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BEFORE THE
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

CALIFORNIA WATERFIX WATER)
RIGHT CHANGE PETITION)
HEARING)

JOE SERNA, JR. BUILDING
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
SIERRA HEARING ROOM
1001 I STREET
SECOND FLOOR
SACRAMENTO CALIFORNIA

PART 2

Monday, April 9, 2018
9:30 A.M.

VOLUME 26

Pages 1 - 258

Reported By: Deborah Fuqua, CSR No. 12948
(A.M. Session)
Candace Yount, CSR No. 2737
(P.M. Session)

Computerized Transcription

1 APPEARANCES:

2 CALIFORNIA WATER RESOURCES BOARD

3 Division of Water Rights

4 Board Members Present

5 Tam Doduc, Co-Hearing Officer:

Felicia Marcus, Chair and Co-Hearing Officer:

6 Dorene D'Adamo

7 Staff Present

8 Andrew Deeringer, Staff Attorney

Conny Mitterhofer, Senior Water Resources Control Engr.

9 Jean McCue, Staff

10

11 For the Petitioners:

12 California Department of Water Resources

James (Tripp) Mizell

13 Jolie-Anne Ansley

14

State Water Contractors

15 Becky Sheehan

16

17 For the Protestants:

18 Local Agencies of the North Delta, Environmental

Council of Sacramento, Friends of Stone Lakes National

19 Wildlife Refuge, Save Our Sandhill Cranes

Osha Meserve

20

21 County of San Joaquin, San Joaquin County Flood Control

and Water Conservation District and Mokelumne River

22 Water and Power Authority

Thomas H. Keeling

23

24

25 (Continued)

1 APPEARANCES (continued)

2

For the Protestants:

3

California Sportfishing Protection Alliance, California
4 Water Impact Network, AquAlliance
Michael Jackson

5

Delta Agencies and other parties
6 John Herrick

7

Tehama-Colusa Canal Authority & water service
8 contractors in its area
Meredith Nikkel

9

California Water Research
10 Deirdre Des Jardins

11

National Resources Defense Council, The Bay Institute,
12 and Defenders of Wildlife
Rachel Zwillinger
13 Jeremy Stone

14

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1 Monday, April 9, 2018 9:30 a.m.

2 PROCEEDINGS

3 ---o0o---

4 CO-HEARING OFFICER DODUC: Good morning,
5 everyone. It is 9:30. Welcome back to the Water Right
6 Change Petition Hearing for the California WaterFix
7 project. I'm Tam Doduc. To my right is Board Chair
8 and Co-Hearing Officer Felicia Marcus. To the Chair's
9 right is Board Member DeeDee D'Adamo. To my left are
10 Andrew Deeringer, Conny Mitterhofer, and Jean McCue.
11 We are also being assisted today by Mr. Hunt.

12 Yes, three usual announcements. Please take a
13 moment and identify the exit closest to you. We are in
14 the Sierra Hearing Room, so, yes, any of the doors will
15 get to you the stairs.

16 In the event of an emergency, an alarm will
17 sound. We will take the stairs to evacuate down to the
18 first floor, outside of the building and meet up in the
19 street across -- in the park across the street. If
20 you're not able to use the stairs, please flag down one
21 of the safety people, and they will direct you into a
22 protective area.

23 Second announcement, this hearing is being
24 recorded and webcast, so always speak into the
25 microphone after making sure it is on, that the green

1 light is lit. And begin by stating your name and
2 affiliation for the record.

3 Our court reporter is back with us, and if you
4 need a copy of the transcript sooner than the
5 conclusion of Part 2, please make your arrangements
6 directly with her. Finally and most importantly, I'm
7 sure we've all had a busy, fun weekend. Please take a
8 moment and put all your noise-making devices to silent,
9 vibrate, do not disturb. Please check, even if you
10 think they are.

11 CO-HEARING OFFICER MARCUS: Done.

12 CO-HEARING OFFICER DODUC: All right. We have
13 some housekeeping matters to address. So first of all,
14 I've been told that the Internet may be having a bit of
15 intermittent webcasting difficulties, so if you're
16 watching us on webcast, please be advised -- and at the
17 most interesting moment of webcast, probably, to be
18 sure.

19 Also noted that the A/V staff is short-staffed
20 today, so we have one A/V person covering all three
21 hearing rooms. So that means that if there is a
22 problem with the webcasting or the noise, we might have
23 problem getting some troubleshooting done.

24 Also please note that we're going to go a
25 little bit later today and take our lunch break around

1 the 1:00-ish hour so that we may go into closed
2 session, and we will reconvene then at 2:30 today.

3 Let's also discuss what I believe will be the
4 order for cases in chief.

5 We thank you, Mr. Obegi, who is already in
6 position for his direct. After NRDC -- and I'll get an
7 estimate on cross-examination later -- if we have time
8 today, we will go to Ms. Des Jardins' witness,
9 Dr. Fries.

10 And after that will be interesting, but upon
11 completion of Ms. Des Jardins' Dr. Fries' direct
12 testimony, if we get that done today or tomorrow, we
13 will then go to Ms. Meserve, your presentation for
14 those Friends of Stone Lakes and Save Our Sandhill
15 Cranes. All right?

16 Now, the thing that I do want to discuss is,
17 with respect to Ms. Des Jardins's calling of
18 Mr. Baxter, thank you for submitting your questions as
19 we requested. Mr. Baxter, I'm told, will be available
20 on Wednesday, and after that he will, not be available
21 for about three weeks. So if at all possible, I would
22 like to zoom in on Wednesday for the entirety of his
23 cross -- of his direct as well as cross, which means
24 that it might be a very long day.

25 But I also need to get an indication, as

1 indicated in our ruling letter last week, of the
2 estimated cross for Mr. Baxter at this time. I
3 recognize that it is somewhat challenging since you
4 don't have his direct testimony, but perhaps an
5 indication of who at this time, based on reviewing
6 Ms. Des Jardins' questions, expects that they will be
7 conducting cross would be helpful.

8 MS. NIKKEL: Good morning, Meredith Nikkel.
9 We would estimate, on behalf of Group 7, approximately
10 an hour. And in addition, on behalf of North Delta,
11 which is Group 9, about 20 minutes.

12 CO-HEARING OFFICER DODUC: Okay.

13 MS. ANSLEY: Jolie-Anne Ansley for the
14 Department of Water Resources. We estimate
15 approximately an hour to an hour and a half for
16 Mr. Baxter.

17 MR. HERRICK: John Herrick, South Delta
18 parties. It will be Dean Ruiz, but it will probably be
19 about a half an hour at the most.

20 CO-HEARING OFFICER DODUC: Okay.

21 MR. JACKSON: Mike Jackson on behalf of the
22 CSPA parties, about an hour.

23 MR. KEELING: Tom Keeling on behalf of the
24 San Joaquin County protestants, approximately a half an
25 hour based solely on my present read of questions.

1 MS. MESERVE: Osah Meserve for LAND. I would
2 like to reserve 15 minutes, and I will update as we get
3 closer.

4 CO-HEARING OFFICER DODUC: All right. So
5 that's about four hours, five hours possibly, with
6 Ms. Des Jardins' direct of another an hour.

7 All right. Let's do this, Ms. Des Jardins,
8 and we will -- the hearing team will notify Mr. Baxter.
9 We will start with Mr. Baxter first thing on Wednesday
10 and go possibly late, depending on the length of the
11 direct and cross-examination and do our best to
12 complete his testimony and cross on Wednesday.

13 That means however we end on Tuesday,
14 Ms. Meserve -- or I think after Ms. Meserve would be --
15 who is after Ms. Meserve?

16 MS. DES JARDINS: PCFFA.

17 CO-HEARING OFFICER DODUC: I thought PCFFA
18 switched places with ECOS, which means they would fall
19 later.

20 MS. DES JARDINS. Oh, right. Ms. Meserve has
21 two group panels.

22 CO-HEARING OFFICER DODUC: Perhaps Ms. Meserve
23 could clarify.

24 MS. MESERVE: Good morning. I think the way
25 it will work is -- I mean, my panelists are ready to

1 show up this afternoon for my first panel. And I guess
2 when we get a little farther into the morning, I'll
3 give them an update about that time. So I'll need a
4 little help with that.

5 And then I have a second panel as well. And
6 then the next group would be PCFFA. They have, I
7 think, availability for -- to put some people on
8 tomorrow morning, if I'm not mistaken, only. They have
9 a panel they can put on. So it could be that --

10 CO-HEARING OFFICER DODUC: And they would be
11 ready to go next week?

12 MS. MESERVE: And they would, I think, prefer
13 to go next week, if I'm not mistaken. So we're trying
14 to coordinate with them to make sure we fill in the
15 space it sounds like today and tomorrow.

16 CO-HEARING OFFICER DODUC: Okay.

17 MS. DES JARDINS: PCFFA, the witnesses that
18 are available on Tuesday morning, I believe they're
19 also available on Monday. But I would have to
20 double-check with them.

21 CO-HEARING OFFICER DODUC: I'm sorry.
22 "Monday" meaning today or next Monday?

23 MS. DES JARDINS: Next Monday, the 16th.
24 Yeah.

25 CO-HEARING OFFICER DODUC: The only thing I

1 wanted to make sure we know for other parties who want
2 to conduct cross-examination is the order. So from
3 what I'm hearing, I would expect then, upon completion
4 of ECOS, Friends of Stone Lakes, and Save Our Sandhill
5 Cranes, we will then move to PCFFA.

6 MS. DES JARDINS: Yes. That -- PCFFA, has
7 some witnesses that are available Tuesday morning. So
8 if they want -- if they need to go on Tuesday, they
9 might want to go in the morning. But I'll -- I'll
10 email them.

11 CO-HEARING OFFICER DODUC: They will be ready
12 to go when it is their time.

13 MS. DES JARDINS: Okay. Thank you.

14 MS. ANSLEY: This Jolie-Anne Ansley for the
15 Department of Water Resources. We do assume or we did
16 assume that PCFFA would follow the ECOS parties. And
17 we would just ask that Mr. Volker let us know which
18 panel it is we're all talking about would be -- and
19 what order would be up next.

20 I'm assuming -- I would be assuming it's in
21 the order listed on the hearing schedule, but I
22 understand that that might not be the case. So I would
23 ask him to contact somebody and let us know which order
24 the witnesses are going in.

25 CO-HEARING OFFICER DODUC: So ordered for

1 Mr. Volker, who is, I'm sure, listening to our every
2 word right now.

3 And then after PCFFA, we'll get to Save the
4 California Delta Alliance. Hopefully that
5 understanding is correct.

6 All right. Are there any other housekeeping
7 matters? All right. Thank you all. It's always a
8 challenge to juggle these things.

9 In that case, then, we will now turn to NRDC,
10 Bay Institute, and Defenders of Wildlife for your
11 direct. And Mr. Obegi, if you could stand and raise
12 your right hand.

13 (Witness sworn)

14 DOUG OBEGI,
15 called as a Panel 1 witness by
16 Protestant Group 35, having been first
17 duly sworn, was examined and testified
18 as hereinafter set forth:

19 DIRECT EXAMINATION BY MS. ZWILLINGER

20 MS. ZWILLINGER: To get us started, Mr. Obegi,
21 is NRDC-1 a true and correct copy of your written
22 testimony?

23 WITNESS OBEGI: It is.

24 MS. ZWILLINGER: Are NRDC-3 through 10 true
25 and correct copies of exhibits that you relied upon in

1 preparing your written testimony?

2 WITNESS OBEGI: That is true.

3 MS. ZWILLINGER: Were you personally involved
4 in the development of NRDC-3?

5 WITNESS OBEGI: I was. The Mismatched Report
6 was developed by -- was written by NRDC under my
7 direction.

8 MS. ZWILLINGER: Were you personally involved
9 in the development of NRDC-4?

10 WITNESS OBEGI: Yes. The Untapped Potential
11 Report was developed by NRDC and Pacific Institute. I
12 had input on both the methodology that was used and
13 reviewed drafts of the report.

14 MS. ZWILLINGER: Were you personally involved
15 in the development of NRDC-5?

16 WITNESS OBEGI: Yes, I was. NRDC-5 was the
17 portfolio alternative for the Bay-Delta developed in
18 2013. And I played a substantial role in the
19 development of both the appendix of the analysis of --
20 of the detailed analysis of the economics as well as
21 the summary and all the materials therein.

22 MS. ZWILLINGER: Would you please summarize
23 your written testimony.

24 WITNESS OBEGI: Thank you.

25 My testimony concerns four primary points,

1 first, that there are substantial opportunities to
2 increase the availability of local and regional water
3 supplies through investments in water recycling, water
4 conservation and efficiency, and storm water capture in
5 the service areas of the state and federal water
6 projects south of the Delta.

7 Second primary point is that investments in
8 these types of water projects are cost effective and
9 feasible and that they provide additional benefits in
10 terms of reducing reliance on the Delta, creating local
11 jobs, reducing greenhouse gas emissions and energy use,
12 and providing more reliable water supplies during dry
13 years.

14 The third primary point is that several of the
15 proponents of WaterFix have called WaterFix part of a,
16 quote, "All of the above strategy for water." However,
17 the spending involved in paying for the tunnels
18 threatens the water supply that would be generated by
19 these local and regional water supply projects. And
20 thus it is my opinion that terms and conditions are
21 needed to require achieving investments and certain
22 levels of local and regional water supply development.

23 Point four, we did -- in my testify I identify
24 proposed terms and conditions to ensure those
25 investments and to ensure that we are making progress

1 in local and regional water supply development.

2 The context for my testimony is that I am
3 aware that the Board, in prior rulings, orders, and
4 decisions, has required and has the authority to
5 require investments in local and regional water supply
6 projects.

7 In 2009, the Board issued an order for Sonoma
8 County requiring investments and achievements of
9 certain targets for water use efficiency. The standard
10 terms and conditions that are part of the state and
11 federal water projects water rights also reserved the
12 Board that authority. And in Decision 1485, the 1979
13 decision of this Board -- excuse me.

14 Decision 1485 states that the Board will
15 carefully scrutinize future petitions from the CVP and
16 State Water Project to evaluate water conservation and
17 water recycling progress.

18 In terms of point one, it is my opinion that
19 there are substantial opportunities for increased local
20 and regional water supply development. My testimony is
21 based on a review of plans, documents, and reports
22 prepared by both NRDC as well as the State of
23 California and local and regional water districts.

24 The first report that I summarized in my
25 testimony is the Mismatched Report.

1 And, Mr. Hunt, if you would pull up NRDC-1 and
2 put it on the screen, there are a couple graphics that
3 are excerpted from Mismatched that I'd like to show; if
4 you would turn to Page 6.

5 The Mismatched Report is a comparison of the
6 urban water management plan prepared by the
7 Metropolitan Water Districts of Southern California in
8 2015 with the urban water management plans presented by
9 its member agencies. This is not analysis that NRDC --
10 this is not numbers that NRDC created in terms of the
11 demand or local supply projects. These are the numbers
12 represented in these plans that are required by state
13 law of local water districts.

14 The report generally found that, as compared
15 to the local districts, Metropolitan's Urban Water
16 Management Plan predicts significantly higher per
17 capita demand for water, about 20 gallons per capita
18 per day; significantly higher overall demand for water;
19 lower local supply -- the local agencies predicted
20 significantly higher water supply for local projects,
21 about a quarter million acre-feet a year by 2040, and
22 lower demand for imported water for Metropolitan by the
23 year 2040 than Metropolitan expects, about 258,000
24 acre-feet a year.

25 And this figure, Figure 1 in my testimony,

1 looks at -- the blue line is the predictions of demand
2 for water sales of imported water from Metropolitan to
3 its member agencies, based on Met's Urban Water Plan.
4 The black line is the prediction based on the local
5 agency, the member agencies' demand. And then the
6 green line is an analysis that we did.

7 What we found was that a number of the member
8 agencies of Metropolitan run a surplus in average
9 years. They have supplies that exceed demand. And if
10 they use all those local supplies first before relying
11 on imported water -- because many of them, in their
12 water management plans, they report the maximum value
13 that they're able to get from Metropolitan, not how
14 much they actually need. If you use all the local
15 supply development first, the green line is what that
16 demand for imported water would be. And it's nearly
17 half a million acre-feet less than what Metropolitan
18 predicts.

19 In my view, this report shows that there are
20 significant opportunities for local and regional water
21 supply development and for demand reduction that
22 reduces demand from the Delta. Part of what
23 Metropolitan's water districts -- excuse me --
24 Metropolitan Water Districts' Urban Water Management
25 Plan is very conservative with respect to local

1 supplies because it only counts projects that are
2 producing water, under construction, or are included in
3 their integrated regional plan, which is a separate
4 planning document.

5 They have an appendix which includes potential
6 and planned projects that are not yet in development,
7 and that lists more than 600,000 acre-feet of local
8 supply projects in the service area of Metropolitan.
9 Some of those projects are reflected in the urban water
10 management plans of its member agencies but not all.
11 And overall, it shows a significant opportunity for
12 increased local supply development.

13 The second report that I summarized in my
14 testimony is the 2014 Untapped Potential report, which
15 was co-written by NRDC and Pacific Institute. That
16 report evaluates the technical potential for increased
17 water supply from four tools from a statewide basis.
18 It looks at urban water efficiency improvements,
19 agricultural water efficiency improvements, storm water
20 capture in urban areas, and wastewater recycling.

21 It really is a technical potential. This is
22 not evaluating the cost effectiveness of these
23 investments or these -- it's looking at what could be
24 achieved. And it finds significant opportunities for
25 water savings from a statewide basis, much of which

1 overlaps with the service areas of the proponents and
2 beneficiaries of the WaterFix projects.

3 In terms of urban water efficiency, the report
4 uses two methodologies to evaluate indoor water
5 savings. It looks at both the current market
6 penetration of efficient appliances such as clothes
7 washers and dishwashers and then evaluates what the
8 water savings would be if you upgraded all those older,
9 less efficient appliances indoor to a modern, highly
10 efficient appliance.

