form"?
A. Sure. So there's a date and also a survey transect number, the surveyors that filled out the data form and their signatures verifying the information has been put on their form. And there's several columns. One column has a carcass identification number and also size within that same column. GPS location from the previous day, distance from a transect start in -- quantified in meters, the time on that transect, GPS location of the current day of which the survey was done, its position of the carcass relative to the surf, any photo IDs that were taken and they're logged in

the -- under the Camera column. Carcass state and whether or not there was a block present, and then also the condition of the tide when surveyed.
Q. And would teams working as part of the DEEPWATER HORIZON NRDA, then return to a specific location on subsequent days to determine whether a carcass persisted at that location?
A. Yes.
Q. And how -- how -- how did that work?
A. So each team would revisit transects on a daily basis and notate the condition or the position and the location of those particular carcasses that were placed.
Q. And for how long did the study continue?

Page 84:24 to 86:21

A maximum of -- until all the carcasses are gone or at least 14 days have elapsed.
Q. Okay. So the teams would -- just to make sure I understand. Carcasses would be placed by the Department of Interior at a known location, and then teams would revisit those locations every day for 14 days or until the carcass no longer existed; is that correct?
A. Correct.
Q. Okay. And -- and again, the purpose of this is to ascertain the rate at which carcasses would no longer be present on a beach with a known date at which time it was placed and then determining the data which it's no longer there; is that correct?
A. I would say that the information from this study is used to determine the likelihood of searcher teams coming across a carcass from -- or not likely to come across a carcass due to disappearance of carcasses from scavenging.
Q. Okay. This is an independent variable than the carcass -- than the searcher efficiency rate that we were discussing earlier?
A. Correct.
Q. So this is -- that was determining whether -- if the carcass actually existed, whether a searcher would find the carcass?
A. Yes.
Q. The persistence study is to determine how long a carcass would exist on a beach, correct?
A. Correct.
Q. Okay. And that is for purposes of reducing uncertainty in the beached bird model, correct?
A. Correct.
Q. Okay. In any event, 114 carcasses were placed as part of the carcass persistence study

done by the trustees in the DEEPWATER HORIZON assessment, correct?
A. I'm assuming that's the number you counted from Appendix A?
Q. That's -- that's the number I have. Is that consistent with your --
A. Yes.
Q. Is that generally consistent with your understanding?
A. Yes.

Page 87:02 to 89:05

Q. (BY MR. ISRAEL) Can you -- now that we've marked that exhibit, can we return please to the prior exhibit --
A. Sure.
Q. -- 12610?
This is the collection of data forms -- the carcass persistence data forms. Do you recall those?
A. Yes.
Q. We were -- you were describing -- and I think we got -- I interrupted by another question that I had. You were describing the entries, the columns that the survey teams would complete and -- when completing the carcass persistence data form, okay?
And you -- could you describe -- do you see where it says "Carcass State" and "Block Present" on the Carcass Persistence --
A. Oh, yes.
Q. -- Data Form?
A. Yes.
Q. Can you can explain what those columns are?
A. So Carcass State is described in several ways, as either being intact, disturbed, pictorials removed, organs removed, or skin and bones only, and then pelvic girdle only, wing only, skin or missing.
Q. So those are the various states of scavenging that you -- that you would use to describe the carcass if -- if you could see the carcass at the particular transect, correct?
A. That's correct.
Q. Okay. And if the carcass was missing, then you knew that the carcass didn't persist and, therefore, couldn't be found by a survey team, correct?
A. Correct.
Q. And what does "Block Present" mean?
A. So blocks were placed under each bird when they were located to determine whether or not scavenging had occurred or if a bird was moved due

to tidal action.
Q. And how would you determine based upon the presence of a block whether or not the bird was removed from tidal action versus scavenging?
A. The block being made out of wood, if the bird was missing as well as the block from that location, it would indicate that tidal action was involved.
Q. And if the block were present, then that would indicate that the bird was no longer there due to scavenging, correct?
A. Correct.

Page 90:11 to 90:20

Q. Okay. Then returning to Exhibit 12611, if you could just take a minute to look at that. And my question is whether the spreadsheet indicates -- assuming the data have been collected -- have been incorporated into this spreadsheet correctly, does the spreadsheet indicate to you that 34 of the birds placed as part of the trustee's carcass persistence study persisted throughout the entire course of this study, the entire two weeks?

Page 91:12 to 91:17

A. If I have my math correctly, I see 31, not 34, and that's excluding anything that has no data.
Q. So you see approximately 31 of the birds that were placed as part of the persistence study persisted for the course of the two-week study?

Page 91:20 to 91:25

A. Assuming that the information provided in this table is correct, yes.
Q. (BY MR. ISRAEL) And is that generally consistent with your understanding of the persistent -- persistence rate for bird carcasses in the DEEPWATER HORIZON NRDA?

Page 92:09 to 92:17

A. Persistence rates have varied widely from oil spill to oil spill, depending upon geography and some of the factors we've already discussed.
Q. (BY MR. ISRAEL) Okay. In any event, sitting here today, do you have any reason to doubt the reliability of the data collected by the trustees pursuant to the persis- -- carcass

persistence study?
A. I have no reason to doubt.

Page 92:24 to 93:15

(Marked Exhibit No. 12612.)
Q. (BY MR. ISRAEL) This is a document entitled, "Using Radio Telemetry to Determine the Fates of Bird Carcasses Drifting in the Northern Gulf of Mexico, Bird Study 1D."
Do you see that?
A. Yes.
Q. Are you familiar with this study?
A. Yes, I am.
Q. Is the purpose of this study to estimate the likelihood that birds dying at sea would be beached and, thus, be accounted for by the beached bird surveys and the beached bird model?
A. Specifically the studies to quantify the time carcasses float prior to sinking and the proportion of carcasses that may have beached within searched areas.

Page 93:22 to 93:24

What's the purpose of estimating the likelihood that bird -- that birds dying at sea would reach the beach?

Page 94:02 to 94:12

A. So birds that get oiled and may die at sea may either sink or if they float -- again depending on a number of factors in terms of bird size, morphology, also weather or sea conditions -- the likelihood of those birds being beached, that particular process or factor needs to be accounted for as part of the beached bird model.
Q. (BY MR. ISRAEL) Okay. And the likelihood that a bird dying at sea would reach the beach is dependent upon site-specific conditions, correct?

Page 94:14 to 94:21

A. Correct.
Q. (BY MR. ISRAEL) And I believe you listed some of those, including sea conditions, bird size, morphology, correct?
A. Correct.
Q. How -- how does -- how does -- how does sea conditions affect the percentage of birds dying at sea that would reach a beach?

Page 94:23 to 95:09

00094:23 A. Water temperature, as well as tidal
24 conditions, as well as any other types of energy
25 states that may be influenced by meteorological
00095:01 conditions.
02 Q. (BY MR. ISRAEL) Is the rate that is being
03 studied as part of the carcass drift study,
04 Exhibit 12612, sometimes referred to as carcass
05 sinking rate?
06 A. Yes.
07 Q. Okay. And you want to understand
08 site-specific carcass sinking rate in order to
09 reduce uncertainty in the beached bird model --

Page 95:14 to 98:11

00095:14 Q. (BY MR. ISRAEL) Is that correct?
15 A. That's correct.
16 Q. Okay. Can you describe the method that
17 you used to determine the carcass sinking rate in
18 the DEEPWATER HORIZON NRDA?
19 A. So carcasses freshly salvaged -- that is,
20 were used from preexisting sources -- birds were
21 placed out at sea with transmitters and also
22 dummies were also used in place of some bird
23 carcasses so that they could determine some of the
24 factors that I already mentioned in terms of wind
25 or current for those carcasses that may float and
00096:01 not sink. Information was collected from the fate
02 of those either dummies or the actual carcasses
03 themselves and documented as part of a study that
04 was done after the -- later on. I believe the
05 dates for that were done in June of 2011.
06 Q. So -- so birds and bird dummies -- strike
07 that.
08 What's a "bird dummy" or what's a
09 "dummy"?
10 A. Basically, it is a float -- it's a
11 platform that floats to simulate a floating
12 carcass to determine its trajectory in the sea so
13 if a bird was to die at sea and float for a
14 particular time, where those carcasses may end up
15 potentially on shore.
16 Q. So bird carcasses and dummies were
17 outfitted with transmitters and placed at known
18 locations by the trustees, correct?
19 A. Correct.
20 Q. And then you would go back after a certain
21 amount of time to find -- attempt to find those
22 birds and the dummies; is that correct?
23 A. Yes.
24 Q. Over what period of time?
25 A. Yeah. I need to correct what I had

00097:01 earlier said regarding June 2011. That time frame
02 for the study was actually in -- from July to
03 August of 2011.
04 Q. Okay. How long was the -- how -- how many
05 weeks was -- was the study?
06 A. Give me a moment to refer to the work
07 plan. So according to the schedule, it was
08 approximately from July 15th to early August. So
09 that covers the course of approximately four to
10 five weeks.
11 Q. If you look on the bottom of Page 2 of the
12 study plan, Exhibit 12612, it's -- see where it
13 says "Timing"?
14 A. Uh-huh.
15 Q. The field study will be conducted over
16 approximately six-week period from July and August
17 2011. Do you see that?
18 A. Yes.
19 Q. Is that consistent with your understanding
20 of the time period for this study?
21 A. Correct.
22 Q. Okay. So the deployment location for the
23 carcasses and the dummies as well as subsequent
24 locations would then be recorded on a field form;
25 is that correct?
00098:01 A. Correct.
02 Q. And then you would use that information to
03 determine the sinking rate for the -- for the
04 DEEPWATER HORIZON NRDA, correct?
05 A. The objective of it was to determine the
06 drift of carcasses and the time that those
07 carcasses float prior to sinking.
08 Q. And the methodology that was used by the
09 Department of Interior and the trustees described
10 in -- in Bird Study 1D is a standard method for
11 calculating sinking rate, correct?

Page 98:13 to 99:09

00098:13 A. Yes.
14 Q. (BY MR. ISRAEL) And this was a study that
15 was done under the supervision of the Department
16 of Interior, correct?
17 A. That's correct.
18 Q. You have no reason to doubt the
19 reliability of the data that was collected as part
20 of Bird Study 1D, correct?
21 A. I have no reason to doubt the reliability
22 of the data.
23 Q. Okay. If I could ask you to turn to 62 --
24 Tab 62 for a minute.
25 MR. ISRAEL: If you can mark this as
00099:01 12613, please.
02 (Marked Exhibit No. 12613.)
03 Q. (BY MR. ISRAEL) Do you recognize this

document?
A. I have not seen these data sheets before, but I'm assuming it's in relation to Study 1D.
Q. Does this appear to be the -- the carcass drift study field forms?
A. It does appear, yes.

Page 102:15 to 103:21

Q. (BY MR. ISRAEL) Mr. Higgins, you've now -- if I can direct your attention to Exhibit 12614, the spreadsheet that's related to the carcass drift study that we were discussing. Do you see that?
A. Yes.
Q. And you've now had a chance to look at the full Excel spreadsheet that was produced to BP from DOJ, correct?
A. Correct.
Q. And -- and based upon that, do you have an understanding of the status designation entitled "active"?
A. Yes.
Q. And what does the status designation "active" mean?
A. I believe it means that a transmitter or a -- that particular carcass is still out at sea and active --
Q. So --
A. -- in terms of transmission.
Q. Okay. So that -- a carcass as designated as active as of August 20th, 2011, is still floating at sea, correct?
A. Correct.
Q. And do you have an understanding of what the status designation "final" indicates?
A. I believe that it means that a particular carcass is no longer at sea.
Q. Does the designation "final" indicate that a particular carcass is on a shoreline?
A. I would assume, yes.