11 The second methodology similarly used a water
12 budget analysis to look at how much water would be used
13 in a home with efficient water practices. And they
14 estimate -- in the report we estimate somewhere between
15 1.3 and 1.6 million acre-feet a year could be saved
16 overall in the state from indoor water use.

17 In terms of outdoor water use, the report
18 identifies -- uses the Model Landscape Ordinance to
19 evaluate potential water savings under both a moderate
20 improvement, which would be meeting the 0.7 ETL factor
21 for landscapes outdoors, or a more aggressive
22 efficiency standard, meeting a much lower 0.2 or
23 0.3 ETo standard, which is what we see with drought
24 tolerant and highly efficient outdoor landscaping.

25 And we see significant opportunities for water

1 savings. In total, urban water savings in the report
2 are identified to be between 2.9 and 5.2 million
3 acre-feet a year, and of that, approximately 1- to
4 2 million acre-feet would be in the South Coast
5 Regional Area of the Metropolitan Water District.
6 Other portions would come in other service areas,
7 urban service areas of both the state and federal water
8 projects south of the Delta.

9 On agricultural water use efficiency, the
10 report summarizes the results of three prior studies,
11 two by the Department of Water Resources et al., the
12 2000 and 2006 CALFED studies, and the 2009 report from
13 the Pacific Institute that looked at potential water
14 savings through things like regulated deficit
15 irrigation, improved irrigation scheduling, and
16 upgrading field level efficiencies -- so moving from to
17 flood irrigation to drip or sprinkler to drip.

18 Overall, the report estimates between 5.66 to
19 6.6 million acre-feet a year on a statewide level of
20 which 0.6- to 2 million acre-feet would be consumptive
21 savings. So the larger number is not -- would be
22 applied water savings; the lower number would be the
23 net or consumptive water savings.

24 For recycled water, the report looks at what
25 would happen if you implemented the highly efficient

1 reduction in urban water use and then subtracts out the
2 current level of water recycling and finds that between
3 1.2 and 1.8 million acre-feet of water per year could
4 be recycled above today's levels.

5 That report -- that estimate is highly
6 conservative because it assumes full update of
7 efficient water practices indoors and does not assume
8 any population growth.

9 Finally, for storm water capture, the report
10 uses a GIS analysis to look at the permeability of
11 existing surface-impermeable streets and the average
12 rainfall in areas to estimate the total maximum
13 potential for storm water capture in the nine-county
14 Bay Area and in portions of Southern California. And
15 it estimates that 400- to 600,000 acre-feet a year
16 could be captured through the maximum potential in
17 those urban areas. It does not evaluate the potential
18 capture on open spaces, for instance. And of that
19 amount, approximately 450,000 acre-feet would be
20 potentially capturable in counties that are served by
21 the CVP and State Water Project south of the Delta.

22 I also evaluated and included in the exhibits
23 to my testimony our 2013 Portfolio Alternative for the
24 Bay-Delta. We used -- the Portfolio Alternative was a
25 combination of a single-tunnel, single-intake

1 additional South of Delta storage, levee improvements,
2 and investments in local supplies. The theory was that
3 we would use the cost savings from a smaller project,
4 conveyance project, to invest in local and regional
5 water supplies and storage.

6 And we used the cost estimates from the
7 Department of Water Resources to find that a \$2 billion
8 investment in water recycling and \$3 billion investment
9 in water conservation in total could develop nearly a
10 million acre-feet, about more than 900,000 to almost
11 1.3 million acre-feet of water per year.

12 Conclusion No. 1 in my testimony is that,
13 based on those reports and other information, it is my
14 opinion that there are significant opportunities for
15 increased local water supply development in areas
16 served by the CVP and State Water Project south of the
17 Delta.

18 Point 2 in my testimony is that these
19 potential investments are feasible.

20 And, Mr. Hunt, if you would turn a couple of
21 pages to Page 15 of my testimony.

22 This table on my testimony is a collection of
23 cost and yield information from various government
24 sources, including the Metropolitan Water District of
25 Southern California, the Bureau of Reclamation and

1 local water suppliers. And it identifies that the
2 water supply from several water recycling and storm
3 water capture projects are less than \$2,000 per acre
4 foot. The Carson Project is estimated at \$1,600 per
5 acre foot. Some of these storm water projects have a
6 wide range in costs, up to \$1300 per acre foot.

7 But you see that these specific projects
8 identify significant increases in local supply at a
9 relatively feasible economic cost.

10 Similarly, the Santa Clara Valley Water
11 Districts in 2013 did an analysis of the cost of the
12 Bay-Delta Conservation Plan at the time compared to the
13 cost of 30,000 acre-feet of additional yield from water
14 recycling or from additional water conservation. And
15 the cost per acre foot, the net present value, is
16 within the range for those two local supply
17 developments as it is for BDCP.

18 I also had an intern at the time review the
19 water management plans, the urban water management
20 plans of the Santa Clara Valley Water District with its
21 member agencies similar to what we did for the
22 Mismatched Report. And as in the Mismatched Report, we
23 saw significant opportunities for reduced demand and
24 increased local supplies. And we saw a mismatch where
25 local agencies were often predicting lower demand for

1 imported water than the wholesaler was.

2 I also, in evaluating whether investments
3 would be cost effective, looked at the information
4 provided by the Department of Water Resources in the
5 Water Plan Update.

6 And if you would turn to Page 20 of my
7 testimony, I've excerpted a table from the Water Plan
8 Update which shows, in my view, significant feasible
9 investments in agricultural water use efficiency, urban
10 water use efficiency, and recycled municipal water.
11 Those costs estimates are within the range of other
12 estimates that I have seen.

13 Finally, I also evaluated the feasibility of
14 additional wastewater recycling based on the reports of
15 how much wastewater has been discharged to the ocean in
16 2014 and 2015 during the drought. And I was somewhat
17 surprised to see that, in 2014, 1.4 million acre-feet
18 of wastewater was discharged to the ocean. And even in
19 2015, 1.3 million acre-feet a year were discharged.

20 So even during height of the drought, there
21 were significant discharges of wastewater in coastal
22 areas that could be recycled. And the majority of that
23 water was from service areas of the state and federal
24 water projects. And I've identified a number of those
25 in my written testimony.

1 So Conclusion No. 2 is that it is my opinion
2 that additional investments in local and regional water
3 supply projects, like water conservation, water
4 recycling and storm water capture, are feasible for the
5 contractors of the state and federal water projects who
6 are proposing the WaterFix project.

7 In Point 3, Point 3 of my testimony, project
8 proponents have claimed that WaterFix is part of an
9 all-of-the-above strategy for water. However, it is
10 necessary to make investments in these local water
11 supply projects for them to come to fruition. Nothing
12 in life is free. And it is my opinion that the cost of
13 the WaterFix project threatens the viability of
14 investments in local and regional water supply projects
15 like wastewater recycling and storm water capture
16 projects because the money spent on the tunnels is
17 money that cannot be spent on these local supply
18 investments.

19 In addition, I have reviewed a number of
20 reports and criteria which indicate that voluntary
21 approaches to achieving improvements in water
22 conservation and water recycling have generally been
23 less effective than mandatory approaches. For
24 instance, during the drought, before the Board adopted
25 mandatory water conservation requirements, we achieved

1 approximately a 9 percent water conservation threshold,
2 much less than the 20 percent target. After the
3 regulations were adopted, we exceeded that 20 percent
4 water savings target.

5 Similarly, we have longstanding water
6 recycling targets and goals for the State, both set in
7 legislation as well as in the Board's recycled water
8 policy. And we have never achieved either of those
9 targets. We are significantly behind the targets set
10 forth in both the law and the policy.

11 And indeed, the amount of water recycling in
12 Southern California, as I note in my written testimony,
13 is much lower than what was predicted in Decision 1631,
14 this Board's decision regarding the Mono Lake. And
15 again, it shows that, in my view, without additional
16 requirements to achieve these targets, they will likely
17 be unmet.

18 Finally, in my testimony, I had summarized
19 potential terms and criter- -- terms and conditions
20 that the Board should impose on the state and federal
21 water projects to require the contractors to meet
22 minimum standards for improvements in water use
23 efficiency, water recycling, and storm water capture if
24 the Board were to grant the petition.

25 For urban water use efficiency, these targets

1 are based generally upon the framework used in the
2 "Making Conservation A Way Of Life," the report of the
3 Department of Water Resources. We identified that
4 these would be achieved by the year 2030, so it would
5 give the project and their contractors more than a
6 decade to achieve them. They are aggressive, but they
7 are achievable.

8 An indoor water target of 45 gallons per
9 capita, per day. An outdoor target equivalent to the
10 MWEL0 standard of 0.55 and for commercial, industrial,
11 and institutional -- excuse me, sectors, having
12 landscape meters for large landscapes over 500 square
13 feet and performance metrics that have to be achieved
14 for certain practices like cooling towers.

15 For agricultural water use efficiency, we
16 recommended using a consumptive crop fraction, which is
17 one of the measures of water use efficiency in DWR's
18 prior reports, and requiring a 15 percent improvement
19 in the consumptive crop fraction in all but the wet
20 years and that we set a storm water capture target as
21 well.

22 And that concludes my summary of testimony.

23 CO-HEARING OFFICER DODUC: Thank you.

24 At this time, may I ask those who are
25 interested in conducting cross to come up, identify

1 yourself, and give me a time estimate.

2 MS. ANSLEY: Department of Water Resources, 20
3 to 30 minutes.

4 MR. JACKSON: CSPA parties, 20 to 30 minutes.

5 MR. KEELING: San Joaquin County protestants,
6 no more than 20 minutes.

7 MR. HERRICK: South Delta parties, 10 minutes.

8 MS. MESERVE: For Friends of Stone Lakes, I
9 will have 20 minutes.

10 MS. DES JARDINS: Deirdre Des Jardins, 15
11 minutes.

12 CO-HEARING OFFICER DODUC: All right. So
13 that's about two, 2.5 hours.

14 So that means, Ms. Des Jardins, we will get to
15 your witness today. And could I get an estimate of
16 cross-examination for Ms. Des Jardins' witness,
17 Dr. Fries, was it? I'm trying to determine whether
18 Ms. Meserve needs to have her witness later on today.

19 MR. MIZELL: Tripp Mizell, DWR. Ten minutes.

20 CO-HEARING OFFICER DODUC: That's it?

21 Ms. Meserve, we will get to your witness
22 today.

23 Oh, Mr. Jackson. Yes, one of those reserved
24 time cases.

25 MR. JACKSON: Twenty minutes.

1 CO-HEARING OFFICER DODUC: All right.

2 Ms. Meserve?

3 MS. MESERVE: Sorry. Just if we could add up
4 around what would be it -- after your lunch?

5 CO-HEARING OFFICER DODUC: It would be after.

6 MS. MESERVE: So if I tell them to be here by
7 2:30 that should suffice?

8 CO-HEARING OFFICER DODUC: That will suffice.

9 All right. We will start with DWR.

10 Any time you're ready.

11 MS. ANSLEY: Thank you. Sorry. A lot of
12 screens.

13 Would you like to hear the topics of my cross?

14 CO-HEARING OFFICER DODUC: I think his
15 testimony was pretty contained, so as long as you stick
16 to that.

17 MS. ANSLEY: I typically do. I'm sticking
18 mainly to his questions regarding NRDC-3, which he
19 termed the Mismatched Report.

20 CO-HEARING OFFICER DODUC: Okay.

21 MS. ANSLEY: And maybe a couple related
22 questions to that.

23 CROSS-EXAMINATION BY MS. ANSLEY

24 MS. ANSLEY: Mr. Obegi, at the end, you talked
25 about permit terms and conditions of your direct

1 testimony. And just to make sure that I understand,
2 have you ever been -- do you have any experience as an
3 engineer?

4 WITNESS OBEGI: I do not.

5 MS. ANSLEY: Have you ever -- you have no
6 formal training or experience in engineering?

7 WITNESS OBEGI: I'm not an engineer.

8 MS. ANSLEY: But you have no additional
9 training or expertise? I understand that you are not
10 an engineer by profession.

11 WITNESS OBEGI: No. I have worked closely
12 with engineers the past and in my current position, but
13 I am not an engineer myself.

14 MS. ANSLEY: And have you ever worked for a
15 water agency?

16 WITNESS OBEGI: I have not.

17 MS. ANSLEY: Did you draft your testimony
18 entirely yourself?

19 WITNESS OBEGI: I did.

20 MS. ANSLEY: And did you confer with anyone?

21 WITNESS OBEGI: I did.

22 MS. ANSLEY: Who was that?

23 WITNESS OBEGI: I conferred with several of my
24 colleagues, particularly regarding the proposed terms
25 and conditions, including Tracy Quinn, Professional

1 Engineer, who works for the Natural Resources Defense
2 Council.

3 MS. ANSLEY: Anyone else besides Ms. Quinn?

4 WITNESS OBEGI: I also conferred with other
5 parties, with other folks at NRDC and Defenders of
6 Wildlife and the Bay Institute because I was testifying
7 on behalf of -- to make sure that my testimony was
8 consistent with their views as well.

9 MS. ANSLEY: Did you confer with any water
10 agencies?

11 WITNESS OBEGI: I did not.

12 MS. ANSLEY: This is, yet, the last of my sort
13 of background questions. Is Mr. Rosenfield going to be
14 available to testify consistent with the Water Board's
15 hearing schedule?

16 WITNESS OBEGI: He is.

17 MS. ANSLEY: Turning to your NRDC-3, which is
18 it okay if I refer to it as the Mismatched Report?

19 WITNESS OBEGI: Certainly.

20 MS. ANSELY: And I believe, just to change my
21 questions up, I believe I heard you testify earlier
22 that you did not prepare the report. The report was
23 prepared at your direction; is that correct?

24 WITNESS OBEGI: That is correct.

25 MS. ANSLEY: Who did prepare the report?

1 WITNESS OBEGI: It is a staff person who is no
2 longer with NRDC.

3 MS. ANSLEY: And what is their name?

4 WITNESS OBEGI: I am completely blanking on
5 his name right now. I can't recall.

6 MS. ANSLEY: Do you recall where they went on
7 to work?

8 WITNESS OBEGI: They left NRDC and didn't go
9 to another job that I'm aware of.

10 MS. ANSLEY: What background did that person
11 have in water supply agencies?

12 WITNESS OBEGI: He had been involved in -- he
13 never worked for a water agency to my knowledge. But
14 he had been involved in reviewing agricultural water
15 management plans, including for NRDC on some other
16 prior reports and working as our lead on agricultural
17 water use efficiency legislation that he negotiated
18 with water users to achieve a bill that everyone was
19 agreeing with in terms of improvements to the
20 agricultural water management planning process.

21 MS. ANSLEY: And this person, this staff
22 person who wrote the Mismatched Report, what was
23 their -- if they never worked for a water supply
24 agency, what was their training and experience?

25 WITNESS OBEGI: I don't know that it takes

1 significant training and experience to be able to add
2 together the numbers that are provided in urban water
3 management plans, which is what his analysis was.

4 MS. ANSLEY: Have you ever prepared an urban
5 water management plan?

6 WITNESS OBEGI: No, not to my knowledge.

7 MS. ANSLEY: I'm sorry, and I don't mean to
8 imply that it was a he. Did this staff person ever
9 prepare an urban water management plan?

10 WITNESS OBEGI: Not to my knowledge.

11 MS. ANSLEY: And to confirm, you had said that
12 they had not worked for a water supply agency?

13 WITNESS OBEGI: That is correct, to my
14 knowledge.

15 MS. ANSLEY: Did you confer with that person
16 who prepared the NRDC Mismatched Report in the
17 preparation of your testimony?

18 WITNESS OBEGI: I did not. He had already
19 left NRDC by the time I prepared my testimony.

20 MS. ANSLEY: So as stated in your testimony,
21 your direct testimony, which is NRDC-1, the Mismatched
22 Report compared the 2013 Urban Water Management Plan
23 for Metropolitan Water District with the 2015 urban
24 water management plans prepared by the MWD member
25 agencies; is that correct?

1 WITNESS OBEGI: That is correct.

2 MS. ANSLEY: Isn't it true, as acknowledged in
3 the Mismatched Report itself, that not all urban water
4 management plans use similar assumptions or analytical
5 assumptions to generate their data?

6 WITNESS OBEGI: That is true. And we caveated
7 appropriately, in my view, in our methodology and the
8 appendix where we had problems with different reports
9 being -- using somewhat different methodology.

10 MS. ANSLEY: But the report here, the NRDC
11 report, is making a direct comparison between the urban
12 water management plans; is that correct?

13 WITNESS OBEGI: That is correct.

14 MS. ANSLEY: Did NRDC or you discuss your
15 concerns about the MWD Urban Water Management Plan with
16 Met?

17 WITNESS OBEGI: I have presented this material
18 to Metropolitan. We also have an internal peer review
19 process. And as part of that peer review process, we
20 included Bob Wilkinson, who served on the blue ribbon
21 task force for Metropolitan several years ago, and he
22 reviewed the report, amongst other external reviewers.

23 MS. ANSLEY: Who are the other external
24 reviewers?

25 WITNESS OBEGI: I don't recall.

1 MS. ANSLEY: Is there anywhere that their
2 review is written up?

3 WITNESS OBEGI: Not to -- I do not have that
4 in my possession, no.

5 MS. ANSLEY: Did NRDC raise any concerns with
6 the urban water management plans of the member agencies
7 with the member agencies of Met?

8 WITNESS OBEGI: I have discussed this with
9 both the staff from the City of Los Angeles and the
10 L.A. Department of Water and Power as well as staff
11 from the San Diego County Water Authority. Both of
12 them are member agencies of Metropolitan.

13 MS. ANSLEY: Earlier today, you testified
14 about the use of local supplies prior to the imported
15 purchase of water. Do you recall that testimony?

16 WITNESS OBEGI: I do.

17 MS. ANSLEY: It's also in your direct
18 testimony on Page 5; is that correct?

19 WITNESS OBEGI: Give me a moment; I will turn
20 to make sure that it's actually on Page 5.

21 MS. ANSLEY: I think it's Lines 23 to 25,
22 although the line numbers don't line up exactly.

23 WITNESS OBEGI: That looks accurate.

24 MS. ANSLEY: Okay. So you recall that
25 testimony?

1 WITNESS OBEGI: I do.

2 MS. ANSLEY: To your knowledge, do local
3 agencies have a policy of exhausting local supplies
4 entirely before purchasing water from other sources?

5 WITNESS OBEGI: I'm not aware that they have
6 such a policy.

7 MS. ANSLEY: Are you aware that, by law,
8 Metropolitan is required to submit its urban water
9 management plans to the DWR for compliance approval?

10 WITNESS OBEGI: All member agencies -- all
11 agencies who prepare urban water management plans are
12 required to submit them to DWR for approval.

13 However, as we've noted in several reports,
14 DWR does not actually evaluate the conclusions in the
15 reports. It is mostly a check-the-box analysis to make
16 sure that there are numbers there. They do not check
17 the accuracy or veracity of any of the particular
18 numbers in their water management plans or the
19 agricultural water management plans.

20 MS. ANSLEY: And is it your understanding that
21 DWR indeed issued that approval to Metropolitan?

22 WITNESS OBEGI: As well as to all the member
23 agencies; I believe that is correct.

24 MS. ANSLEY: And I'm sure you're aware, but
25 are you aware the MWD's board, which is responsible for

1 approving and certifying Met's Urban Water Management
2 Plan, is made up of appointed and elected officials of
3 the member agencies?

4 WITNESS OBEGI: I'm aware of that.

5 MS. ANSLEY: Are you aware that, at MWD's
6 public hearing on the Urban Water Management Plan, no
7 member agency or local agency testified about concerns
8 about so-called mismatched numbers?

9 WITNESS OBEGI: I am not aware of that.

10 MS. ANSLEY: Did you attend the public
11 hearing?

12 WITNESS OBEGI: We submitted written comments,
13 but we did not attend the public hearing.

14 MS. ANSLEY: You did not watch any webcast of
15 the public hearing?

16 WITNESS OBEGI: I did not.

17 MS. ANSLEY: Are you aware that, in preparing
18 the Urban Water Management Plan, Metropolitan staff
19 conducted 21 technical work group meetings with member
20 agency staff covering methodologies and data?

21 WITNESS OBEGI: I am not aware of that.

22 MS. ANSLEY: Were you aware that, in
23 developing the regional numbers shown in Met's Urban
24 Water Management Plan, that Metropolitan staff meetings
25 included coordination with over 150 entities considered

1 to be local and regional stakeholders?

2 WITNESS OBEGI: I did not.

3 MS. ANSLEY: So turning back to the Mismatched
4 Report, which is NRDC-3, isn't it true that NRDC's
5 calculations of Met's retail consumer demand
6 protections included projections of nonconsumer use
7 such as agricultural use, seawater barrier, and
8 groundwater replenishment needs?

9 WITNESS OBEGI: In calculating the total use
10 by the member agencies, we included what was used by
11 the member agencies. We did not make discretionary
12 choices to exclude or include information that was not
13 provided by the member agencies.

14 MS. ANSLEY: I'm sorry. My question was to
15 Met, Met's retail consumer demand projections. Are you
16 aware that those projections that were included in the
17 Mismatched Report included nonconsumer needs?

18 WITNESS OBEGI: Yes, although I would dispute
19 that those are nonconsumer needs because the salinity
20 barrier, for instance, actually preserves consumptive
21 use. While it is not consumed itself, immediately it
22 does contribute to ensuring the consumptive use of
23 water within Metropolitan. And that is included in
24 Appendix Table A-10, I believe. Yes.

25 MS. ANSLEY: Isn't it true, in terms of

1 customer demand projections, that NRDC did not subtract
2 Met's forecasted outdoor conservation savings that were
3 being developed to meet the goals in the Integrated
4 Resources Plan?

5 WITNESS OBEGI: We -- in this report, we did
6 not modify the numbers used by either Metropolitan or
7 its member agencies. To the extent that Metropolitan
8 has changed the numbers since its 2015 Urban Water
9 Management Plan, that would not be reflected in this
10 report.

11 MS. ANSLEY: Are you aware whether the member
12 agencies' projected demands include assumptions for
13 future conservation?

14 WITNESS OBEGI: I don't believe that they do.
15 The 2015 Urban Water Management Plan was developed --
16 they were developed in 2015 and turned in in 2016. In
17 many cases, they largely show compliance with the
18 SB 7X7, 20x2020 conservation, but they generally do not
19 predict additional mandatory water conservation
20 requirements

21 MS. ANSLEY: So it's your testimony here today
22 that it is your understanding that the numbers provided
23 for the demand for member agencies did not include
24 local conservation assumptions into the future?

25 WITNESS OBEGI: I am not aware that they

1 included any additional mandatory conservation
2 requirements beyond SB 7X7.

3 MS. ANSLEY: Isn't it true that Met, in its
4 Urban Water Management Plan, does not calculate water
5 demand based on gallons per capita, per day, that that
6 was calculated by NRDC?

7 WITNESS OBEGI: That is correct. Actually, I
8 take it back. I believe they were required to report
9 that as part of SB 7X7.

10 MS. ANSLEY: Do you have an understanding
11 that, in calculating demand projections, a local agency
12 might consider things differently than a regional
13 agency?

14 WITNESS OBEGI: I think we see that in the
15 report.

16 MS. ANSLEY: And wouldn't it be reasonable to
17 assume that simply aggregating local agency projections
18 would not result in the same projection of a regional
19 agency that has to consider the demands of all of its
20 customers?

21 WITNESS OBEGI: I don't know that I would
22 agree with that. I was surprised by the amount of
23 difference between the reported -- the summary of the
24 urban water management plans of member agencies and
25 Metropolitan's Urban Water Management Plan. I expected

1 that they would be closer. I didn't expected that they
2 would be identical, but I was surprised by the
3 magnitude of the differences between the urban water
4 management plans that these agencies are required by
5 law to submit.

6 MS. ANSLEY: Were you aware that, in making
7 the two adjustments, which I know that you disagreed
8 with earlier, regarding how consumer demands were
9 projected by both Met and the network agencies, that
10 Metropolitan determined that it would make about a
11 550,000-acre-foot difference? That is backing out
12 nonconsumer needs and on both sides of the equation,
13 including conservation projections.

14 WITNESS OBEGI: I was not aware of that.

15 MS. ANSLEY: And that, indeed, that would put
16 the projections within about 5 percent of one another?

17 WITNESS OBEGI: For regional demands?

18 MS. ANSLEY: Yes, between the member agencies'
19 and regional demand and NRDC's projection.

20 WITNESS OBEGI: I have seen no evidence of
21 that at this time. We submitted this report to
22 Metropolitan in September when it was produced, and
23 we've never received any feedback from them regarding
24 the report.

25 MS. ANSLEY: In your testimony, you testified

1 about the Portfolio Alternative in 2013; is that
2 correct?

3 WITNESS OBEGI: That is correct.

4 MS. ANSLEY: And this was by a coalition of
5 conservation groups?

6 WITNESS OBEGI: It was submitted to DWR by a
7 coalition of conservation groups and local water
8 agencies, including the Contra Costa water districts
9 and the San Diego Water Authority and several local
10 elected officials.

11 MS. ANSLEY: And NRDC was one of the
12 conservation groups?

13 WITNESS OBEGI: That is correct.

14 MS. ANSLEY: And that Portfolio approach or
15 alternative included a 3,000-cfs north-south tunnel for
16 conveyance?

17 WITNESS OBEGI: Correct.

18 MS. ANSLEY: Also in your direct testimony,
19 you take issue with what you termed the
20 all-of-the-above strategy; is that correct?

21 WITNESS OBEGI: That is correct.

22 MS. ANSLEY: And argued that the strategies
23 all should be included within the WaterFix?

24 MS. ZWILLINGER: Objection, misstates
25 testimony.

1 MS. ANSLEY: Well, he's welcome to clarify.

2 That conservation strategies and projects
3 planning for local and regional water supply should be
4 included in the WaterFix itself; is that your
5 testimony?

6 WITNESS OBEGI: That is my --

7 CO-HEARING OFFICER DODUC: Would you clarify?

8 WITNESS OBEGI: Yeah. In my opinion, there's
9 a very significant threat that the cost of WaterFix
10 will preclude investments in local and regional water
11 supplies. We've seen that already since my testimony
12 was developed in discussions at Metropolitan where some
13 of the member agencies have talked about reducing local
14 supply project developments in their IRP as a result of
15 WaterFix.

16 And we've seen that through Decision 14- --
17 1631 where LADWP did not achieve the water recycling
18 targets that they set that they said were feasible in
19 testimony to the Board at the time.

20 MS. ANSLEY: Have you done -- has NRDC done an
21 economic impact analysis, cost benefit analysis for the
22 California WaterFix?

23 WITNESS OBEGI: I have not done an independent
24 cost effect -- cost effect -- sorry, cost benefit
25 analysis for the WaterFix. I have carefully critiqued

1 analyses by David Sunding, for instance, and seen
2 significant flaws in the analysis that he's provided.

3 MS. ANSLEY: But my question was you have not
4 provided one as an exhibit in this hearing performed by
5 NRDC?

6 WITNESS OBEGI: That is correct.

7 MS. ANSLEY: The WaterFix proceeding is in
8 order to obtain a permit for change in point of
9 diversion for the state and federal water projects,
10 correct?

11 WITNESS OBEGI: That is correct.

12 MS. ANSLEY: And are you aware that many of
13 the local conservation resiliency projects in Southern
14 California would not require a permit from the Water
15 Board?

16 WITNESS OBEGI: Some of them would not.

17 MS. ANSLEY: Are you aware that it is up to
18 local agencies to adopt urban water management plans
19 and integrated resources plans and not the Water Board?

20 WITNESS OBEGI: Under the Urban Water
21 Management Planning Act, that is correct.

22 MS. ANSLEY: And you are familiar with
23 integrated resources plans?

24 WITNESS OBEGI: I am generally familiar with
25 them.

1 MS. ANSLEY: Are you aware that Metropolitan
2 has had an integrated resources plan for over 20 years?

3 WITNESS OBEGI: I am. And as I note in my
4 testimony, the projections of water sales between the
5 IRP and the Urban Water Management Plan are
6 inconsistent.

7 MS. ANSLEY: And are you aware that the IRP
8 arose out of the 1987-1992 drought?

9 WITNESS OBEGI: That is my understanding.

10 MS. ANSLEY: Because Metropolitan had to
11 allocate water shortages among its members?

12 WITNESS OBEGI: Mm-hmm.

13 MS. ANSLEY: And are you aware that one of the
14 key lessons of the drought was the need to take a
15 regional approach to water planning?

16 WITNESS OBEGI: I'm not aware of that
17 conclusion specifically.

18 MS. ANSLEY: Is it your understanding, do you
19 have -- are you familiar with the initial integrated
20 resources plan of the Metropolitan Water District?

21 WITNESS OBEGI: Not the initial plan, no.

22 MS. ANSLEY: So you're not aware that it
23 placed an emphasis on developing regional storage for
24 droughts, enhancing local supplies, and conservation?

25 WITNESS OBEGI: I am not aware of what that

1 plan required. I am aware that Metropolitan has
2 significantly invested in water storage and has made
3 significant improvements in local and regional water
4 supply projects, although much slower than I think
5 those of us -- than I think what is feasible.

6 MS. ANSLEY: Do you have an understanding
7 that, pursuant to Water Code Section 10610.2, that
8 urban water suppliers are required to make every effort
9 to ensure that the appropriate level of reliability in
10 its water service is sufficient to meet the needs of
11 various categories of its customers?

12 WITNESS OBEGI: I know that, under California
13 law, water suppliers have multiple obligations to
14 manage water supplies to ensure reliability as well as
15 to show that they have water available for development.

16 MS. ANSLEY: And pursuant to that Water Code
17 provision, during normal, dry, and multiple dry water
18 years; is that correct?

19 WITNESS OBEGI: That is correct. The urban
20 water management plans are required to identify their
21 water supplies available under average, single dry
22 year, and multiple dry year sequences.

23 MS. ANSLEY: And for many agencies, including
24 member agencies, that includes considerations of a
25 drought of at least three years; is that correct?

1 WITNESS OBEGI: That is correct.

2 MS. ANSLEY: Are you aware that Met not only
3 considers droughts of three years in length but longer
4 droughts, including five years or more, in its regional
5 planning?

6 WITNESS OBEGI: Yes.

7 MS. ANSLEY: When agencies report -- do you
8 have sufficient experience to understand that, in
9 meeting this adequacy of supply requirement, that
10 agencies --

11 (Reporter interruption)

12 MS. ANSLEY: Yes.

13 -- typically report a full spectrum of supply
14 capabilities that may be exercised?

15 WITNESS OBEGI: My understanding is that it's
16 twofold: one, that agencies typically try to diversify
17 their portfolio of water supplies because that improves
18 the reliability of the water supplies. If one of their
19 sources is low because of drought, for instance,
20 another supply may be able to backstop it; and, two,
21 agencies have both a policy incentive and a legal
22 incentive to ensure that they have adequate supplies
23 and will report all of their available supplies in
24 their water management plan.

25 MS. ANSLEY: When they're reporting potential

1 future supplies, is it your understanding that some of
2 the projects reported may be already in implementation
3 and others may be only conceptual for the future?

4 WITNESS OBEGI: As I testified before,
5 Metropolitan uses a fairly conservative approach and
6 only counts local supply projects that are under
7 construction, actually producing water, or are included
8 in their IRP. The member agencies often do not use
9 quite as conservative of an approach.

10 MS. ANSLEY: And were you aware that Met did a
11 review of its local agencies implementing their
12 projects and found that, in the year 2000, the local
13 agencies were off by about 800,000 acre-feet?

14 WITNESS OBEGI: I am aware that, in response
15 to concerns about local supply development, that
16 Metropolitan has seen that the local agencies in the
17 past have overestimated what has actually been
18 constructed.

19 MS. ANSLEY: Or what would end up being
20 constructed; is that correct? That their projections
21 were off, inaccurate by 30 to 40 percent; is that your
22 understanding of Met's review?

23 WITNESS OBEGI: My understanding is that those
24 projects had not yet been built but that they remained
25 potential.

1 MS. ANSLEY: Are you familiar with Met's 2015
2 Urban Water Management Plan Appendix 5?

3 WITNESS OBEGI: Would you please remind me
4 what Appendix 5 was?

5 MS. ANSLEY: Appendix 5 is a comprehensive
6 list of local projects that have resulted from
7 discussions with its member agencies.

8 WITNESS OBEGI: I am aware of that, and I
9 referenced it in my testimony.

10 MS. ANSLEY: And are you aware that the Met
11 2015 Integrated Resources Plan Update set a target for
12 local supply production of just over 2.4 million
13 acre-feet in 2040?

14 WITNESS OBEGI: I'm not aware of the -- I'm
15 not -- I don't recall the specific number. But I do
16 recall that they set targets for local supply
17 development that are much less than the amount that is
18 feasible to be developed by 2040.

19 MS. ANSLEY: But you don't recall the
20 2.4 million acre-feet?

21 WITNESS OBEGI: Not specifically, nor how much
22 of an increase it is from existing levels. My
23 recollection is that it is not a particularly
24 substantial increase compared to existing local supply
25 development.

1 MS. ANSLEY: Are you aware of the local supply
2 that was produced in the Met region in 2016
3 approximately?

4 WITNESS OBEGI: My recollection is that it
5 would be -- I would be having to hazard a guess without
6 going back and looking at our Mismatched Report which
7 summarized that.

8 MS. ANSLEY: Does 1.8 million acre-feet sound
9 about right?

10 WITNESS OBEGI: That would sound about
11 correct.

12 MS. ANSLEY: I'm on my last two questions; I'm
13 considering whether to ask them. Thank you.

14 Are you aware that Met has spent nearly
15 \$1 billion on conservation, recycling, and groundwater
16 recovery?

17 WITNESS OBEGI: Over a very long time period,
18 yes. Since approximately 1992 is my recollection.

19 MS. ANSLEY: Are you familiar with the 2017
20 Public Policy Institute of California Report, "Building
21 Drought Resilience in California Cities and Suburbs"?

22 WITNESS OBEGI: I am vaguely familiar with it,
23 yes.

24 MS. ANSLEY: I believe that's all my
25 questions. Thank you.

1 CO-HEARING OFFICER DODUC: Thank you,
2 Ms. Ansley.

3 Mr. Herrick.

4 Mr. Herrick estimated ten minutes. After
5 Mr. Herrick will be Mr. Keeling for about 20 minutes,
6 and then we'll take our break then.

7 CROSS-EXAMINATION BY MR. HERRICK

8 MR. HERRICK: Good morning. John Herrick for
9 the South Delta parties.

10 Good morning.

11 WITNESS OBEGI: Good morning.

12 MR. HERRICK: I'd like to start with Page 3 of
13 your testimony, where you referenced the -- on Line 11
14 you referenced the plans to enable member agencies to
15 reduce demand of imported water. Do you see that on
16 Page 3? I'm sorry. I'm just trying to get a beginning
17 for you. Line 11 on Page 3.

18 WITNESS OBEGI: Yes, thank you.

19 MR. HERRICK: Are you aware that the Delta
20 Reform Act of 2009 prescribes reduction reliance in the
21 Delta for the use of water?

22 WITNESS OBEGI: I am very aware that the 2009
23 Delta Reform Act requires as State policy that agencies
24 reduce their reliance on water supply from the Delta
25 through investments and local and regional water supply

1 projects.

2 MR. HERRICK: Would you agree the petition
3 before us in this proceeding by DWR and the Bureau
4 seeks to change a point of diversion for their export
5 pumps, correct?