Page 104:03 to 105:18

Q. (BY MR. ISRAEL) So I've handed you the electronic version of the spreadsheet that was produced by the Department of Justice to BP that includes the key for the status designations. Do you see that?
A. Yes.
Q. And it indicates that the status "final" is retrieved, correct?
A. Yes. According to this, the "final" equals retrieved.
Q. Okay. And based upon the spreadsheet that

was produced by the Department of Justice, is it your understanding that a designation of "final" refers to a carcass that was retrieved on a shoreline? Is that your understanding?
A. I don't know if it was retrieved on a shoreline or not. But I know it was retrieved, based upon what was presented to me.
Q. In any event, the status "final" would indicate to -- would indicate that the carcass continued to exist as of August 20th, 2011, correct?
A. Correct.
Q. Based upon Exhibit 12614, which is a -- a printout of the data that has been provided to BP from the Department of Justice, it's correct that 110 of the carcasses deployed as part of the DEEPWATER HORIZON NRDA carcass drift study were -- remained in existence as of August 20th, correct?
A. Yes. In items of data showing "active" or "final" carcasses as of August 20th, 2011, that is correct.
Q. Okay. And the -- the total carcasses deployed as part of the trustees' carcass drift study done for the DEEPWATER HORIZON national resource damage assessment was 245, correct?
A. That is correct.
Q. So about 45 percent of the carcasses that were deployed as part of the trustees carcass drift study were still floating or in existence as of August 20th, correct?

Page 105:21 to 105:22

A. Based upon the information presented in this table, that is correct.

Page 125:02 to 125:02

(Marked Exhibit No. 12616.)

Page 126:22 to 127:20

Q. (BY MR. ISRAEL) Mr. Higgins, are you familiar with telemetry studies that were done by the trustees as part of the DEEPWATER HORIZON NRDA?
A. Do you have specific telemetry studies in mind?
Q. Well, my first question is whether you're familiar with --
A. Yes.
Q. -- any telemetry studies done by the trustees as part of the DEEPWATER HORIZON NRDA?
A. Yes.

Q. What is a "telemetry study"?
A. A telemetry study is a study that's designed to ascertain location of birds as well as possible movement of birds, as well.
Q. Is a telemetry study, when conducted as part of a natural resource damage assessment, designed to inform the trustees about the survival rates?
A. Telemetry studies are designed, I believe in the context of NRDA, to determine the likelihood of exposure of oil based upon location and also movement of birds.

Page 128:06 to 128:19

Q. What is your understanding of the purpose for telemetry studies in the DEEPWATER HORIZON NRDA?
A. It's to determine the potential number of birds that may have been exposed at sea and also along coastlines in relation to the spill.
Q. Is another purpose of the telemetry studies undertaken by the trustees as part of the DEEPWATER HORIZON NRDA to evaluate survival rates of telemetered birds?
A. Yes.
Q. How does -- how does the use of telemetry inform the trustees with respect to survival rates of birds?

Page 128:23 to 129:10

A. In terms of tracking movements of birds, locations of birds, and whether or not those birds survive based upon movement. Those are used to determine the likelihood of birds and their fate for determining survivability.
Q. Okay. Which specific work plans undertaken as part of the DEEPWATER HORIZON NRDA incorporated a component of telemetry for purposes of determining the survival -- the survivability or survival of birds?
A. I believe studies that involved telemetry and survivability included Studies -- Bird Studies 3, 4, and 5.

Page 129:25 to 132:18

Q. Well, you referred earlier to Bird Studies 3, 4 and 5, correct?
A. Correct.
Q. Those are bird studies that were undertaken as part of the DEEPWATER HORIZON NRDA that incorporated the use of telemetry devices,

correct?
A. I believe so.
Q. And Bird Study No. 3 was -- involved the -- involved secretive marsh birds, correct?
A. Correct.
Q. And Bird Study 4 involved breeding colonial water birds, correct?
A. Correct.
Q. And Bird Study 13 involved the assessment of shore birds, correct? I'm sorry, Bird Study 5.
A. Yes.
Q. And in each of these instances, birds would be equipped with radio transmitters -- birds would be captured and then equipped with radio transmitters, correct?
A. Correct.
Q. And there would be an indication of whether the bird was oiled, correct?
A. Correct.
Q. And the trustees would then determine whether oiled birds survived at different rates than nonoiled birds, correct?
A. Correct.
Q. And about 600 birds were fitted with radio transmitters, correct?
A. Amongst those three studies?
Q. Yes.
A. That seems about right, yes.
Q. And were birds also equipped with satellite tags?
A. I believe on some of them, they were.
Q. With -- what's the difference between a satellite tag and a radio transmitter?
A. A radio transmitter detection is used with radio frequencies that are more local in nature; whereas, satellite tracking provides a signal to a satellite and is downloaded remotely.
Q. Okay. Is it your understanding that several species of birds were equipped with satellite tags or radio transmitters?
A. For Studies 3, 4, and 5, yes.
Q. And did the utilization of transmitters or satellite tags include seaside sparrows?
A. Yes.
Q. Did it -- did the utilization of transmitters and radio tags include great egrets?
A. Yes.
Q. Did the utilization of transmitters and radio tags include clapper rail?
A. Yes.
Q. Do the utilization of transmitters and radio tags include the American oyster catcher?
A. Yes.
Q. Did the utilization of radio transmitters and satellite tags include brown pelicans?
A. Yes.

Q. And did the utilization of transmitters and satellite tags include black skimmer?
A. I believe so.
Q. And in all of those instances for the species that -- that I listed, the purpose was to determine whether oiled birds survived at rates that were different than unoiled birds, correct?

Page 132:20 to 132:20

00132:20 A. Yes.

Page 133:03 to 136:08

00133:03 Q. (BY MR. ISRAEL) Do you know why the particular species that we just discussed were chosen by the trustees for purposes of telemetry studies as part of the DEEPWATER HORIZON NRDA?
A. It was the trustees' decision to pick those particular species to represent potential guilds for the injury assessment portion of that.
Q. What is a "guild"?
A. A guild is a collection of birds that can be grouped in a category based upon either morphological similarities or also based on habitat similarities.
Q. When you say "collection of birds," are you -- do you -- are you referencing bird species?
A. Yes.
Q. Okay. So a guild is a collection of bird species with similar characteristics or similar habitats?
A. Correct.
Q. When conducting a telemetry study as part of the DEEPWATER HORIZON NRDA, how would birds be obtained?
A. They would be captured into the -- out in
00134:01 the field and then fitted with harnesses or transmitters out in the field and then tracked throughout a period of time.
Q. And are there different types of transmitters or tags utilized for different species or guilds of birds?
A. Yes. There are different sizes of transmitters based upon size of the bird and its morphology. And again, it's based really upon what a bird can reasonably, you know, handle in terms of, you know, having a satellite transmitter or a radio telemetry harness on it.
Q. In other words, birds of different sizes might require different types of transmitters or tags and different weights of transmitters and tags; is that correct?
A. That's correct.
Q. And were steps taken by the trustees to