6 WITNESS OBEGI: That is correct.

7 MR. HERRICK: And it also seeks to have an
8 increase in net total exports over time; is that
9 correct?

10 WITNESS OBEGI: Compared to No Action, the
11 proposed WaterFix project would increase exports from
12 the Delta.

13 MR. HERRICK: And is a project for the change
14 in point of diversion that increases total exports from
15 the Delta in compliance with the Delta Reform Act's
16 direction to decrease reliance on the Delta?

17 WITNESS OBEGI: I have seen no evidence in
18 either the EIS/EIR or presented otherwise that the
19 WaterFix project would reduce reliance on the Delta
20 through investments in local and regional water supply
21 projects. In fact, it appears to increase reliance on
22 the Delta.

23 MR. HERRICK: And I believe your testimony
24 states that, in order to decrease reliance on the
25 Delta, one would look at the categories listed in your

1 Untapped Potential report, correct?

2 WITNESS OBEGI: Those and other potential
3 local and regional water supply projects, yes.

4 MR. HERRICK: And then once you examined those
5 potential savings from those four listed categories, it
6 would then be appropriate to do a cost benefit analysis
7 would it not?

8 WITNESS OBEGI: I believe that that would be
9 informative.

10 MR. HERRICK: And once you did a cost benefit
11 analysis of -- excuse me. Let me start over.

12 In order to protect and enhance the Delta
13 ecosystem, which is another directive in the Delta
14 Reform Act, would you -- do you believe you would first
15 need to determine how much water is necessary to
16 protect the estuary?

17 WITNESS OBEGI: I do. One of my criticisms of
18 some of the cost benefit analyses for WaterFix is that
19 they have used a -- what I call a fake baseline
20 comparing the amount of water diverted from the Delta
21 with WaterFix to the amount of water that would be
22 diverted under the operating rules for WaterFix but
23 absent new conveyance. And in my view, that
24 significantly biases those results.

25 And realistically, the cost of water from the

1 Delta depends both on the cost of the infrastructure
2 and how much water is diverted. And until the Board
3 issues a decision on terms and conditions, it is very
4 difficult, if not impossible, to accurately calculate
5 the cost of water that would be produced from the
6 WaterFix project.

7 MR. HERRICK: And along those same lines, if
8 one first determines what the ecosystem needs were in
9 terms of water supply and water flow, that would then
10 lead one to conclude how much water is available for
11 export, correct?

12 WITNESS OBEGI: That is correct.

13 MR. HERRICK: Assuming other things were
14 considered also.

15 Now, once you determined how much water was
16 available for export, then you could compare it to the
17 "Untapped Potential" categories that you had listed,
18 correct?

19 WITNESS OBEGI: That would be one methodology
20 of doing that, yes.

21 MR. HERRICK: And if you did that, would you
22 then say that DWR would be in compliance with the Delta
23 Reform Act if they were trying to find the most cost
24 benefit -- most benefit project to make up for any lost
25 exports or actually decrease exports from the Delta?

1 WITNESS OBEGI: I believe so. My
2 understanding is that the biological science indicates
3 a need to reduce diversions from the Delta. And we
4 have identified a number of local and regional water
5 supply projects and improved water use efficiency that
6 would enable reduced diversions of the Delta to sustain
7 the environment while sustaining the economy.

8 Obviously, it would be beneficial for agencies
9 to do an evaluation of the most cost effective way to
10 achieve these targets. But ultimately reduced reliance
11 on the Delta involves both reducing exports and
12 diversions from the Delta as well as increasing local
13 supply development.

14 MR. HERRICK: And the petition before us here
15 does not do that, correct?

16 WITNESS OBEGI: I'm aware of nothing
17 associated with the petition that would increase local
18 supply development or provide any funding for local
19 supply development or improve water use efficiency.
20 And as stated in my testimony, it is my opinion that
21 the cost of the WaterFix project threatens and
22 precludes necessary investments in local and regional
23 water supplies absent mandatory terms and conditions.

24 MR. HERRICK: So if the California WaterFix
25 doesn't decrease reliance on the Delta and doesn't seek

1 to maximize supplies instead of Delta supplies, is it
2 in the public interest?

3 WITNESS OBEGI: In my opinion, granting the
4 petition is not in the public interest.

5 MR. HERRICK: And again, to repeat, it's also
6 in your opinion contrary to the Delta Reform Act
7 directives?

8 WITNESS OBEGI: That is correct. It appears
9 contrary to the Delta Reform Act requirement to reduce
10 reliance on the Delta and to protect Delta the
11 ecosystem.

12 MR. HERRICK: Turn to Page 10 of your
13 testimony. You talk about the potential to increase
14 the supply of water due to decreasing storm water
15 releases, correct?

16 WITNESS OBEGI: Yes, the Untapped Potential
17 report evaluates the potential to increase the capture
18 of storm water in urban areas in the Bay Area and in
19 Southern California through both what's called green
20 infrastructure, allowing water to percolate into the
21 ground where it overlies a drinking water aquifer, as
22 well as through rain barrels and other on-site capture
23 projects where it would not overlay a drinking water
24 aquifer.

25 MR. HERRICK: And in places like the Bay Area

1 or the L.A. Basin, their storm water goes directly into
2 the ocean, does it not?

3 WITNESS OBEGI: Yeah. There is actually a
4 surprising amount of storm water that is already
5 captured in Southern California, but there is a huge
6 potential to increase the capture of storm water in
7 Southern California and in urban areas in the
8 nine-county Bay Area.

9 MR. HERRICK: And storm water recapture
10 upstream of the Bay or the ocean, that could or could
11 not decrease other beneficial uses of the water,
12 depending on how it's controlled or not controlled?

13 WITNESS OBEGI: That is correct. In general,
14 it's my opinion that storm water capture in the Central
15 Valley would -- is likely to reduce the runoff into the
16 rivers and could adversely affect, injure senior water
17 rights, which is why the State of Colorado, for
18 instance, has long prohibited rainwater capture as
19 interfering with downstream water rights.

20 MR. HERRICK: But your analysis of the
21 potential for storm water recapture in the
22 San Francisco Bay Area and the L.A. Basin, that would
23 result in a direct net increase in the available
24 supply, would it not?

25 WITNESS OBEGI: I believe so.

1 MR. HERRICK: That's all I have. Thank you
2 very much.

3 CO-HEARING OFFICER DODUC: Thank you,
4 Mr. Herrick.

5 Mr. Keeling.

6 Mr. Keeling estimated 20 minutes.

7 MR. KEELING: Thanks to the erudite and
8 efficient Mr. Herrick, it will be considerably less
9 than 20 minutes.

10 CROSS-EXAMINATION BY MR. KEELING

11 MR. KEELING: Tom Keeling for the San Joaquin
12 County protestants.

13 Good morning, Mr. Obegi.

14 WITNESS OBEGI: Good morning.

15 MR. KEELING: Mr. Obegi, you're familiar, I
16 believe, with the No Action Alternative?

17 WITNESS OBEGI: I am.

18 MR. KEELING: Does the No Action Alternative
19 include an assumption that, going forward, the local
20 water supplies will be developed as you have testified,
21 would be feasible?

22 WITNESS OBEGI: I don't believe there is any
23 requirement in the No Action Alternative that these
24 kinds of investments would be made. It's possible, but
25 it's not required.

1 MR. KEELING: Well, if it's not required and
2 if it's not an assumption you've added in that
3 alternative, does that change the public interest
4 analysis from your point of view?

5 WITNESS OBEGI: I believe so.

6 MR. KEELING: How so?

7 WITNESS OBEGI: In my view, the public
8 interest requires mandatory terms and conditions to
9 incentivize and require these necessary improvements in
10 water use efficiency, wastewater recycling, storm water
11 capture for two reasons: One, it is my view that,
12 based on the biological testimony that I have heard and
13 that our witnesses plan to present, there is a need to
14 reduce diversions from the Delta to protect the public
15 interest; sustaining the economy is also in the public
16 interest, and these kinds of investments are necessary
17 to sustain local and regional economies in a future
18 with less water from the Delta.

19 And it is thus -- this testimony is therefore
20 relevant to show that it is feasible to make those
21 kinds of investments, that it's in the public interest
22 to do so, and that the public trust is best served by
23 reducing diversions from the Delta and requiring these
24 kinds of investments, particularly in light of the
25 failure of voluntary approaches to water -- local water

1 supply development achieving their maximum potential.

2 MR. KEELING: Buried in that response was
3 reference to public trust. So am I correct in
4 inferring that your response with respect to the public
5 interest would be the same if I asked you the same
6 question about whether it would advance public policy
7 with respect to protection and enhancement of public
8 trust resources; your answer would be the same?

9 WITNESS OBEGI: Be the same for the public
10 interest.

11 MR. KEELING: And you are familiar with the
12 concept of public trust and public trust resources?

13 WITNESS OBEGI: I am very familiar with it.

14 MR. KEELING: If the California WaterFix does
15 result in choking off funding for projects to develop
16 local water supplies, which I believe was the gist of
17 much of your testimony, wouldn't that be detrimental to
18 the long-term reliability of water supplies in areas
19 serviced by the state and federal contractors?

20 WITNESS OBEGI: I think it would. I think it
21 would also, however, increase the pressure to waive or
22 relax water quality protections for the Bay-Delta to
23 increase the exports to the detriment of fish and
24 wildlife.

25 MR. KEELING: You've anticipated my next

1 question. First question was reliability of water
2 supplies. And you have now folded into the same
3 response this other question about relaxation of
4 standards and regulations.

5 So I -- do I correctly infer that it would be
6 a two-fer against the public interest and public trust?

7 WITNESS OBEGI: Yes, I believe it would both
8 reduce the reliability of water supplies and increase
9 political pressure to weaken environmental protections
10 in the Delta.

11 MR. KEELING: You're familiar with the phrase
12 "balancing the public trust"?

13 WITNESS OBEGI: I am.

14 MR. KEELING: Are you aware of any analysis by
15 the petitioners this case that, in your opinion,
16 balance the public trust?

17 WITNESS OBEGI: I am generally not. However,
18 Dr. Sunding, early in the Bay-Delta Conservation
19 process -- Bay-Delta Conservation Plan process, did
20 present initial results of a contingent valuation
21 methodology for the economic benefits of a restored
22 Bay-Delta Estuary.

23 This was around 2012, I believe. And he found
24 that the economic benefits of a restored estuary, based
25 on a contingent valuation methodology, would be in the

1 neighborhood of 30- to \$70 billion per year, net
2 present value, and thus that the benefits of a restored
3 estuary were far greater than the costs of WaterFix and
4 potentially, although he never did the analysis, the
5 cost of a reduced reliance on the Delta alternative.

6 MR. KEELING: Was that the time when there was
7 still a habitat conservation plan envisioned?

8 WITNESS OBEGI: That is correct.

9 MR. KEELING: That no longer is part of
10 WaterFix?

11 WITNESS OBEGI: That is correct.

12 MR. KEELING: Mr. Obegi, in your experience as
13 an attorney working on environmental matters, have you
14 become familiar with California water law?

15 WITNESS OBEGI: I consider myself to be a
16 practitioner of California water law.

17 MR. KEELING: Have you ever been involved in a
18 matter involving a petition for change in point of
19 diversion other than this?

20 WITNESS OBEGI: I have. Not so much a point
21 of diversion as a point of use.

22 MR. KEELING: Have you read the petition in
23 this case?

24 WITNESS OBEGI: I have.

25 MR. KEELING: Do you have an opinion as to

1 whether this is a petition for a change in the point of
2 diversion?

3 WITNESS OBEGI: I believe it is a petition to
4 add and change point of diversions.

5 MR. KEELING: To add and change points of
6 diversions?

7 WITNESS OBEGI: Add -- add -- the petition
8 states that it would add three points of diversion and
9 rediversion in the North Delta.

10 MR. KEELING. I have no further questions.

11 CO-HEARING OFFICER DODUC: Thank you,
12 Mr. Keeling.

13 We will take a slightly longer break, thanks
14 to Mr. Herrick and Mr. Keeling, and we'll return at
15 11:00 o'clock.

16 (Recess taken)

17 CO-HEARING OFFICER DODUC: And we're back with
18 Mr. Jackson's cross-examination.

19 MR. JACKSON: Yes, and the subject matter
20 which I intend to ask questions on is the demand
21 figures and essentially the NAA storm water capture,
22 recycling, the change in point of diversion, the lack
23 of permit conditions, and public trust balancing.

24 CROSS-EXAMINATION BY MR. JACKSON

25 MR. JACKSON: Mr. Obegi, you indicated in

1 response to other questioners that you were familiar
2 with the NAA alternative?

3 WITNESS OBEGI: I am.

4 MR. JACKSON: Does the NAA alternative reflect
5 existing conditions, in your opinion?

6 WITNESS OBEGI: I believe it does reflect the
7 status quo.

8 MR. JACKSON: And does that status quo include
9 a growing demand from Southern California?

10 WITNESS OBEGI: Potentially. I think one of
11 the things that is underrated is that we have seen,
12 while the population grows, a reduced per capita demand
13 offsetting that population growth.

14 So Los Angeles, for instance, has added more
15 than a million people while still using the same or
16 less amount of water than they did four decades ago.
17 So with the implementation of local water efficiency
18 projects, local water supply projects, I believe that
19 increased demand from Southern California through
20 population growth can be met while reducing diversions
21 from the Delta.

22 MR. JACKSON: And if in fact that is the case,
23 is that reflected in the NAA?

24 WITNESS OBEGI: It is not. For instance, the
25 City of Los Angeles has a sustainability plan that

1 calls for reducing the purchases of imported water
2 50 percent in the next two decades, and that is not
3 reflected in the urban water management plan or in the
4 No Action Alternative.

5 MR. JACKSON: Does that then tend to change
6 the impact analysis of what happens in the Delta if we
7 go forward with the WaterFix?

8 WITNESS OBEGI: I believe it could.

9 MR. JACKSON: And in what ways will you
10 suppose it might affect that analysis?

11 WITNESS OBEGI: It is my opinion that, with
12 increased investments in local and regional water
13 supplies and improved water use efficiency in areas
14 served by the state and federal water projects south of
15 the Delta, the economy could be sustained while
16 reducing water supplies from the Delta.

17 However, if those local and regional water
18 supply projects were not achieved and if per capita
19 demand increased in areas serviced by the water
20 projects, that would increase the demand for water from
21 the Delta and increase political pressure to waive or
22 weaken environmental protections in the Bay-Delta
23 Estuary.

24 MR. JACKSON: You've specifically indicated in
25 your answers to a number of questions that you're

1 talking about areas south of the Delta. And I'd like
2 to ask a couple of questions about that.

3 In regard the storm water capture, where I
4 believe your numbers were between 600- and 800,000
5 acre-feet, potentially, are you limiting those numbers
6 to the urban areas south of the Delta?

7 WITNESS OBEGI: Generally, yes. The Untapped
8 Potential Report evaluated the potential for storm
9 water capture in the nine-county Bay Area and in
10 Southern California and estimated that 420,000 to
11 630,000 acre-feet of additional storm water capture was
12 possible under average rainfall conditions.

13 We then, in my testimony, looked at the
14 potential in the counties that are served, either in
15 part or in whole, by the State Water Project and
16 Central Valley Project and estimated that that was
17 closer to 450,000 acre-feet a year as a maximum
18 potential. However, as noted in our testimony and in
19 the report, this only looks at the storm water capture
20 potential in impervious surfaces and does not look at
21 the additional potential for capture through open space
22 areas.

23 MR. JACKSON: In that regard, is storm water
24 capture outside the Central Valley watershed different
25 than trying to capture storm water inside the Central

1 Valley watershed?

2 WITNESS OBEGI: I believe it is, both for
3 recycled water and for storm water capture. Water that
4 would flow out to the ocean in -- along the coast is
5 generally lost, particularly wastewater discharges
6 directly to the ocean or storm water capture -- storm
7 water that rushes to the ocean without infiltrating
8 into groundwater.

9 There can be beneficial uses that are affected
10 in local coastal streams; however, in the Central
11 Valley, because water -- the storm water becomes the
12 primary flow in our rivers, capture of storm water or
13 recycling water can impact downstream water rights
14 holders and the environment in a way that is greater in
15 magnitude than in areas that discharge directly to the
16 ocean along the coast.

17 MR. JACKSON: So within the Central Valley,
18 storm water capture projects might end up depleting
19 groundwater recharge?

20 WITNESS OBEGI: I don't know that they would
21 deplete groundwater recharge. I think there is
22 increased opportunities that we're seeing for on-farm
23 recharge of groundwater using those storm pulses. The
24 work that's being done at the Terra Nova Ranch, for
25 instance, has shown that you can have, at least for

1 some crops, drip irrigation during the drier years and
2 flood the field during wet years and actually get both
3 groundwater recharge and meeting the crop
4 evapotranspiration needs through that storm water.
5 That was not considered in our report or in my
6 testimony. That is an additional source of potential
7 water supply in the future.

8 But we have to be careful that, when we
9 capture additional storm water in the Central Valley,
10 that we're not impacting either downstream water rights
11 holders or the environment by reducing flows in the
12 rivers downstream of that point of diversion.

13 MR. JACKSON: So storm water capture -- is it
14 fair to say that storm water capture is something that
15 is promising for areas in which you are out of the
16 basin in which the precipitation falls?

17 WITNESS OBEGI: I think they are less
18 complicated in areas outside of the Central Valley
19 basin, particularly seeing huge opportunities for
20 increased storm water capture in Southern California,
21 where they also have requirements to clean up storm
22 water because it is the -- still the largest source of
23 coastal pollution and impacts the quality of life and
24 water quality at the beach. So storm water capture in
25 those areas can achieve both water quality and water

1 supply benefits.

2 MR. JACKSON: Have you seen any cost benefit
3 analysis that reflects the distinction between in-basin
4 and out-of-basin in regard to a cost benefit analysis?

5 WITNESS OBEGI: I'm not familiar with anything
6 in particular that evaluated -- that evaluated it that
7 way.

8 MR. JACKSON: Does that seem to be something
9 that would be useful in determining how much investment
10 to spend, the difference between precipitation, for
11 instance, in the San Gabriels and the cost of rushing
12 it to the sea in terms of pollution versus the ability
13 to have that same function happen within the Central
14 Valley watershed as return flow or groundwater
15 recharge?

16 WITNESS OBEGI: I generally think that more of
17 that type of information would be helpful for decision
18 makers and the public and gives us all a better basis
19 of information on which to make investments of limited
20 taxpayer and ratepayer dollars.

21 MR. JACKSON: Thank you, sir. In regard to
22 permit conditions in general, the Bureau of Reclamation
23 and DWR have not suggested permit conditions for the
24 WaterFix project; is that your understanding?

25 WITNESS OBEGI: That is generally my

1 understanding, yes.

2 MR. JACKSON: And they have advanced a --
3 actually one permit condition idea, that it would be --
4 that the Board would govern the WaterFix project by
5 adaptive management in the permit conditions.

6 How could you determine the cost and benefit
7 if you -- today, if you were doing adaptive management
8 into the future?

9 WITNESS OBEGI: I think it would be difficult
10 to assess the -- the -- with the absence of cost and
11 water supply information for alternatives outside of
12 the Bay-Delta imports, it can be more challenging to
13 evaluate the cost benefit of the WaterFix or decisions
14 in adaptive management regarding the operations of the
15 projects.

16 Obviously, the capital costs for the project
17 will not change through adaptive management. But the
18 water supply yield has the potential to change very
19 substantially, which would dramatically affect the
20 economics of the project.

21 MR. JACKSON: Is the cost benefit evaluation
22 by Dr. Sunding that was directed, I guess, toward
23 public trust balancing, the costs and benefits of that,
24 still in the project?

25 WITNESS OBEGI: I'm not aware that it is.

1 MS. ANSLEY: Excuse me.

2 CO-HEARING OFFICER DODUC: Ms. Ansley.

3 MS. ANSLEY: Yes. Can I lodge an objection?
4 Vague and ambiguous as to which Sunding report, vague
5 and ambiguous as to "it still in the project." I think
6 that it would be nice to clarify the question.

7 MR. JACKSON: Sure, I can make it cleaner.

8 You referred to an early cost benefit analysis
9 that included the value of restoring the ecosystem as
10 one of the goals. To your knowledge, is that work by
11 Dr. Sunding still a part of the WaterFix?

12 WITNESS OBEGI: I have not seen that analysis
13 included in any subsequent documents by DWR as part of
14 the WaterFix EIS/EIR or in the petition, no.

15 MR. JACKSON: To the best of your
16 recollection, what was the finding in that regard in
17 the early document by Dr. Sunding?

18 WITNESS OBEGI: My recollection was that
19 Dr. Sunding, using contingent valuation methods,
20 concluded that the economic benefit -- the net present
21 value of restoring the Delta was on the order of
22 magnitude of the 30- to \$70 billion range. So
23 significant economic benefits from a contingent
24 valuation methodology for a restored ecosystem.

25 MR. JACKSON: And do you know where he got his

1 contingent methodology?

2 WITNESS OBEGI: I do not. It was presented in
3 a PowerPoint presentation to the Bay-Delta Conservation
4 Plan steering committee. And to my knowledge, that
5 information has never been released in more detail.

6 MR. JACKSON: Do you -- I think you're younger
7 than I am, so you might not have been around for 1631.
8 You referred to it earlier.

9 Was a contingent valuation of Mono Lake,
10 restoring the ecosystem, a large portion of the State
11 Board's decision in that regard?

12 WITNESS OBEGI: I am aware that the Board
13 commissioned an economic analysis of the benefits of
14 higher lake levels through a contingent valuation
15 methodology in what led to Decision 1631 as well as
16 considering the economic -- other economic benefits,
17 such as recreation or tourism.

18 MR. JACKSON: Are you aware of any guidelines
19 of DWR's that talk about contingent economic
20 evaluation?

21 WITNESS OBEGI: I am not specifically aware.

22 MR. JACKSON: In your opinion, is a public
23 trust balancing different than just a general public
24 interest balancing?

25 WITNESS OBEGI: Potentially, yes. I think the

1 Board has significant discretion under the public
2 interest balancing.

3 The case law under public trust balancing is
4 more nuanced, and the Board is required to protect the
5 public interest to the extent feasible. And in
6 determining what protections for the public trust are
7 feasible, they are generally required to consider
8 alternative water supply sources and both the economic
9 benefits and the economic costs of different
10 alternatives in order to reach that balancing and to
11 ensure that there is not either a physical solution or
12 that protecting the public trust is infeasible.

13 MR. JACKSON: And if there is, is it your
14 understanding that, if there is a physical solution
15 that is feasible, the trust assets are to be preserved?

16 WITNESS OBEGI: That is generally my
17 understanding, yes.

18 MR. JACKSON: I think that's all I have.

19 CO-HEARING OFFICER DODUC: Thank you,
20 Mr. Jackson.

21 Ms. Des Jardins, who estimated 15 minutes for
22 her cross.

23 CROSS-EXAMINATION BY MS. DES JARDINS

24 MS. DES JARDINS: I had an exhibit which I
25 wanted to introduce, Exhibit DDJ-285, which is a copy

1 of MWD's 2016 Water Supply Conditions report.

2 Mr. Obegi, DWR first -- in the recent drought,
3 DWR first issued a temporary urgency change petition in
4 2014, correct?

5 WITNESS OBEGI: It is my understanding that
6 DWR and the Bureau of Reclamation submitted numerous
7 temporary change petitions during the recent drought.

8 MS. DES JARDINS: Wasn't the -- one of the
9 main justifications for these temporary change
10 petitions that there was a need to provide adequate
11 urban water supplies during that drought?

12 CO-HEARING OFFICER DODUC: Hold on, please.

13 Mr. Mizell.

14 MR. MIZELL: Yeah, I'd like to lodge an
15 objection. We've gone over the permissibility of
16 discussing the drought at length in Part 1 and again in
17 Part 2.

18 This objection is not to the questions as to
19 whether the TUCPs exist or were filed. But questions
20 that go into the justification given for any TUCP seem
21 to miss the mark in terms of what we're here to
22 discuss.

23 The California WaterFix does not propose TUCPs
24 as part of the project, and therefore any justification
25 used in the recent historic drought wouldn't be

1 applicable here in the California WaterFix.

2 If we were to file TUCPs in the future, it
3 would be under the circumstances of a speculative
4 future condition. And those would still need to be
5 experienced and a TUCP filed at that time.

6 CO-HEARING OFFICER DODUC: Ms. Des Jardins.

7 MS. DES JARDINS: May I respond?

8 CO-HEARING OFFICER DODUC: Please.

9 MS. DES JARDINS: Thank you. This is directly
10 relevant to Mr. Obegi's testimony about developing
11 local supplies as an alternative to this project. To
12 the extent that the local supplies might have more
13 availability during the drought, there may be a
14 significant benefit.

15 CO-HEARING OFFICER DODUC: Recognizing the
16 speculative nature of Mr. Mizell's objection, I will
17 still go ahead and overrule it and allow you to ask
18 these questions because as you said, it is relevant.

19 MS. DES JARDINS: How did -- Mr. Obegi, how
20 did the relaxation -- the 2006 Bay-Delta Water Quality
21 Control Plan standards were relaxed under the TUCP,
22 correct?

23 WITNESS OBEGI: They were significantly
24 weakened and, in some cases, eliminated entirely.

25 MS. DES JARDINS: How did those relaxations

1 affect Delta smelt?

2 WITNESS OBEGI: I am not a biological expert,
3 and so I'm not sure that I am competent to testify as
4 to those biological impacts.

5 MS. DES JARDINS: Okay. Do we have Exhibit
6 DDJ-285 up? Can we bring it up?

7 CO-HEARING OFFICER DODUC: Let's lay some
8 foundation establishing the witness's familiarity with
9 this document.

10 MS. DES JARDINS: I'd like to show him it.

11 So, Mr. Obegi, this is a copy of MWD's 2016
12 Water Supply Conditions report. Are you familiar with
13 this report?

14 WITNESS OBEGI: I'm not sure that I'm familiar
15 with this exact one, but I am familiar with these
16 reports that Metropolitan prepares fairly frequently,
17 yes.

18 MS. DES JARDINS: Are MWD's storage levels
19 shown on this report?

20 WITNESS OBEGI: Some of them are, yes.

21 MS. DES JARDINS: I wanted to ask you about
22 the storage levels in both the 2008-to-2009 drought and
23 the 2013-to-2016 drought as shown in the graph, the
24 lower left corner.

25 Does this report show MWD's storage being

1 drawn down to 1 million acre-feet in the 2008-to-2009
2 drought?

3 CO-HEARING OFFICER DODUC: Hold on.

4 Ms. Ansley.

5 CO-HEARING OFFICER DODUC: Hold on. I can't
6 hear.

7 MS. ANSLEY: Oh, I apologize.

8 CO-HEARING OFFICER DODUC: Okay. Now go.

9 MS. ANSLEY: Mr. Obegi just testified that,
10 while he is familiar with these types of reports issued
11 by MWD, he's not familiar with this particular
12 issuance. And I do object if all she's asking him to
13 confirm is what that graph says.

14 CO-HEARING OFFICER DODUC: That's a good
15 point.

16 MS. DES JARDINS: This is a business record,
17 and it's subject to a hearsay exemption. It is an
18 official record of MWD, and I just wanted to ask him
19 about what it shows about storage during droughts. And
20 there are further questions.

21 CO-HEARING OFFICER DODUC: All right. Let's
22 move on to the crux of your line of questioning if you
23 can.

24 MS. DES JARDINS: So does this show MWD's
25 storage being drawn down below 1 million acre-feet

1 during the recent drought?

2 WITNESS OBEGI: So I am familiar with MWD's
3 storage levels over time from review of different
4 documents produced by MWD and others. What it shows is
5 that, during the earlier drought, Metropolitan withdrew
6 storage down to about 1 million acre-feet of their
7 on-demand storage while retaining their emergency
8 drought storage, which is a six-month emergency supply,
9 and then subsequently was able to rebuild that storage
10 through a combination of Table A and Article 21
11 deliveries during 2011 in particular, as well as
12 reduced demand through conservation and local supplies
13 enabling greater storage of that water in the
14 2010-to-2013 period, -2012 period.

15 MS. DES JARDINS: But were there concerns
16 about MWD's storage levels during the
17 2013-to-2015 -- -'16 drought?

18 CO-HEARING OFFICER DODUC: Concerns from, by
19 whom?

20 MS. DES JARDINS: Environmental groups.

21 CO-HEARING OFFICER DODUC: Can we clarify it
22 to just NRDC's concerns?

23 MS. DES JARDINS: Yeah, yeah.

24 WITNESS OBEGI: During the recent drought,
25 Metropolitan did impose a water supply allocation in

1 order to reduce the water sales in order to conserve
2 storage. And that led to a reduction in the rate of
3 withdrawal from storage in order to preserve
4 Metropolitan's local storage, not knowing how long the
5 drought would last.

6 MS. DES JARDINS: Were there concerns that
7 supplies would run out if the drought continued?

8 WITNESS OBEGI: There were concerns both for
9 Metropolitan and for -- in particular, for smaller
10 water districts that do not have multiple sources of
11 supply and do not have the types of water storage that
12 Metropolitan does.

13 MS. DES JARDINS: Are some of the local
14 supplies that you're suggesting more available during
15 droughts?

16 MS. ANSLEY: Objection, vague and ambiguous.

17 CO-HEARING OFFICER DODUC: Yes, thank you. I
18 didn't follow that question.

19 MS. DES JARDINS: Is recycled water, to the
20 extent that water is available, more available during
21 droughts?

22 WITNESS OBEGI: Yes, it is my professional
23 opinion that wastewater recycling is a relatively
24 drought-resistant supply. It is not drought proof, as
25 we saw during the recent drought, because of urban

1 water conservation, indoor, that reduces the amount of
2 wastewater that is produced.

3 However, my testimony shows that, in 2014 and
4 2015, during the peak of the drought, there was still
5 on the order of 1.24- and 1.3 million acre-feet a year,
6 respectively, of wastewater that was discharged
7 directly the ocean with much of that coming either in
8 the south coast region served by Metropolitan or in the
9 Bay Area. And that does not account for wastewater
10 discharges that are upstream of the ocean, i.e., in a
11 coastal stream.

12 MS. DES JARDINS: Are you aware that
13 Decision 1641 updated the Board's continuing authority
14 in the SWP and CVP permits to implement a water
15 conservation plan?

16 WITNESS OBEGI: Yes, I'm aware that the
17 Central Valley Project and the State Water Project have
18 standard permit terms and conditions which reserves
19 State Water Board's authority to mandate improvements
20 in water recycling, water conservation, and other
21 supplies.

22 MS. DES JARDINS: And it states that that
23 won't be done without hearing?

24 WITNESS OBEGI: I believe that is correct.

25 MS. DES JARDINS: Thank you.

1 I also wanted to ask what were the flaws that
2 you saw in David Sunding's February 2018 cost benefit
3 analysis for the WaterFix?

4 MS. ANSLEY: Objection, lacks foundation that
5 he is aware and has reviewed and is able to answer
6 questions on Dr. Sunding's 2018 report.

7 CO-HEARING OFFICER DODUC: Mr. Obegi.

8 WITNESS OBEGI: I am aware of it. I have
9 reviewed it, and I do have a critique of it.

10 CO-HEARING OFFICER DODUC: All right.

11 Ms. Des Jardins -- do you need Ms. Des Jardins
12 to repeat her question?

13 WITNESS OBEGI: No, I'm able to answer it.

14 Dr. Sunding's 2018 report made several
15 assumptions that are, in my view, not justified.

16 First, he extended the time period of benefits
17 to 100 years, whereas his prior reports looked at a
18 time period of benefits for 50 years, which is more
19 consistent with accepted practice.

20 Secondly, he used a very low interest rate,
21 below the interest rate that has been used by the
22 report to the State Treasurer's office as well as
23 reports by Goldman Sachs and Metropolitan itself. And
24 that, by using a lower interest rate, he is reducing
25 the total overall debt service payment over the period

1 of financing the project.

2 Third, emails from Metropolitan staff indicate
3 that Dr. Sunding's analysis was based on Metropolitan's
4 Integrated Regional Plan do-nothing approach, so
5 assuming no investments in local and regional water
6 supplies or improved conservation, which to my mind,
7 all three of those factors significantly biased the
8 results.

9 And finally, Dr. Sunding's analysis, like his
10 prior analyses, are based on the water supply produced
11 from WaterFix compared to the water supply from the
12 regulations implementing WaterFix without new
13 conveyance. And to my mind, that is not an
14 economically rational alternative to consider because
15 it is significantly different from comparing to the No
16 Action Alternative. And the -- both the water supply
17 and, importantly, the environmental outcomes of those
18 alternatives, No Action versus this fake baseline, are
19 very different.

20 So his analysis assumes an incremental water
21 supply that would be lost in the absence of WaterFix,
22 which assumes that the Board would impose the same
23 operating rules for WaterFix in the absence of new
24 conveyance. And I don't believe that those are a
25 justified assumption.

1 MS. DES JARDINS: Why do you believe it's not
2 a justified assumption that the Board would impose a
3 different conditions?

4 WITNESS OBEGI: Since the 2010 Public Trust
5 Flows report by this board, there has been substantial
6 evidence, based on my discussions with biologists and
7 scientists, that additional Delta outflow is necessary
8 to protect and restore the health of the estuary.

9 The baseline -- the fake baseline without
10 WaterFix would result in significantly higher Delta
11 outflow at times of the year than the No Action
12 Alternative, nearly a mere million acre-feet a year
13 more -- or more, depending upon which of the high
14 outflows or low outflow scenarios Dr. Sunding used.

15 So to my mind, there is a very different
16 ecological effect in terms of one of the alternatives
17 providing additional outflow consistent with what the
18 Board has looked at and the other providing no
19 additional outflow.

20 Similarly, Dr. Sunding's fake baseline assumes
21 significantly more stringent Old and Middle River flow
22 requirements that have been proposed as part of
23 WaterFix to help mitigate the adverse effects of the
24 new conveyance. In the absence of new conveyance, it
25 is not clear that the Board would require those changes

1 in Old and Middle River flows.

2 MS. DES JARDINS: Do you think that
3 Dr. Sunding's analysis should have also analyzed a
4 WaterFix project with these more protective flows?

5 WITNESS OBEGI: I do. I believe that for
6 water districts and decision makers to make informed
7 decisions about the costs and benefits, analyzing the
8 potential water supply outcomes with and without the
9 WaterFix under a range of different flow scenarios
10 would be both economically rational and good public
11 policy.

12 MS. DES JARDINS: Are you concerned about
13 investment decisions being made in the WaterFix with
14 the assumption of a large additional supply without the
15 more protective flows?

16 WITNESS OBEGI: I am very concerned that, in
17 some regions of the State, WaterFix is being touted as
18 increasing water diversions and increasing water supply
19 and discussing an incremental water supply benefit that
20 I'm not sure decision makers really understand what
21 that means.

22 Moreover, when WaterFix transitioned from the
23 Bay-Delta Conservation Plan, the program lost the
24 ability to have one of those regulatory assurances that
25 would preclude future reductions in supply from the

1 Delta. Until such time that the Board issues a final
2 order with terms and conditions, it is uncertain in my
3 mind what the water supply with the WaterFix project
4 would be. And evaluating a range of the possible
5 scenarios, which includes significant reductions in
6 diversions consistent with the State Board's
7 Appendix 5.E to the EIS/EIR, would be appropriate.

8 MS. DES JARDINS: Are the water districts
9 calculating costs per acre-foot of the additional water
10 supply that they assume they will be getting?

11 WITNESS OBEGI: Many of them have done so
12 based on Dr. Sunding's analysis, which assumes that
13 incremental supply based on his comparison of WaterFix
14 to a false baseline.

15 MS. DES JARDINS: And aren't they being
16 expected to vote now based on that -- for the project
17 based on the assumption of that increased supply?