ensure that birds were fitted with appropriately sized transmitters?
A. Yes.
Q. What were those steps?
A. The steps were identified in standard operating procedures and were implemented by the principal investigators that were either under
00135:01 contract or overseen by the trustees.
Q. Are you aware of any instances when birds were fitted with inappropriately sized transmitters?
A. I am not aware.
Q. Okay. How -- how were birds tracked after the fitting and utilization of a transmitter or radio -- or satellite tag?
A. They were tracked by having teams for radio transmitter birds out in the field tracking their movements, filling out data sheets and forms for satellite transmitters. That information was collected and downloaded, I'm assuming via, you know, some sort of access to satellite data that was provided and uploaded electronically.
Q. And were efforts undertaken by the trustees to ensure that data from the satellite tags and the radio telemeters were collected in a reliable manner?
A. Yes. It was the intent, and also BP was involved in the development of the work plans and also was provided opportunities to participate or observe in terms of some of those field studies.
Q. And is it your understanding that, in fact, data collected from satellite tags and radio
00136:01 telemeters for birds as part of the DEEPWATER HORIZON natural resource damage assessment was -- was -- was done so in a reliable manner?
A. Yes.
Q. Do you have any reason to doubt any of the telemetry data collected as part of the DEEPWATER HORIZON NRDA?
A. No, I do not.

Page 153:15 to 153:19

00153:15 Q. (BY MR. ISRAEL) Independent of the natural resource damage assessment, I'm asking you if you would agree that the utilization of UV light in the field to determine the presence or absence of MC252 oil on a bird is reliable?

Page 153:24 to 154:07

00153:24 A. Okay. So just to make sure that I'm clear on what you're asking, that independent of the
00154:01 natural resource damage assessment activities that are being conducted, that the methodology of using

03 UV light for determination of oils, should it be
04 MC252 or others, is not a valid methodology? Is
05 that the question?
06 Q. That's my question. Do you agree with
07 that?

Page 154:09 to 154:15

00154:09 A. My answer is, yes, it's not a valid
10 methodology.
11 Q. (BY MR. ISRAEL) Okay. So just to clarify
12 again, independent of the natural resource damage
13 assessment, the use of UV light for determination
14 of MC252 oil on a bird is not a reliable method,
15 correct?

Page 154:17 to 154:17

00154:17 A. That is correct.

Page 155:20 to 159:16

00155:20 Q. Let me ask you to turn to Tab 8, please.
21 This is Bird Study No. 1 that's been previously
22 marked as Exhibit 12602. I'd like you to turn to
23 the Field Procedures section. Do you see that?
24 A. Yes.
25 Q. And if you look on Page 2 of the Field
00156:01 Procedures for this particular bird study, do you
02 see where it states "Live Bird Assessment"?
03 A. Yes.
04 Q. What is your understanding -- do you
05 understand what "live bird assessment" means?
06 A. Live bird assessment is referring to a
07 field observer's determination of the degree of
08 oiling on a particular bird that's alive.
09 Q. And how -- how were those determinations
10 by field observers made as part of the DEEPWATER
11 HORIZON NRDA?
12 A. I would envision that this determination
13 was made by observers that were assigned to do
14 these segments and observe birds from a distance,
15 either using binoculars and also knowledge of how
16 to identify species to the best extent they could
17 be.
18 Q. Were you aware that there was a live bird
19 assessment component to a number of the DEEPWATER
20 HORIZON NRDA bird studies?
21 A. I believe that there was some information
22 that was attempted to be collected utilizing
23 survey crews that were out in the field operating
24 under specific work plans.
25 Q. Are you aware that there were live bird
00157:01 observation data collected as part of the

secretive marsh bird work plan, Bird Study No. 3?
A. If I may have a moment to take a look at that plan.
Q. Yes, of course.
A. I believe that's probably in here under Tab -- is it Tab 11? Yeah.
So to answer your question, yes, I'm aware that there were live bird observation data that was collected as part of Bird Study No. 3.
Q. And are you aware that there was live bird observation data collected as part of Bird Study 4, the colonial water bird study?
A. Yes.
Q. And are you aware that there was live bird observation data collected as part of Bird Study No. 5, the shore bird study?
A. Yes.
Q. Okay. Are you aware that there was live bird observation data collected as part of Bird Study No. 6, the pelagic bird study?
A. Yes.
Q. Okay. And are you aware that there was live bird observation data collected as part of the DEEPWATER HORIZON NRDA Bird Study No. 10, the
00158:01 wintering waterfowl study?
A. Yes.
Q. And the purpose of the live bird observation data collection undertaken by the trustees as part of the DEEPWATER HORIZON NRDA was to determine whether an observed bird had oil and, if so, to what extent; is that correct?
A. Correct.
Q. Turning to Tab 8, Exhibit 12602, we were looking at Page 2 of the Field Procedures, the section that describes the live bird assessment. Do you see that?
A. Yes.
Q. And do you see where it states: "You will only evaluate birds that are close enough for you to confidently detect the presence of visible oil"? Do you see that?
A. Yes.
Q. Is it your understanding that all of the live bird observation data that was collected as part of the DEEPWATER HORIZON NRDA was done pursuant to the instruction that only birds that were close enough for confident detection of the presence or absence of visible oil were included in the data collection effort?
00159:01 A. Yes.
Q. If you look on Page 3, the top, it states "You will perform one live bird assessment per segment per day."
Do you see that?
A. Yes.
Q. And the form continues to provide the

methodology for conducting the live bird observation data collection effort; is that correct?
A. Yes.
Q. And is it your understanding that the protocols identified on Page 2, 3, and 4 for the live bird assessment describe in general terms the methodology used as part of the DEEPWATER HORIZON NRDA live bird observation effort?