18 WITNESS OBEGI: Many of the districts have
19 already voted and others are continuing to hold votes;
20 that is correct.

21 MS. DES JARDINS: And so if -- your concern is
22 that, not only that there's this vote based on this
23 incremental water supply, but also that it's taking
24 money that would have gone to develop these regional
25 supplies, correct?

1 WITNESS OBEGI: That is correct.

2 MS. DES JARDINS: And that the regional
3 supplies don't assume increased diversions from the
4 Delta?

5 WITNESS OBEGI: Could you restate that
6 question.

7 MS. DES JARDINS: Do the regional supplies
8 assume increased diversions from the Delta?

9 WITNESS OBEGI: Regional supplies like
10 wastewater recycling or storm water capture do not
11 necessarily depend on additional changes in exports
12 from the Delta.

13 MS. DES JARDINS: Okay. Thank you. That
14 concludes my questions.

15 CO-HEARING OFFICER DODUC: Ms. Meserve.

16 Ms. Meserve is the last cross-examiner I have,
17 and she estimated 20 minutes.

18 CROSS-EXAMINATION BY MS. MESERVE

19 MS. MESERVE: Thank you. Osha Meserve for
20 Friends of Stone Lakes National Wildlife Refuge. I
21 have a couple of questions about emissions, air quality
22 emissions, and intergeneration from the projects from a
23 sustainability standpoint --

24 (Reporter interruption)

25 MS. MESERVE: And then also questions about

1 sustainability, and then about alternatives that
2 include modifications to existing facilities in the
3 Delta.

4 Just to begin, Mr. Obegi, your testimony
5 discusses alternatives to the project that would --
6 that could provide needed water supplies, correct?

7 WITNESS OBEGI: Yes, they could be either
8 alternatives to the project or, if the Board grants the
9 petition, terms and conditions to require investments
10 in local and regional water supply projects and water
11 efficiency upgrades.

12 MS. MESERVE: And are you aware that the State
13 Water Project is one of the largest energy users in the
14 State?

15 WITNESS OBEGI: I am.

16 MS. MESERVE: And if local water supply could
17 be increased, as you discuss in your testimony, would
18 that provide an air quality or greenhouse gas benefit?

19 WITNESS OBEGI: It could.

20 CO-HEARING OFFICER DODUC: Ms. Ansley.

21 MS. ANSLEY: Yeah, I'd like to say that there
22 is a lack of foundation here that Mr. Obegi is
23 sufficiently knowledgeable about greenhouse gas
24 emissions of the project in particular or air quality
25 impacts.

1 So far he's only testified to the fact that
2 he's aware that the State Water Project is a large user
3 of energy in the state.

4 CO-HEARING OFFICER DODUC: Ms. Meserve?

5 MS. MESERVE: I'm just digging a little bit
6 into the public interest around what some of the other
7 benefits might be of the solutions Mr. Obegi has
8 suggested in his testimony. And if he knows the
9 information, he can answer, and if not, he shouldn't.

10 CO-HEARING OFFICER DODUC: Overruled.

11 WITNESS OBEGI: In my testimony, I cite the
12 2016 peer reviewed study that concluded that recycled
13 water would -- that offset demand for imported water
14 would significantly reduce greenhouse gas emissions and
15 energy. That study, Sokolow, et al., 2016 estimated
16 that, "If just 10 percent of the water that is
17 currently imported from the State Water Project were
18 shifted to recycled water, California would save
19 approximately 80 million kilowatt hours of energy
20 annually and reduce carbon emissions by nearly 42,000
21 metric tons per year."

22 It obviously depends on the types of local and
23 regional water supply projects that were used.
24 Desalination of ocean water, for instance, can be as
25 energy intensive or more than imported water. Recycled

1 water and obviously water conservation and efficiency
2 would significantly reduce greenhouse gas emissions and
3 energies.

4 MS. MESERVE: And so to the extent that energy
5 being saved was generated from sources that produced
6 air pollution, that would also reduce air pollution in
7 the state as well?

8 WITNESS OBEGI: That could be a possible
9 additional benefit.

10 MS. MESERVE: Now, NRDC's -- your testimony in
11 NRDC's work around Delta issues is -- is
12 intergenerational equity a part of NRDC's mission with
13 respect to that work?

14 WITNESS OBEGI: I believe it is. We are
15 trying to sustain both water supply and the environment
16 not just for current generations but for future
17 generations to enjoy and to be able to thrive
18 correctly.

19 MS. MESERVE: And were you aware of statements
20 by Goldman Sachs representatives at a Westlands meeting
21 this last summer that the way to preserve
22 intergenerational equity would be to have very
23 long-term financing, such as 50 or 100 years?

24 WITNESS OBEGI: I was not aware of that
25 statement, no.

1 MS. MESERVE: Do you agree that spreading
2 costs onto future generations is a way to ensure
3 intergenerational equity, from your understanding of
4 what that means?

5 WITNESS OBEGI: I tend to think that it is
6 not. I think that, when we accumulate debts that are
7 serviced over a very multigenerational or multidecadal
8 time scale, while there are benefits in terms of the
9 costs per year, we are saddling future ratepayers and
10 taxpayers with additional costs.

11 So it is -- I think it is appropriate to look
12 at both the total debt service that would be due as
13 well as the costs per year in considering -- in light
14 of different interests and discount rates to determine
15 how best to maximize intergenerational equity. It's
16 not a simple either/or, however.

17 MS. MESERVE: And if significant costs are put
18 on future generations, would that also limit those
19 future generations' choices to pursue the types of
20 alternatives you suggested in your testimony?

21 CO-HEARING OFFICER DODUC: Hold on, please.

22 MS. ANSLEY: I would say that calls for
23 speculation, just generally, whether that's going to
24 affect future generations' ability. You know, there is
25 no cost benefit analysis here or economic analysis of

1 future spending on water supply projects.

2 I believe that Mr. Obegi's testimony is a lot
3 more general than that. So I would say that this -- it
4 can be answered, but it's calling for speculation.

5 CO-HEARING OFFICER DODUC: It so called for
6 speculation and will be weighed accordingly.

7 Mr. Obegi, are you able to answer?

8 WITNESS OBEGI: Could you repeat the question,
9 please?

10 MS. MESERVE: I believe your testimony talks
11 about if investments are made in the regional supplies,
12 that -- you're suggesting those investments, and that,
13 if by contrast investments were made in the tunnels,
14 that would preclude investments later in regional
15 supplies.

16 And I'm simply asking you to comment on,
17 thinking out further into the future, if the costs are
18 put forth onto future generations 50 or 100 years out,
19 how would that impact the ability of those individuals
20 to have funds available for other solutions besides the
21 tunnels?

22 WITNESS OBEGI: It could certainly affect
23 those supplies.

24 Now, the costs would be -- discounted into the
25 future as a result of inflation would be a lower

1 effective cost, but it would be money that could not be
2 spent for other supplies. And certainly one of the
3 concerns is that, if all this money is invested in
4 WaterFix and then Delta diversions are required to be
5 significantly reduced, you end up with stranded asset
6 that generations will be paying for without getting
7 commensurate benefits.

8 MS. MESERVE: And now turning to the existing
9 facilities questions I have, your testimony is
10 primarily discussing increased measures for increased
11 self-sufficiency.

12 Do you also believe that there are
13 modifications that could be made to the existing South
14 Delta pumps, for instance, that might also help improve
15 water supply reliability?

16 WITNESS OBEGI: I have heard conflicting
17 information about the feasibility of screening the
18 existing pumps. I have heard some experts who opine
19 that it would have ecological benefits. I've heard
20 others who opine that it would not have ecological
21 benefits because of the location of the projects and
22 the inability to achieve the necessary sweeping
23 velocity to make those screens work.

24 One of the elements of our Portfolio
25 alternative for the Bay-Delta was to include increased

1 South of Delta storage because what we have seen is,
2 both in 2011 as well as subsequently in 2017, in wet
3 years, we lack the ability to increase diversions from
4 the Delta even with the tunnels.

5 So we have the ability to divert more water in
6 these really wet years, but we do not have a place to
7 put that water. So we proposed expanding San Luis
8 Reservoir or providing additional South of Delta
9 storage that was part of the system in order to be able
10 to capture more water in the really wet years and to
11 increase the ability to reduce diversions in the drier
12 periods.

13 And that has been -- I was surprised to see
14 that increased -- raising the size of San Luis has not
15 been discussed recently. And I'm aware that that
16 involves discussions between the State Water Project
17 and the Central Valley Project where they disagree on
18 how to pay for the projects.

19 And certainly one of the things that I am
20 aware of is that both Metropolitan and Kern County
21 Water Agency, two major State Water Project
22 contractors, have the ability to take Article 56 water,
23 unstorable water, during these wet periods. So
24 additional South of Delta storage that was part of the
25 Central Valley Project and the State Water Project

1 could actually reduce the value of those prior storage
2 investments while increasing the water supply for CVP
3 contractors who lack complementary South of Delta
4 storage possibilities.

5 MS. MESERVE: In thinking about your support
6 for the concept of storing excess water supplies when
7 it's available, are you aware of any conditions or
8 operational proposals by the petitioners here that
9 would limit diversions to only taking place when there
10 are -- is excess water in the system?

11 WITNESS OBEGI: I have not. My review of the
12 modeling and analysis suggests that there would be
13 increased diversions in drier years during storms and
14 that there is not a commensurate investment in storage
15 to enable increased diversions during the really wet
16 periods.

17 MS. MESERVE: If we could please look at an
18 exhibit under the SWRCB list, which is SWRCB-84, and
19 it's PDF Page 655. Are you familiar, Mr. Obegi, with
20 the NMFS Biological Opinions from 2009?

21 WITNESS OBEGI: I'm very familiar with it.

22 MS. MESERVE: Are you aware of the Reasonable
23 and Prudent Alternative Action 4.2 -- sorry, 4.4.2,
24 which calls for improvements to the Skinner Fish
25 Collection Facility?

1 WITNESS OBEGI: I am.

2 MS. MESERVE: And that's what's shown here on
3 the screen, for your reference.

4 Are you aware of whether DWR has carried out
5 this permit term?

6 WITNESS OBEGI: I think it's the wrong page.
7 I think it's 665.

8 MS. MESERVE: 55 or 56 -- I have 655 for PDF
9 page. That's not right.

10 WITNESS OBEGI: It is my understanding that
11 those improvements generally have not occurred. There
12 have been a few pilot projects, and I believe DWR is in
13 the process of increasing opportunities for fishing for
14 striped bass in Clifton Court.

15 MS. MESERVE: Are you aware of any reason why
16 the requirements of the 2009 Biological Opinions should
17 not be carried out by the permittees?

18 WITNESS OBEGI: It is my understanding that,
19 in order to maintain the incidental take coverage
20 provided by the Biological Opinion under the Endangered
21 Species Act, the permittees, DWR and the Bureau of
22 Reclamation, are required to implement all of the RPA
23 actions. However, it is also my understanding that
24 they are behind schedule on many of them, including the
25 habitat restoration requirements of both this

1 Biological Opinion and the 2008 U.S. Fish and Wildlife
2 Services Biological Opinion.

3 MS. MESERVE: And in a scenario where the
4 tunnels were built, the South Delta facilities would
5 also continue to be used, so the kinds of improvements
6 discussed, for example, on Page 655 would still be
7 necessary, right?

8 WITNESS OBEGI: Yes. It's my understanding
9 that, with WaterFix, the South Delta pumps would still
10 be used on average for approximately half of the water
11 supply and in dry years could be more like two thirds
12 of the water supply.

13 MS. MESERVE: And if we could look at an
14 exhibit I provided on a thumb drive, FSL-52, are you
15 familiar with the CER that was prepared for the
16 through-Delta conveyance option of the BDCP at all?

17 WITNESS OBEGI: The CR?

18 MS. MESERVE: The conceptual engineering
19 report?

20 WITNESS OBEGI: Not in much detail,
21 unfortunately.

22 MS. MESERVE: If we could go to PDF Page 239
23 of this particular document, it's discussing as part of
24 the through-Delta conveyance options there were also
25 improvements to Clifton Court Forebay and existing

1 facilities discussed.

2 Are you at all familiar with these?

3 WITNESS OBEGI: Not in detail.

4 MS. MESERVE: Are you aware that there are --
5 and this is what's discussed here, there's other
6 modifications to Clifton Court Forebay which would not
7 per se be fish screens but that would reduce take in
8 Clifton Court by preventing fish from coming into
9 Clifton Court in the first place?

10 WITNESS OBEGI: I understand that there are a
11 number of different conceptual alternatives that have
12 been discussed to modify Clifton Court Forebay to
13 reduce or eliminate entrainment of fish and predation
14 of nonnative predators within the forebay.

15 MS. MESERVE: And if we could go to FSL-51,
16 this is the testimony you provided by Greg Gartrell to
17 the legislature in 2011. Are you familiar with the
18 proposal by Mr. Gartrell and others of other types
19 of -- if we could go to Page 3 of this document,
20 please -- other improvements to the South Delta
21 facilities during low flow diversions of 2,000 cfs or
22 so?

23 WITNESS OBEGI: I'm not particularly familiar
24 with this letter. I don't recall it.

25 We did work with Contra Costa Water District

1 and Mr. Gartrell on our 2013 portfolio alternative for
2 the Bay-Delta.

3 MS. MESERVE: In general, do you think that
4 alternatives such as the runs shown here in this
5 testimony and others we've been discussing would be
6 worthy of consideration as alternatives to this
7 tunneling?

8 CO-HEARING OFFICER DODUC: Ms. Ansley.

9 MS. ANSLEY: I believe he testified that he
10 was not familiar in particular with this testimony, so
11 asking him about the projects in this testimony lacks
12 foundation.

13 MS. ANSLEY: Sustained.

14 MS. MESERVE: I believe my question wasn't --
15 didn't pertain to the testimony directly just now. I
16 was trying to be a little bit more broad, given
17 Mr. Obegi's answer.

18 Should I ask it again?

19 CO-HEARING OFFICER DODUC: Ask it again.

20 MS. MESERVE: Do you believe that alterations
21 to the existing facilities such as those we've been
22 discussing this morning should be considered as
23 alternatives to constructing the tunnels?

24 CO-HEARING OFFICER DODUC: Ms. Ansley.

25 MS. ANSLEY: And I'm going to say vague and

1 ambiguous as to the alterations that she's discussing.
2 Just saying "that we discussed this morning," I'm not
3 clear on exactly which -- what we're talking about.

4 CO-HEARING OFFICER DODUC: Ms. Meserve, let's
5 be specific.

6 MS. MESERVE: So in particular, as examples,
7 Mr. Obegi, would be low flow fish screens,
8 modifications to Clifton Court to keep fish out of
9 Clifton Court, also as shown in the CER, modifications
10 to the Victoria Channel, those types of things, do you
11 believe they should be considered as and would provide
12 at least part of an alternative to the tunnels proposal
13 that is the subject of this petition?

14 WITNESS OBEGI: I don't think I have the
15 biological expertise to know how effective those would
16 be, but certainly I would expect that they would be --
17 that feasible means of improving conditions in the
18 South Delta should be pursued, whether those are
19 structural or nonstructural means.

20 MS. MESERVE: And are you aware of proposals
21 to examine the feasibility also of non-physical fish
22 barriers at places like the Delta Cross Channel or
23 Georgiana Slough?

24 WITNESS OBEGI: I am.

25 MS. MESERVE: And could those also assist in

1 being able to use the South Delta facilities without
2 takings, being fish?

3 WITNESS OBEGI: Potentially, but it would
4 require consideration of a number of factors, including
5 the types of flows that are -- that are observed where
6 you would want to put in those non-physical barriers.

7 In general, it's been my impression that the
8 non-physical barriers have been less effective than
9 flow-based measures at reducing entrainment or guiding
10 fish passage in particular places.

11 For instance, the 2009 study by Mark Bowen of
12 the Bureau of Reclamation looking at two years of a
13 non-physical barrier at Head of Old River barrier found
14 that there was increased predation and very little
15 change in survival relative to the barrier.

16 The Georgiana Slough non-physical barrier has
17 been in place for a number of seasons, and it has very
18 mixed results. But there are some potentials there.

19 MS. MESERVE: And in your experience -- you
20 said you're familiar with the 2009 Biological Opinions.
21 Do you believe that proper emphasis has been put on
22 improvements to existing facilities in the past, say,
23 ten years since the 2009 Biological Opinions were
24 issued?

25 WITNESS OBEGI: It is my opinion that the

1 perмитеes are well -- are behind schedule for a number
2 of the reasonable and prudent alternative actions,
3 including the reduction in predation in Clifton Court,
4 the increased floodplain habitat restoration in the
5 Yolo Bypass, and specific weir modifications that are
6 required in the NMFS Biological Opinion, as well as
7 tidal marsh habitat restoration requirements in the
8 Fish and Wildlife Service Biological Opinion. In
9 general, all of those requirements have not been met on
10 the time frame established in the 2008 and 2009
11 Biological Opinions.

12 MS. MESERVE: Are you aware that the director
13 of DWR has pledged to complete 30,000 acres of
14 restoration by the end of this year?

15 WITNESS OBEGI: My understanding is that
16 the EcoRestore proposal, which is largely a restatement
17 of the existing habitat restoration requirements in the
18 two Biological Opinions, was intended to be
19 accomplished by 2019, I believe.

20 MS. MESERVE: And when you say "a portion of
21 the Biological Opinion requirements," would that be
22 about 28,000 acres of the 30,000 acres of EcoRestore
23 being required by those Biological Opinions
24 thereabouts?

25 WITNESS OBEGI: That sounds about right. The

1 NMFS Biological Opinion required approximately 20,000
2 acres of floodplain habitat restoration in the Yolo
3 Bypass as well as specific modifications to enable fish
4 passage at different weirs and gates. And the Fish and
5 Wildlife Service Biological Opinion required, I
6 believe, 8,000 acres of tidal marsh habitat restoration
7 in the Delta.

8 MS. MESERVE: And do you know of any reason
9 why -- would it be your understanding that
10 implementation of these requirements in a timely manner
11 would likely improve conditions for fish in the Delta?