Page 159:18 to 161:10

00159:18 A. That is correct.
Q. (BY MR. ISRAEL) Okay. And is it your understanding that there were two individuals that were involved in the determination of whether or not a bird was oiled and the degree of oiling?
A. If it's conducted under the specific work plan, yes, because survey teams were deployed in two-person teams.
00160:01 Q. And is it your understanding that both individuals had to agree to the -- had to sign the data form that included the observed oil or lack thereof on birds as part of the live bird assessment?
A. That is correct.
Q. Okay. If you could look on the fourth bullet on Page 3, it states -- and do you see the bold letters?
A. Yes.
Q. Could you just read the bold instruction on Page 3?
A. "Remember to only evaluate birds that are close enough for you to confidently detect the presence of visible oil."
Q. And is it your understanding that the live bird observations that were conducted as part of the DEEPWATER HORIZON NRDA were done consistent with the instruction to only evaluate birds that are close enough to confidently detect the presence of visible oil?
A. Yes.
Q. Data related to the visible observation of oil was recorded on field sheets; is that correct?
A. I believe so.
00161:01 Q. And the field sheets would include the species that were being observed -- the species of birds that were being observed, correct?
A. Yes.
Q. And the behavior of the birds that were being observed, correct?
A. That is correct.
Q. And the degree of oiling that was observed, correct?
A. That is correct.

Page 161:14 to 161:22

00161:14 Q. The field data forms would include data
15 about the number of birds that were observed by
16 the fieldworkers?
17 A. Yes.
18 Q. And both members of the field team were
19 instructed to review the data sheet and sign the
20 data sheet prior to submission of the data to the
21 trustees, correct?
22 A. That is correct.

Page 162:02 to 164:04

00162:02 Q. (BY MR. ISRAEL) Do you recognize
03 Exhibit 12622?
04 A. Yes, I do.
05 Q. What is it?
06 A. It is a Live Animal Assessment Form.
07 Q. So this is the field form that was
08 utilized by the trustees to record the live bird
09 observation data, correct?
10 A. That is correct.
11 Q. And this particular form relates to an
12 observation that was made on August 20 --
13 August 2nd, 2010, correct?
14 A. That is correct.
15 Q. Can you tell from looking at this form
16 which -- which study plan was being implemented
17 when this form was completed?
18 A. No, I cannot.
19 Q. And can you see that the form was signed
20 by two individuals, two fieldworkers?
21 A. Yes.
22 Q. And it records the date and time of the
23 observation, correct?
24 A. Correct.
25 Q. As well as the location, correct?
00163:01 A. Yes.
02 Q. As well as the species of bird -- birds
03 that were observed, correct?
04 A. Yes.
05 Q. And the oiling level observed, correct?
06 A. That is correct.
07 Q. And on this particular form, these
08 individuals working as part of the DEEPWATER
09 HORIZON NRDA observed five standing sanderlings,
10 correct?
11 A. That is correct.
12 Q. And all five of those sanderlings were --
13 were not oiled, correct?
14 A. That is correct.
15 Q. And if you -- if you look, there are a
16 number of other species that were observed,

including four laughing gulls that were standing. Do you see that?
A. Yes, I do.
Q. And five black terns that were flying. Do you see that?
A. Yes, I do.
Q. There's a total of 31 birds that were observed and depicted on this -- this particular form, correct?
A. That is correct.
Q. And none of -- none of those birds had oil, correct?
A. That is correct.

Page 164:09 to 165:04

(Marked Exhibit No. 12623.)
Q. (BY MR. ISRAEL) This is a live bird [sic] observation form for the non-breeding shorebird oiling work plan, correct?
A. Yes.
Q. And this provides data that was observed by fieldworkers working on behalf of the DEEPWATER HORIZON NRDA on October 18th, 2010, correct?
A. Yes, that is correct.
Q. Okay. And this live bird observation form records the date and time of the observation, correct?
A. Yes.
Q. As well as the location, correct?
A. That is correct.
Q. And the particular species that -- of birds that were observed?
A. Yes, that is correct.
Q. And based on this form, do you agree that there were 44 sanderlings that were observed to have no visible oil?

Page 165:09 to 165:25

Q. There were 44 sanderlings that were observed?
A. Yes.
Q. On this date that had no visible oil, correct?
A. That is correct.
Q. And a number of snowy plovers that were observed that didn't have -- had no visible oil, correct?
A. That is correct.
Q. And a number of willets that were observed with no visible oil, correct?
A. That is correct.
Q. None of the birds observed by these fieldworkers on this particular day and location

observed birds with visible oil, correct?
A. That is correct.

Page 166:03 to 167:12

(Marked Exhibit No. 12624.)
Q. (BY MR. ISRAEL) This is a live bird observation form for the trustees' breeding shorebird study, correct?
A. That is correct.
Q. And this form is -- provides the data from observations of fieldworkers from June 11th, 2011, correct?
A. That is correct.
Q. On Elmer's Island, correct?
A. Yes, that's correct.
Q. And if you look at the first row of the table, there's an indication of species WIPL. Do you see that?
A. Yes, I do.
Q. Is your understanding of that, it refers to the Wilson's plover?
A. That is correct.
Q. And the fieldworkers observed a total of 5 Wilson plovers with no visible oil, correct?
A. That is correct.
Q. And the fieldworkers signed their name prior to submitting their data to the trustees, correct?
A. Yes, that is correct.
Q. Is it your understanding that efforts were undertaken to ensure the accuracy of live field observations conducted as part of the DEEPWATER HORIZON NRDA?
A. Yes.
Q. Okay. And you have no reason to doubt the accuracy of any of the live -- live bird observations that were made as part of the DEEPWATER HORIZON NRDA, correct?
A. I have no reason to doubt.

Page 168:03 to 168:09

Q. Okay. And you've satisfied yourself through preparation for today's deposition that efforts were undertaken to ensure the accuracy and the liability of the data collected as part of the live bird observation effort for the DEEPWATER HORIZON NRDA?
A. Yes.

Page 168:21 to 169:09

Exhibit 12625 a compilation of all of the live

bird oiling observation data, with the exception of entries where oiling was undetermined. This is a spreadsheet that I've provided to you.
A. Okay.
Q. If you look at Tab A of Exhibit 12625, this -- do -- do you -- do you see Exhibit -- Tab A?
A. Yes, I do.
Q. Okay. And does this appear to be a collection of the -- the -- the data -- the live bird observation data reflecting heavy oiling, if you look at the oiling category in the right column?