12 WITNESS OBEGI: I think there's -- my
13 understanding, based on discussions with biologists and
14 scientists, is that there is good scientific evidence
15 for biological benefits from the Yolo Bypass Floodplain
16 Restoration Project in particular.

17 The ecological benefits of tidal marsh
18 restoration are much less certain, as papers by
19 Dr. Herbold and the shift from Bay-Delta Conservation
20 Plan to the WaterFix project evidence.

21 MS. MESERVE: Does it concern you -- I'll back
22 up.

23 Does it concern you that there is no
24 restoration component of the tunnels project anymore?

25 WITNESS OBEGI: You know, our Bay-Delta

1 Conservation Plan Portfolio Alternative, we included
2 approximately 40,000 acre-feet of habitat restor- --
3 40,000 acres, sorry, of habitat restoration, which is
4 similar scale to what is required by the Biological
5 Opinion.

6 Habit restoration is not free. It's not
7 necessarily cheap. And if it's not going to have
8 significant biological benefits, it seems like it's not
9 a smart investment. So we proposed a more limited
10 scale of habit restoration than what was proposed in
11 the Bay-Delta Conservation Plan to see if it actually
12 would benefit the species and to ensure that it was
13 accomplished in a timely manner.

14 So I believe that the existing requirements
15 that are -- that the petitioners are behind schedule in
16 accomplishing could have significant benefits but need
17 to actually be implemented to see if they would
18 benefit. And there are certainly risks that habitat
19 restoration, if done improperly, could actually
20 increase habitat for non-native species and worsen
21 conditions for native fish.

22 MS. MESERVE: But the first step would be to
23 go ahead and carry out the required projects?

24 WITNESS OBEGI: That is correct.

25 MS. MESERVE: Okay. Thank you.

1 CO-HEARING OFFICER DODUC: Thank you.

2 Any redirect?

3 MS. ZWILLINGER: No.

4 CO-HEARING OFFICER DODUC: All right. Thank
5 you. And we will see you again later in the
6 proceedings.

7 MS. ZWILLINGER: We'd like to move --

8 CO-HEARING OFFICER DODUC: Wait until your
9 case in chief is completed before you move exhibits.

10 WITNESS OBEGI: One other point of
11 clarification, we didn't give an opening statement
12 today, and I was hoping we could give that when
13 Dr. Rosenfield gives his testimony.

14 CO-HEARING OFFICER DODUC: I forgot to ask
15 you. That will be fine.

16 WITNESS OBEGI: Thank you very much.

17 CO-HEARING OFFICER DODUC: All right.

18 Ms. Des Jardins, is your witness here?

19 MS. DES JARDINS: Yes.

20 CO-HEARING OFFICER DODUC: Let's get him up.

21 MS. DES JARDINS: I also have an opening
22 statement to give.

23 CO-HEARING OFFICER DODUC: I believe you were
24 here previously, but I can't recall whether you've
25 taken the oath. Have you taken the oath?

1 WITNESS FRIES: I did.

2 DAVID FRIES,

3 called as a Panel 1 witness by Protestant

4 Group 37, having been previously duly

5 sworn, was examined and testified further

6 as is hereinafter set forth:

7 CO-HEARING OFFICER DODUC: All right.

8 Ms. Des Jardins, your opening statement.

9 OPENING STATEMENT BY MS. DES JARDINS

10 MS. DES JARDINS: My name is

11 Deirdre Des Jardins, principal in California Water

12 Research. And I'm here today to present testimony by

13 Dr. David Fries, who is the chair, conservation chair

14 for the San Joaquin County Audubon Society.

15 But first, I wanted to explain the more

16 general context of Dr. Fries' testimony.

17 The proposed new diversion structure for the

18 WaterFix is extremely large and costly. The

19 petitioners have not provided sufficient information to

20 show that the proposed engineering design and proposed

21 construction procedures will minimize impacts on fish

22 and wildlife or risks to people and structures on the

23 surface.

24 In addition, the draft design and construction

25 enterprise agreement requires the concurrence of the

1 water contractors for any action which would cause more
2 than 10 million in increased costs for the project.
3 Thus, the Board should not assume any changes to the
4 project in future design that would result in increased
5 costs being made unless those changes are required by
6 the permits.

7 For this reason, California Water Research is
8 requesting that the Board not issue any final order
9 approving the change petition until correct and
10 adequate preliminary engineering documents are
11 available and have been noticed to the parties and
12 considered by the Board in this hearing.

13 In Part 1 of the WaterFix hearing,
14 Dr. Clyde Thomas Williams, a Ph.D. geologist who has
15 consulted on the design and constructions of tunneling
16 projects in Los Angeles and around the world, testified
17 that there has been inadequate geotechnical exploration
18 to assure that the WaterFix tunnel lining design will
19 work in the proposed location.

20 Dr. Williams also testified that the size and
21 constructural [sic] engineering for the proposed tunnel
22 lining design was inadequate even for a preliminary
23 design and that the proposed tunnel lining may not have
24 adequate structural strength to withstand seismic and
25 structural stresses in the deep, soft, alluvial soils

1 in the Delta.

2 Dr. Williams testified that there would be
3 potentially major impacts if the tunnel segments began
4 to separate under a Delta channel or a Delta levee, and
5 this would affect, potentially, structures and human
6 safety on the surface.

7 Dr. Williams also testified that the
8 petitioners had not yet adopted any standards for
9 allowable ground loss while tunneling even under Delta
10 levees. Failure of a Delta levee while tunneling would
11 have major -- or during long-term operations would have
12 major impacts on fish and wildlife as well as on public
13 safety.

14 Dr. Williams' testimony was corroborated by
15 testimony by Josef Tootle, a civil engineer, and
16 Chris Neudeck in Part 2 of this hearing.

17 In Part 2 of the WaterFix hearing, impacts of
18 tunnel construction on wildlife are being considered.
19 We are presenting testimony by Dr. David Fries, Chair
20 of the San Joaquin County Audubon Society.

21 Dr. Fries testifies that the construction of
22 the WaterFix tunnels could have severe impacts on avian
23 species in the project area. Dr. Fries testifies on
24 how the Department of Fish and Game's quantifiable
25 biological objectives and flow criteria for aquatic and

1 terrestrial species of concern dependant on the Delta
2 identified 37 species of birds in the Delta as
3 threatened or of special concern.

4 Dr. Fries testifies that the WaterFix EIR is
5 deficient in its analysis of threatened and endangered
6 bird species that could be affected by building the
7 tunnels.

8 Construction of the WaterFix tunnels is
9 projected to generate millions of cubic feet of spoils
10 which the Final EIR/EIS estimated could occupy up to
11 1,600 acres. Although the Final EIR/EIS indicates that
12 disposal of the tunnel spoil material may be a
13 permanent impact, the Final EIR/EIS indicates that most
14 of the disposal sites are proposed. And, to date, they
15 are reportedly not yet finally determined.

16 Dr. Fries testifies that the Incidental Take
17 Permit of the Department of Fish and Wildlife also
18 indicates that the disposal sites have yet to be
19 finally approved.

20 The submitted change petition does not
21 identify the properties that will be acquired for
22 disposal of the tunnel material, and little other
23 information has been submitted about any sites that are
24 planned to be acquired for disposal of tunnel spoil
25 material.

1 More troubling, there is insufficient
2 assessment of the potential to avoid wetlands loss when
3 disposing of the tunnel spoils, nor are there adequate
4 commitments to construct mitigation wetlands before
5 filling of existing wetlands.

6 Dr. Fries quotes the comments of the Delta
7 independence Science Board on the Final EIR/EIS which
8 stated, "Although wetland restoration is a key element
9 of mitigation, we noticed little attention to
10 sequencing that is required for assessing potential
11 impacts to wetlands: First, avoid wetland loss; second
12 minimize; and third, compensate."

13 Under the Clean Water Act, petitioners are
14 required to minimize discharge of fill materials from
15 wetlands.

16 Section 230.10 of the Federal Dredge and Fill
17 Guidelines states, "Where the activity associated with
18 the discharge which is proposed for a special aquatic
19 site does not require access or proximity to or siting
20 within the special aquatic site in question to fulfill
21 its basic purpose (i.e., is not 'water dependant'),
22 practicable alternatives that may not involve special
23 aquatic sites are presumed to be available unless
24 clearly demonstrated otherwise." The Board must
25 require an analysis of alternative sites for disposals

1 of fill which are not wetlands, vernal pools, or other
2 special habitat.

3 The submitted petition also does not describe
4 the final method of treatment of the tunnel spoil
5 materials nor the final method of treatment of liquids
6 from the tunneling prior to final disposal or
7 discharge. This information is thus not only
8 insufficient for assessment of whether impacts on fish
9 and wildlife will be unreasonable, it also appears to
10 be insufficient for a Section 401 Clean Water Act
11 certification.

12 The California Code of Regulations Title 23,
13 Section 3856, "Contents of a Complete Application"
14 requires that the application include a full
15 technically accurate description, including the purpose
16 and final goal of the entire activity.

17 Clearly, due to lack of adequate preliminary
18 engineering and apparently ongoing changes to the
19 project, a full technically accurate description of the
20 entire activity is not currently available.

21 Under Section 401 of the Clean Water Act, the
22 Board will also need to certify that the proposed
23 project will meet water quality standards under Clean
24 Water Act Section 303. U.S. EPA regulations mandate
25 that Section 401 certification shall include a

1 statement providing a reasonable assurance that the
2 activity will be conducted in a manner which will not
3 violate applicable water quality standards.

4 Water quality standards include both the
5 designated uses of the water body and the water quality
6 criteria established to protect those uses as well as
7 anti-degradation requirements.

8 Because the 2006 Water Quality Control Plan
9 did not consider North Delta diversions, the Board will
10 need to fully and adequately evaluate whether the
11 WaterFix project will comply with the designated
12 beneficial uses of the Delta in this proceeding. There
13 are -- this -- these documents are not currently
14 available, and they would have important information
15 about impacts of the project on fish and wildlife and
16 beneficial uses in the Delta.

17 No permit can be issued by the Board for the
18 project until the project receives a water quality
19 certification. And so I would respectfully suggest
20 there is no reason for the Board to rush approval
21 without the complete and adequate technical description
22 required for the water quality certification. Doing so
23 is of significant prejudice to protestants and to Delta
24 stakeholders who are concerned about impacts to fish
25 and wildlife and to legal water users in the Delta.

1 Thank you.

2 CO-HEARING OFFICER DODUC: Is it Dr. Fries or
3 Dr. Fries [pronunciation]?

4 MS. DES JARDINS: I apologize. I was going
5 back and forth.

6 CO-HEARING OFFICER DODUC: How much time do
7 you need for your summary of your direct?

8 WITNESS FRIES: I thought it would take me
9 about 20 or 25 -- not more than 25 minutes; 20 or 22
10 minutes, but I might be able to shorten it.

11 CO-HEARING OFFICER DODUC: All right. Twenty
12 minutes is the typical, so please proceed.

13 DIRECT EXAMINATION BY MS. DES JARDINS

14 MS. DES JARDINS: Dr. Fries, is
15 Exhibit DDJ-214 a true and correct copy of your
16 statement of qualifications?

17 WITNESS FRIES: It is.

18 MS. DES JARDINS: Is Exhibit DDJ-215 a true
19 and correct copy of your testimony?

20 WITNESS FRIES: It is.

21 MS. DES JARDINS: Is Exhibit -- are exhibits
22 DDJ-216 through DDJ-224 true and correct copies of the
23 supporting exhibits for your testimony?

24 WITNESS FRIES: They are.

25 MS. DES JARDINS: Please summarize your

1 testimony.

2 WITNESS FRIES: Thank you, Board, for the
3 opportunity to testify.

4 My name is David Fries. I'm an avid bird
5 watcher with experience in the Stockton-San Joaquin
6 Delta. For the past 20 years, I've been doing
7 Christmas bird count surveys with the Stockton Audubon.
8 This area includes portions of Bouldin and Venice and
9 Staten Islands, as well as the Woodbridge Reserve,
10 which is part of the Isenberg Crane Reserve. And I've
11 also had experience in other areas that will be
12 affected by the WaterFix petition.

13 Currently I'm conservation chair for the
14 Stockton -- for the San Joaquin Audubon Chapter. I
15 lead boating field trips into the Delta for members of
16 the Society. And I have served on the board of the
17 Bay-Delta Keeper, and I am now science advisor to the
18 California Sport Fishing Protection Alliance.

19 I have experienced -- I have extensive
20 knowledge of the Delta, and I have observed the
21 continual loss of critical bird habitat and decreases
22 in bird numbers over the past 30 years.

23 I speak for myself, for the San Joaquin
24 Audubon Chapter, and for the birds.

25 There are four major concerns that the Audubon

1 Chapter has about this WaterFix petition. First, I've
2 gone over some in the past, which is the loss of
3 freshwater flows into the Delta. We all know that it's
4 the Sacramento River is the best quality water that's
5 flowing into the Delta. And we also know that, at
6 times, WaterFix proposes to take up to a third of that
7 flow and to divert it through the tunnels.

8 It is my opinion that this diversion would
9 decrease water quality in the Central and Southern
10 Delta and that that would result in loss of habitat for
11 the birds and other wildlife species which would be
12 detrimental to their survival.

13 Secondly, this decrease in flows would result
14 in an increase in residence times of water in the
15 Delta, which is very -- could be very severe. The loss
16 of flows will allow the accumulation of toxic flows of
17 waters coming more from the San Joaquin River. These
18 flows have increased concentrations of metals and
19 pesticides and herbicides and other organics that are
20 toxic to the bird species.

21 They also result in increased occurrence of
22 toxic algal blooms and increased retention of invasive
23 plant species such as the water hyacinth. When these
24 invasive plants cover the water, they restrict the
25 surface area available for birds that are dependant on

1 surface area to dive for fish and for food. So as
2 these overgrowths of plants occur, fish -- bird habitat
3 for feeding is decreased.

4 Third, and very severely, is our concern about
5 the construction of the tunnels and the location of the
6 proposed intake sites, that these activities will
7 destroy vast amounts of irreplaceable avian habit.

8 We're particularly concerned about the amount
9 of tunnel spoil materials generated by the project and
10 the fact that the final sites for placement of the
11 tunnel spoils have not yet been identified. The lack
12 of details, I mean specifics, in the WaterFix Final
13 EIR/EIS makes judgments about environmental impact of
14 these so-called reusable tunnel materials or muck, it
15 makes those impacts impossible to discern.

16 We asked just that -- how much -- okay.

17 Also not clear, how these tunnel materials
18 will be cleaned or stacked for potential beneficial
19 reuse. We ask just how will they be cleaned, these
20 materials, and where will they be stacked. And no such
21 plans for beneficial reuse have been described to this
22 point.

23 The ITP for this project states that the
24 tunnel spoils will consist of -- and here's a quote,
25 "Plasticized mix consisting of soil, cuttings, air,

1 water, and may also include soil conditioning agents.
2 The permittee may use nontoxic and biodegradable soil
3 conditioning agents such as foams, polymers, and
4 bentonite to make soils more suitable for excavation by
5 the tunnel boring machines. The ITP indicates that the
6 tunnel spoils will be stacked to an average depth of
7 ten feet after being treated extensively," however, the
8 ITP does not indicate how the spoils will be cleaned or
9 a method for protecting the leachate ponds' decant --
10 decant liquids prior to their discharge into the Delta.

11 The Final EIR does not identify the temporary
12 storage areas sites nor, because the sites are not yet
13 defined, are any surveys available of the habitat on
14 those sites. Whether it is sensitive habitats such as
15 wetlands or vernal pools or flora and fauna -- or other
16 flora and fauna on the sites that will be harmed.

17 Without identification of the tunnel spoils
18 sites and adequate preconstruction surveys of the sites
19 or identification of the methods for treating the soils
20 or the size and location of the leachate ponds or
21 methods for safely disposing of the leachates, it seems
22 impossible for this Board or for public citizens to
23 determine how the project will impact bird species in
24 this tunnel construction area.

25 The ITP, or Incidental Take Permit, by the

1 Fish and Game and Wildlife Department only states that,
2 for the spoil sites, WaterFix will coordinate with the
3 technical team to develop a spoils disposable plan, and
4 no such plan has been submitted.

5 The WaterFix Final EIR/EIS uses this
6 geographical information, or GIS system, to estimate
7 the Alternative 4A impacts. And they estimate that 4A
8 would bury tunnel muck on 55 acres of non-tidal
9 perennial aquatic habitat, 1 acre of perennial emergent
10 wetland, 1 acre of tidal freshwater wetland, 219 acres
11 of grassland, 14 acres of riparian forests, 2,253 acres
12 of cultivated lands, et cetera. The facilities
13 themselves will damage and cover vast additional areas
14 of land.

15 There is no way of knowing if these figures
16 are correct as WaterFix continues to move construction
17 sites without giving details or submitting supplemental
18 EIRs, nor are there details on habitat restoration or a
19 mitigation for certain species. The acres of habitat
20 could increase by an unknown amount when the final
21 alignment and final spoil sites are identified.

22 One cannot destroy habit for critical species
23 and attempt to revive that species at some later date
24 by creating new and perhaps equivalent habitat. New
25 habitat must be created and the threatened species

1 established in that new setting before older
2 established habitat can be destroyed.

3 Construction of the tunnels over a projected
4 13 years will destroy and disrupt critical habitat to
5 such an extent that the survival of critical and
6 threatened species may not wait for the new and perhaps
7 suitable alternative living and breeding sites to be
8 developed.

9 Thirteen years is not temporary for an
10 endangered or threatened species. The fact is most of
11 the space for habitat rehabilitation has already been
12 altered or encroached upon to the extent that habitat
13 mitigation may not be possible. We cannot afford to
14 the lose the little working habitat that already
15 exists.