Page 169:12 to 170:20

A. Yes, I do see that.
Q. (BY MR. ISRAEL) And you can see where the study name is in the left column. Do you see that?
A. Yes, I do.
Q. And it refers to many of the studies undertaken as part of the DEEPWATER HORIZON NRDA where live bird observations were included; is that correct?
A. Yes, that appears correct.
Q. And do you see where it includes Observation ID?
A. Yes.
Q. And there's a column, Bird Count. Do you see that?
A. Yes, I do.
Q. And do you see where it states the species?
A. Yes, I do.
Q. And the behavior of the observed birds. Do you see that?
A. Yes, I do.
Q. And the oiling status for those birds, do you see that?
A. Yes, I do.
Q. And if you look in the back, last page of Tab A, the summation of all of the heavily oiled birds observed as part of the DEEPWATER HORIZON NRDA is 383. Do you see that?
A. Yes, I do.
Q. Does that sound approximately right, as far as to your knowledge, the number of birds observed as part of the DEEPWATER HORIZON NRDA that had heavy oiling?

Page 170:23 to 171:13

A. It seems reasonable up to the date of which your data is including, yes.

Q. (BY MR. ISRAEL) And if you could look at Tab B, this is a compilation of all of the live bird observation data reflecting moderate oiling. Do you see that?
A. Yes, I do.
Q. And the total number of birds observed in the DEEPWATER HORIZON NRDA live bird observation studies with moderate oil is indicated as 448. Do you see that?
A. Yes, I do.
Q. And does that sound approximately right as to your knowledge of the number of birds observed as part of the DEEPWATER HORIZON NRDA that had moderate oiling?

Page 171:16 to 172:05

A. That seems reasonable.
Q. (BY MR. ISRAEL) And if you look at Tab C, this tab includes all of the birds observed part -- as part of the DEEPWATER HORIZON NRDA live bird observation effort that had light oiling. Do you see that?
A. Yes, I do.
Q. And if you look at the last page of Tab C, it indicates that the total number of birds with light oil was 767. Do you see that?
A. Yes, I do.
Q. And do you -- and do you agree that 767 is approximately the number of birds that were observed as part of the DEEPWATER HORIZON NRDA that had light oiling?

Page 172:08 to 172:25

A. I agree that it's approximately the number of birds that were observed as part of the DEEPWATER HORIZON NRDA that had light oiling.
Q. (BY MR. ISRAEL) Okay. And if you could look at Tab 6 -- I'm sorry, Tab D. This is a compilation of the birds observed as part of the DEEPWATER HORIZON NRDA live bird observation effort that were observed with trace oil. Do you see that?
A. Yes, I do.
Q. If you look at the last page of Tab D, it's -- indicates that there were 1397 birds observed as part of the DEEPWATER HORIZON with trace oil. Do you see that?
A. Yes, I do.
Q. And do you agree that 1397 birds observed with trace oil as part of the DEEPWATER HORIZON NRDA is correct?

Page 173:03 to 173:19

A. It seems reasonable and I agree that this seems a number that would describe light -- or excuse me, trace oiling from this table that's been produced here.
Q. (BY MR. ISRAEL) Okay. And if you could look at Tab E of Exhibit 12625, this table includes the live birds that were observed with no oil as part of the DEEPWATER HORIZON NRDA. Do you see that?
A. Yes, I do.
Q. And if you flip to the last page of Tab E, it indicates that there were 444,623 birds that were observed as part of the DEEPWATER HORIZON NRDA with no oil. Do you see that?
A. Yes, I do.
Q. And does that number seem approximately correct?

Page 173:22 to 174:01

A. It seems reasonable.
Q. (BY MR. ISRAEL) So it's reasonable to you that approximately 444,623 birds -- live birds observed as part of the DEEPWATER HORIZON NRDA had no oiling --

Page 174:03 to 174:05

Q. (BY MR. ISRAEL) -- correct?
A. Based on the information that's compiled here, yes.

Page 175:05 to 175:05

Exhibit 12622, Tab 16.

Page 175:11 to 175:16

Q. So what does -- what is your understanding of "trace oiling"?
A. That a bird when observed in the field, a determination is made by that observer that 5 percent or less of the body of the bird has visible oiling.

Page 178:16 to 178:16

(Marked Exhibit No. 12626.)

Page 179:09 to 180:11

00179:09 Q. And -- strike that.
10 Can you first describe what Bird
11 Study 20 is?
12 A. Bird Study 20 is, "Laboratory Avian
13 Toxicology Studies to Determine the Effects of the
14 DEEPWATER HORIZON/MC252 Oil Spill on Bird
15 Viability," otherwise known as Bird Study No. 20.
16 Q. And -- all right. Going to again Page 2
17 at the bottom, do you see where it states "An
18 extensive literature survey"?
19 A. Yes.
20 Q. And it further states: "An extensive
21 literature survey conducted for the U.S. Fish and
22 Wildlife Service Natural Resource Damage
23 Assessment has illustrated that while there's a
24 large body of work on some specific effects of oil
25 spills on birds, there's a distinct lack of
00180:01 information that provides for a systematic and
02 integrated understanding of the relationship
03 between oil exposer and the full extent of effects
04 on avian physiology and behavior."
05 Did I read that correctly?
06 A. Yes, you did read that correctly.
07 Q. Do you agree with that statement?
08 A. Yes, I do.
09 Q. What is your understanding about the
10 relationship between oil exposure and effects on
11 avian physiology and behavior?

Page 180:14 to 180:17

00180:14 A. I personally don't have a full
15 understanding of the relationship between oil
16 exposure and effects on avian physiology an
17 behavior.

Page 180:24 to 181:03

00180:24 Q. (BY MR. ISRAEL) Do you agree that the
25 effects on avian physiology and behavior could
00181:01 differ, depending upon the extent of exposure to
02 oil?
03 A. Yes, I agree.

Page 181:08 to 181:11

00181:08 Q. (BY MR. ISRAEL) Why is there a potential
09 difference between the effects on avian physiology
10 and behavior and the extent of oil exposure for a
11 particular bird?

Page 181:13 to 181:20

00181:13 A. Again, the effects to a particular bird
14 will be dependent upon the dose; and that dose can
15 have numerous roots of exposure, depending on the
16 bird, its behavior, and its physiology and also
17 its condition.
18 Q. (BY MR. ISRAEL) Do you agree that not all
19 ex- -- oil exposure would cause mortality to a
20 bird?

Page 181:22 to 182:02

00181:22 A. I agree that not all oil exposure would
23 cause mortality to a bird.
24 Q. (BY MR. ISRAEL) As a general principle,
25 all other things being equal, would you expect to
00182:01 see a lower frequency of mortality if there were
02 lower degree of oiling to a particular bird?

Page 182:04 to 182:10

00182:04 A. Again, the impact to a bird is dependent
05 on a number of factors that cannot be generalized
06 in a simplistic way.
07 Q. (BY MR. ISRAEL) But you would agree if
08 those factors were equal, that the lower the
09 degree of oiling, the lower the frequency of
10 mortality? Would you agree with that?

Page 182:12 to 182:22

00182:12 A. And those -- could you describe what those
13 factors are?
14 Q. (BY MR. ISRAEL) The fact- -- factors that
15 you just described.
16 A. Okay.
17 Q. If the -- you identified a number of
18 factors that could affect the mortality resulting
19 from exposing oil, correct?
20 A. If all factors were equal, I would agree
21 that a lower degree of oiling would have not as a
22 great an effect on a bird.

Page 183:05 to 183:06

00183:05 Q. (BY MR. ISRAEL) Does trace oiling always
06 result in mortality to a bird?

Page 183:08 to 183:09

00183:08 A. Again, if all factors were equal, no, that
09 does not always occur.

Page 183:15 to 183:17

00183:15 Q. (BY MR. ISRAEL) Do you agree that light
16 oiling does not in all instances result in
17 mortality?

Page 183:19 to 183:22

00183:19 A. Yes, I would agree.
20 Q. (BY MR. ISRAEL) Okay. Do you agree that
21 moderate oiling does not always result in
22 mortality to a bird?

Page 183:24 to 183:24

00183:24 A. In my opinion, yes.

Page 184:03 to 184:04

00184:03 Q. Okay. If I can ask you to turn to Page 5
04 of Bird Study 20, Exhibit 12626, where it states

Page 184:23 to 185:01

00184:23 Q. And do you agree that currently available
24 information from the literature and the field is
25 not sufficient to fully characterize the nature
00185:01 and extent of injuries to birds in the Gulf?

Page 185:03 to 185:03

00185:03 A. Yes, I would agree.

Page 186:01 to 186:04

00186:01 Q. Okay. Do all species respond the same to
02 exposure to oil?
03 A. No, they do not.
04 Q. How do they differ?

Page 186:06 to 186:15

00186:06 A. They can differ in a number of ways. Some
07 of the factors that I've already talked about in
08 terms of behavior, life history characteristics in
09 terms of what types of habitats they're in, also
10 body size and -- and numerous other factors that
11 have been documented in the literature.
12 Q. (BY MR. ISRAEL) So a toxicity study on
13 one bird species will not necessarily inform you
14 what might happen to another species with the same

15 exposure?

Page 186:17 to 186:21

00186:17 A. I would say it would be difficult to make
18 that characterization to birds in a different
19 guild when, you know, trying to make inferences
20 about toxicity information with a bird from
21 another guild.

Page 203:20 to 204:18

00203:20 Q. Okay. Are you -- are you familiar with a
21 study by Mark Franci, et al., in 2014 regarding
22 the effect of the DEEPWATER HORIZON oil spill in
23 migratory northern gannets?
24 A. No, I'm not familiar with that.
25 Q. I could ask you to turn to Tab 33.
00204:01 MR. ISRAEL: Let's mark this as
02 Exhibit 12627.
03 (Marked Exhibit No. 12627.)
04 Q. (BY MR. ISRAEL) This is a document by
05 Cynthia D. Franci, et al., entitled,
06 "Endoctrin" -- "Endocrine status of a migratory
07 bird potentially exposed to the DEEPWATER HORIZON
08 oil spill: A case study of northern gannets
09 breeding on Bonaventure island, Eastern Canada."
10 Do you see that?
11 A. Yes.
12 Q. And it's published in a journal called the
13 Science of the Total Environment. Do you see
14 that?
15 A. Yes, I do.
16 Q. Are you familiar with that journal?
17 A. Yes, I am.
18 Q. Is that a respected journal?

Page 204:20 to 204:20

00204:20 A. Yes, it is.

Page 205:07 to 205:17

00205:07 Q. Okay. If you look in the abstract, about
08 three-quarters of the way down, there's a sentence
09 that begins, Cor- -- "Corticosterone." Do you see
10 that?
11 A. Corticosterone.
12 Q. Yes. "Corticosterone and prolactin levels
13 as well as body mass did not differ between the
14 two major birds' wintering sites."
15 Do you see that?
16 A. Yes.

Q. Do you know what that means?

Page 205:20 to 206:01

A. No, I do not.
Q. (BY MR. ISRAEL) Okay. And it goes on to say: "Moreover, levels of both these hormones did not vary from early to late incubation period."
Do you see that?
A. Yes.
Q. Do you have any idea what that means?

Page 206:03 to 206:15

A. It means that, as it stated in the abstract, that hormone levels that were ascertained from two groups were not different from each other.
Q. (BY MR. ISRAEL) The authors go on to say: "Present results suggest that if Bonaventure Island-breeding Northern gannets had been exposed to oil in the Gulf of Mexico in the aftermath of this historical spill, this" -- "this exposure could not be associated with changes in hormonal status and body mass in breeding individuals."
Do you see that?
A. Yes, I do.

Page 206:21 to 208:06

Q. (BY MR. ISRAEL) Okay. Do you know who Jack Bohannon is?
A. The name sounds familiar vaguely, but I don't remember where I've heard that name.
Q. If I could ask you to look at Exhibit 52 -- or Tab 52. This is -- an article entitled, "Brown Pelican population roaring back." Do you see that?
A. Yes. Would you like me to mark it as an exhibit?
Q. Sure.
MR. ISRAEL: Let's mark it as Exhibit 12628.
(Marked Exhibit No. 12628.)
Q. (BY MR. ISRAEL) And the article is dated June 29th, 2011. Do you see that?
A. Yes.
Q. And it states: "Despite last summer's BP oil disaster, Pelican populations are booming along a huge stretch of Louisiana's coast."
Do you see that?
A. Yes, I do.
Q. And it states: "2011 will go down as 'the most productive since Katrina' for nesting,

according to refuge man-" -- "manager Jack Bohannon."
Do you see that?
A. Yes, I do.
Q. And is it your understanding that Jack Bohannon is the refuge manager for the Breton Sound National Wildlife Refuge?
A. Upon reviewing this article, yes. And now I do remember his name.
Q. Okay. And were you aware that 2011 was the most productive since Katrina for nesting pelicans?

Page 208:09 to 208:21

A. When you say "nesting pelicans," are you referring to brown pelicans, American white pelicans, or both?
Q. (BY MR. ISRAEL) Brown pelicans. It looks like this article is about brown pelicans. If you look at the next paragraph: The Breton Sound National Refuge was home this year to an estimated 8400 nesting pairs of brown pelicans?
Do you see that?
A. Yes.
Q. Were you aware that 2011 was the most productive since Katrina for nesting of brown pelicans?

Page 208:24 to 209:01

A. Based on this article, I would say that is correct specifically for Breton Sound National Wildlife Refuge.

Page 215:04 to 216:11

Q. (BY MR. ISRAEL) Mr. Higgins, you are also designated to testify about some of the turtle data, correct?
A. That is correct.
Q. Which turtle data are you designated --
A. It's --
Q. -- and prepared to testify about --
A. Sure. It's turtle data for which Department of Interior was tasked with implementing or overseeing specifically those turtles that nest on beaches.
Q. And what were -- what were the specific studies that were conducted with respect to turtles on beaches as part of the DEEPWATER HORIZON NRDA?
A. To simplify, I would say there's, in reality, three studies. Study 1 was looking at

determining potential exposure and injuries of nesting and hatchling Kemp's ridley sea turtles from 2010 and 2013. And the same type of plan to determine potential exposure and injuries of nesting and hatchling loggerhead sea turtles, again from 2010 to 2013. And then separately but related to those plans is analysis of analytical data that was collected from fieldwork on those other two plans.

Q. So there was an effort to assess potential exposure of Kemp's ridley nests, loggerheads nest, and then analytical work done associated with those efforts, correct?

A. Yes. Kemp's ridleys turtles and loggerhead turtles and analytical data associated with the field collection from those two efforts.

Page 216:17 to 217:16

Q. And are you aware of any data indicating that, in fact, sea turtle nests were oiled as a result of the spill?

A. I'm not aware.

Q. Are you aware of any data indicating that sea turtle eggs were oiled as a result of the spill?

A. Again, not having seen the actual raw, unstructured data, I'm not aware.

Q. But you're here to testify about these data, correct?

A. Correct.

Q. Did you talk to anybody about the data?

A. Yes, I did.

Q. Who did you talk to?

A. Dr. Michael Hooper with USGS, and also with Chip Wood with U.S. Fish and Wildlife Service.

Q. Okay.

A. And also Kevin Reynolds with U.S. Fish and Wildlife Service.

Q. And based upon your preparation for today's deposition, are you aware of any data indicating that sea turtle nests were oiled as a result of the DEEPWATER HORIZON spill?

Page 217:19 to 217:23

A. I am not aware.

Q. (BY MR. ISRAEL) And based upon your preparation for today's deposition, are you aware of any data indicating that sea turtle eggs were oiled as a result of the DEEPWATER HORIZON spill?

Page 217:25 to 217:25

00217:25 A. I am not aware.

Page 220:12 to 221:02

00220:12 (Marked Exhibit No. 12629.)
13 Q. (BY MR. ISRAEL) This is a printout from
14 the National Park Service website regarding Kemp's
15 ridley sea turtle. Do you see that?
16 A. Yes, I do.
17 Q. Are you familiar with this website?
18 A. No, I am not.
19 Q. If you look on -- on the last page,
20 there's a table entitled, "Kemp's Ridley Nests
21 Found on the Texas Coast, 1985-2013."
22 Do you see that?
23 A. Yes.
24 Q. And it shows that the number of nests
25 documented on the Texas coast for Kemp's ridley in
00221:01 2011 was slightly higher than any of the previous
02 years, correct?

Page 221:12 to 221:17

00221:12 A. Well, 2011 data includes several different
13 categories for a combined total of which I'm not
14 clear on.
15 Q. (BY MR. ISRAEL) Well, the table's
16 regarding Kemp's ridley nests on the Text coast,
17 correct?

Page 221:19 to 222:03

00221:19 A. Yes.
20 Q. (BY MR. ISRAEL) And it shows year over
21 year the number of nests -- Kemp's ridley nests on
22 the Texas coast, correct?
23 A. Yes. And I see that each column is an
24 aggregated total based on some categories that are
25 described in that table.
00222:01 Q. Right. And when you combine all of the
02 different sources of data for the number of nests,
03 2011 is higher than any previous year, correct?

Page 222:05 to 222:05

00222:05 Q. (BY MR. ISRAEL) According to this table?

Page 222:07 to 222:09

00222:07 A. Yes.
08 Q. (BY MR. ISRAEL) And 2012 is higher than
09 2011, correct?

Page 222:11 to 222:13

00222:11 A. That is correct.
12 Q. (BY MR. ISRAEL) Do you have any reason to
13 doubt the accuracy of this table?

Page 222:15 to 222:15

00222:15 A. I have no reason to doubt the accuracy.

WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
31, line 13	Add "I" before "was"	Word not included
31, line 13	Add "an" before "Environmental"	Word not included
52, line 4	Change "steady" to "study"	Wrong word
67, line 1	Change "surgery" to "searcher"	Wrong word
67, line 4	Change "beach" to "beached"	Wrong word
72, line 18	Change "beach" to "beached"	Wrong word
72, line 21	Change "beach" to "beached"	Wrong word
156, line 17	Delete "be" from end of sentence	Clarity
192, line 23	Delete "a" before "multiple"	Clarity
192, line 23	Delete "of" before "tests"	Clarity
218, line 1	Change "pH" to "PAH"	Wrong word
226, line 6	Delete "2" in "27th"	Wrong number

DAMIAN K. HIGGINS