16 The first principle of mitigation is to avoid
17 habitat loss. The review of the Final Environmental
18 Impact Report/Environmental Impact Statement for
19 WaterFix -- a review was made by the Delta Independent
20 Science Board, and it's a June 16th, 2017 report, and
21 it lists numerous inadequacies -- inadequacies in the
22 restoration and mitigation content of the WaterFix EIR.

23 And then following, I list a number of those,
24 and they're in my report. And I won't go read them
25 again. We can put them up. But essentially they say

1 that there's missing details and that includes missing
2 statements for funding needed for science-based
3 adaptive management restoration. And more importantly,
4 these things have to be effective, and it's not proven
5 that they would.

6 They criticize landscape context, that
7 mitigation and restoration should be done in a holistic
8 or landscape context rather than just scattered
9 randomly around.

10 They point out that wetland loss is not
11 adequately evaluated. And the statement is, "We
12 noticed little attention to the sequencing that is
13 required for assessing potential impacts to wetlands,"
14 and then first, avoid; second, minimize; and third,
15 compensate.

16 They criticize mitigation ratios. And the
17 statement is, "In view of inevitable failures and time
18 delays in wetland restoration, mitigation ratios should
19 exceed 1-to-1 for restoration of existing wetlands.
20 The ratio should be presented rather than making vague
21 comments."

22 Also, they need to clarify out-of-kind and
23 in-kind replacement of losses. And also they need to
24 consider will restoration be affected and how will it
25 be affected by sea level rise.

1 They criticize early action, or the lack of.
2 To reduce uncertainty about outcomes, they need to
3 allow for beneficial and economical adaptive
4 management. Mitigation actions should be initiated as
5 early as possible, and landowners should be developed
6 [sic] for mitigation banks so that mitigation [sic]
7 could begin immediately.

8 The WaterFix EIR is deficient in its analysis
9 of threatened, endangered bird species that would be
10 affected by building the tunnels. And in 2010, the
11 Department of Fish and Game published this Quantifiable
12 Biological Objectives that you're familiar with. It
13 lists 31 species, plus there's a few others that would
14 be affected.

15 The WaterFix ITP lists mitigation for only two
16 of those endangered species. And it's my opinion that
17 they've missed species that would definitely be
18 affected.

19 And then I'll take up just a few descriptions
20 of some of those bird species that I think are not
21 adequately evaluated. And the fact is they've done no
22 surveys out there to determine what's there and where
23 they are. They looked at some historical data, and
24 they missed a lot of data that they should have
25 accessed.

1 First, look at the Sandhill cranes. The
2 cranes, we know, are the major wintering area -- the
3 Delta is the major wintering area for the Sandhill
4 crane along the Pacific Flyway. And both lesser and
5 greater cranes are found in large numbers in the Delta.

6 These birds are counted every year in the
7 Christmas count on both Bouldin, Staten, Venice
8 Islands; Mandeville Island has them also, and they're
9 heavily concentrated into the Woodbridge Ecological
10 Reserve.

11 I have in my DDJ-215 a table that shows the
12 results of Christmas counts. Could we put that up?
13 It's towards the end of my -- I'll just go ahead and,
14 while you find those -- towards the end.

15 Okay. This is copied directly out of publicly
16 available information. That's the black bird. Go up.

17 MS. DES JARDINS: I think it's Page 7.

18 WITNESS FRIES: Let's go up more. There we
19 go. It's the table for the Sandhill crane that's taken
20 directly out of public access information. And the
21 only thing I've changed is the years there because they
22 use a code for the year. So I put an actual year
23 there.

24 So just look at the numbers, and you can see
25 from 2007 to most current reported, 2016, numbers are

1 going down. And this is not just the reserve on
2 Woodbridge Road. It includes portions of Bouldin and
3 Staten and Venice Islands.

4 And to me, there's a greater effect on cranes
5 than has been evaluated in this EIR. And there's no
6 ITP mitigation required for it.

7 And let's look at the tricolored blackbirds.
8 And there's another table that follows. Just quickly,
9 the tricolored blackbirds are a species found in the
10 proposed construction zone of WaterFix. And we do
11 count them every year in the Christmas bird count.
12 They're a hard bird to find because they flock up with
13 large, large groups of other blackbirds, and you have
14 to take a long time looking through a telescope to see
15 them.

16 So the numbers aren't good, but the table
17 shows that we do see them out there, and it's well
18 known that they are out there. And it should be noted
19 that, in the last weeks, the California Department of
20 Fish and Wildlife have recommended that these birds be
21 put on the endangered lists.

22 So -- and I don't think they're adequately
23 mitigated for, especially when you look at the added
24 mitigation that's required because WaterFix, in the
25 ITP, was required to add over 1500 acres of mitigation

1 for smelt. And to do that, they're going to take land
2 that is used by the tricolored blackbird. And they
3 estimate that over a thousand acres of land -- of
4 wetland used by the birds would have to be mitigated
5 for someplace else. Okay.

6 And then finally, well -- around -- yeah.
7 Just look at the black rails, California black rails.
8 They live and breed in the Delta, but they're extremely
9 difficult to detect. They're small birds, and they
10 hide in dense habitat.

11 The bird requires dense wetland habitat for
12 breeding, for forage -- foraging, and basic survival.
13 Tidal emergent wetland with immediate access to upland
14 heavy vegetation is preferred.

15 And the rails are observed regularly in White
16 Slough, which is part of the Delta, in the Cosumnes
17 Reserve; they're seen in Stone Lakes National Wildlife
18 Reserve. And they're known to inhabit large sections
19 of -- they're known to inhabit many of the larger
20 in-stream islands in the Delta.

21 These in-stream islands are rarely surveyed
22 because they're accessible only by water, and there's
23 no survey effort that's reported by the petitioner for
24 these birds.

25 They're there, and they're there in numbers.

1 And it's my opinion that the species has to be
2 mitigated for in the WaterFix petition if it were to be
3 approved.

4 We go beyond that and look at wintering
5 shorebirds. All of the Delta wetlands are habitat for
6 both wintering and year-round shorebirds. Many of
7 these species are in decline and of great concern to
8 environmental sciences as well as to recreational bird
9 watchers. We're talking here about the tens of
10 thousands of geese and ducks and swans that winter in
11 the Delta.

12 And I'd just like to state here that all the
13 birds have protection under the California Public Trust
14 Doctrine. These birds don't have to be on some list to
15 be protected. They have rights to live and forage and
16 breed in the Delta.

17 In addition to those birds I've talked about,
18 there are many summer avian migrants to the Delta. And
19 here, we've talked about Swainson's hawks and yellow
20 warblers and other bird species. My opinion is
21 Swainson's hawks haven't been evaluated properly in the
22 Delta. There's a sharp decline in numbers of
23 Swainson's hawks, and it's attributed to loss of
24 breeding and foraging habitat.

25 The WaterFix construction zone is a prime

1 habitat for both breeding and foraging hawks. Nest
2 sites exist on all of the islands and the lands
3 adjacent to where the tunnel construction is proposed.
4 And WaterFix estimates vast amounts -- 2,000 acres of
5 foraging habitat, 10 acres of nesting habitat,
6 et cetera, would be destroyed or permanently lost due
7 to the facilities' footprint. And in my opinion,
8 there's no way to prevent nor adequately mitigate for
9 these disruptions of known nesting and prime foraging
10 habitats.

11 There's a bird called the yellow warbler
12 that's not properly evaluated. These are riparian
13 habitat obligate breeders. They did exist and breed in
14 the Delta, but they're now extirpated there.

15 However, these birds are seen regularly in all
16 of the so-called eBird hotspots, if you're familiar
17 with that they are. The Cornell Lab maintains a record
18 where birders report what birds or what places and
19 when. Well, the yellow warbler is reported all the
20 time at these hotspots. Few nesting sites have been
21 located, but one cannot assume they do not exist.

22 Detection of nesting pairs and nests in
23 densely vegetated riparian habitat is difficult and
24 requires further studies. One cannot assume nest sites
25 do not exist as the WaterFix petition has presumed.

1 And there's another bird that I just put in
2 because it's overlooked totally. It's the American
3 white pelican. We did it on the bird count, just
4 scroll down, and you can see quite large numbers there.
5 And on the 10th of March, I took a group of birders out
6 in the Delta, and we saw over 50 of these birds on that
7 short trip around Venice Island.

8 Okay. So that's enough.

9 In summary, it's clear that the WaterFix
10 petition has potential to do great harm to avian
11 population. It is also clear that WaterFix has not
12 followed best science in designing the project. Flow
13 recommendations made by expert State panel have been
14 ignored. Independent scientific review boards have
15 stated that there's too much uncertainty in climate
16 change and sea level rise predictions in the WaterFix
17 proposal.

18 WaterFix has not presented a definitive
19 analysis of potential harm it will cause to the
20 environment and to threatened and endangered species.
21 It is not clear how, where, or when all the potential
22 harm will be mitigated.

23 Alternatives to WaterFix have not been
24 adequately investigated. And the Audubon Chapter of
25 San Joaquin has 42,782 members whose enjoyment of avian

1 species and beneficial uses of the Delta would be
2 irreparably damaged if WaterFix petition is approved.

3 Finally, I'll just state that the State Water
4 Resources Control Board must recognize the public trust
5 rights and beneficial of uses of the Delta for the
6 birds and those bird watchers and not violate those
7 rights.

8 Thank you.

9 CO-HEARING OFFICER DODUC: Thank you.

10 All right. Ms. Ansley, Mr. Mizell, you
11 estimated ten minutes for cross.

12 MR. MIZELL: Good afternoon, Dr. Fries.

13 So I have only two subjects that I'm going to
14 cover today. Should be rather quick, hopefully.

15 One is the basis of his opinion, and the
16 second, I'm going to talk about mitigation parameters.

17 CROSS-EXAMINATION BY MR. MIZELL

18 MR. MIZELL: Dr. Fries, are you testifying on
19 behalf of California Water Research and Deirdre Des
20 Jardins, too?

21 WITNESS FRIES: Yes.

22 MR. MIZELL: Did you draft the testimony that
23 you submitted as DDJ-215?

24 WITNESS FRIES: That's correct.

25 MR. MIZELL: Did anyone assist you in drafting

1 it?

2 WITNESS FRIES: No, I prepared that document.

3 MR. MIZELL: Is the San Joaquin Audubon

4 Chapter a protestant in this hearing?

5 WITNESS FRIES: No, it's not.

6 MR. MIZELL: To your knowledge, is any Audubon

7 chapter protesting to this hearing?

8 WITNESS FRIES: I haven't seen that they are.

9 MR. MIZELL: Are you authorized to provide
10 testimony on behalf of the San Joaquin Audubon Chapter?

11 WITNESS FRIES: Yes, I am.

12 MR. MIZELL: How are you authorized?

13 WITNESS FRIES: I meet with the Board. The
14 Board has made me their conservation chair. They've
15 given me rights to speak for the birds and for the
16 chapter.

17 MR. MIZELL: On what date did they give you
18 authority?

19 WITNESS FRIES: Say that again.

20 MR. MIZELL: On which date did they give you
21 authority?

22 WITNESS FRIES: Oh, my goodness, at every
23 Board meeting we discuss this, and we meet most months
24 of the year.

25 MR. MIZELL: So if I were to look at any given

1 month in the last several years, I would find them
2 giving you authority to speak on their behalf in this
3 hearing?

4 WITNESS FRIES: Yes.

5 MR. MIZELL: Mr. Hunt, could we bring up
6 DDJ-215, please, and go to Page 3.

7 MR. MIZELL: Based upon the fact that the
8 Audubon Society -- or San Joaquin Audubon Chapter is
9 not a protestant to this hearing, I'm moving to strike
10 Page 3, Lines 3 to 4, where he states that he is
11 testifying for the San Joaquin Audubon Chapter, as well
12 as well as Page 12, Lines 22 to 24, roughly speaking.

13 CO-HEARING OFFICER DODUC: Let me turn to
14 counsel.

15 I would interpret Dr. Fries' testimony as that
16 on behalf of the public interest group on the issue of
17 the public interest in this matter. Is it required
18 that only protestants testify and submit testimony in
19 this hearing?

20 MR. DEERINGER: No.

21 CO-HEARING OFFICER DODUC: So on what basis
22 are you striking his testimony or proposing to strike?

23 MR. MIZELL: My motion is based upon the fact
24 that Dr. Fries is appearing as a witness for
25 Deirdre Des Jardins and not as a witness for the

1 San Joaquin Audubon Chapter.

2 San Joaquin Audubon Chapter did not file a
3 notice of intent to appear, nor have they proffered any
4 witnesses, including Dr. Fries, in this hearing. I am
5 unable to cross-examine the San Joaquin Audubon Chapter
6 based upon Dr. Fries's assertions on their behalf.

7 So to the extent that he's appearing as a
8 witness for Ms. Des Jardins, I'm able to ask him
9 questions. However, I don't have the ability to ask
10 questions of anybody else from San Joaquin Audubon
11 Chapter.

12 CO-HEARING OFFICER DODUC: But he is
13 representing that chapter.

14 Hold on.

15 Mr. Deeringer.

16 MR. MIZELL: He's asserting that he's
17 representing that chapter.

18 MR. DEERINGER: Dr. Fries, are your views
19 shared by the Board of the San Joaquin Chapter of the
20 Audubon Society?

21 WITNESS FRIES: Yes, they definitely are.

22 CO-HEARING OFFICER DODUC: He has testified
23 that they have designated him to speak on their behalf.

24 Ms. Ansley.

25 MS. ANSLEY: But the Audubon Society -- and I

1 understand here we're talking solely about the
2 San Joaquin County Chapter of the Audubon Society --
3 has not designated Ms. Des Jardins to represent them in
4 this proceeding.

5 And what she is doing is presenting evidence
6 on her behalf as a protestant in this proceeding in
7 response to the California WaterFix. Just because the
8 Audubon Society has, I guess, provided authorization
9 for Mr. Fries in the capacity of providing testimony in
10 support of Ms. Des Jardins' case in chief to speak for
11 them, I would say that there is a problem there because
12 she is not authorized to represent, in this proceeding,
13 the Audubon Society.

14 And so I hear his representation that he
15 speaks for the Audubon Society. But the Audubon
16 Society itself has made a choice not to show up and
17 present evidence in this proceeding. And it is, aside
18 from his representation, unclear what the position of
19 the Audubon Society is on evidence. They are not here
20 presenting evidence, cross-examining witnesses, or
21 affirming Ms. Des Jardins' representation of them and
22 her other representations in this matter.

23 So when a witness shows up to speak for a
24 party that they are not actually representing here,
25 then we have a difficulty discerning the lines between

1 what the Audubon Society is affirming and what they are
2 not.

3 MS. DES JARDINS: May I respond?

4 CO-HEARING OFFICER DODUC: Hold on. I will
5 let you have the final word -- maybe not final, but
6 let's here hear from Ms. Meserve and Mr. Jackson first.

7 MS. MESERVE: Yes. I believe the Audubon
8 Society has spoken by sending Dr. Fries here to share
9 his views, which are on his behalf and on their behalf.
10 And many of our witnesses in these proceedings have
11 various affiliations, and that helps inform the, you
12 know, content of their testimony as well as the
13 relevance of it to those particular groups.

14 So I think that is helpful to include that
15 kind of information and testimony to show, you know,
16 what those affiliations are. And I would not think
17 that it would be necessary that -- that those
18 affiliations be all protestants in order to appear in
19 testimony and be relevant to this proceeding.

20 And I would add, if DWR had serious questions
21 about the authority of Dr. Fries to be here today and
22 to present on behalf of himself and the San Joaquin
23 Audubon Society, they've had his testimony for months
24 and could have inquired about that authorization.

25 CO-HEARING OFFICER DODUC: Mr. Jackson and

1 Mr. Keeling.

2 MR. JACKSON: It's my understanding that
3 Dr. Fries is testifying as an expert witness on birds.
4 One of the ways you get to be an expert witness on
5 birds is to spend 30 years examining birds, which he
6 testified that he did.

7 The fact that the Audubon Society sent him
8 here because he's their conservation chair instead of
9 showing up with all 350 members seems to me to be
10 irrelevant to his expertise to testify as an expert for
11 Ms. Des Jardins.

12 CO-HEARING OFFICER DODUC: Mr. Keeling, did
13 you have anything to add?

14 MR. KEELING: He took care of it.

15 CO-HEARING OFFICER DODUC: All right. Now,
16 Ms. Des Jardins.

17 MS. DES JARDINS: I just wanted to note that I
18 am participating in this proceeding on -- entirely on
19 public interest grounds.

20 And I became aware as I discussed the impacts
21 on birds with Dr. Fries -- I met him at the Delta
22 Independent Science Board retreat -- that there were
23 very significant impacts that I believe needed to be
24 testified to in this proceeding.

25 I believe he has the expertise. And I believe

1 that his testimony about the public interest and
2 birding is what is supported by his representing the
3 San Joaquin Audubon Society.

4 And again, if Mr. Miz- -- I have had no
5 inquiries from DWR about this -- prior to this about
6 the San Joaquin Audubon Society or about David Fries's
7 statement about speaking for himself and the San
8 Joaquin Audubon Chapter.

9 CO-HEARING OFFICER DODUC: Let me make sure I
10 understand your objection/motion.

11 Are you objecting to the entirety of his
12 testimony, or just where there are with references to
13 the Audubon chapter?

14 MR. MIZELL: Not to the entire testimony.
15 I only referenced two sentences in entire testimony.
16 Those were the assertions that he is speaking on behalf
17 of the San Joaquin Audubon.

18 I would also like to note that we believe --
19 DWR believes that it's following the Hearing Officers'
20 order to not object prior to the presentation of their
21 cases in chief.

22 So to the extent that we have not reached out
23 to them, that's because we were not going to file an
24 objection prior to their appearance.

25 CO-HEARING OFFICER DODUC: We'll take under

1 consideration your objections to just the two sentences
2 that reference the San Joaquin Audubon Chapter.

3 MS. ANSLEY: As well as Ms. Des Jardins'
4 representation of a group that is wholly outside
5 herself.

6 She is self-represented here and is not an
7 attorney. So she is -- to make clear --

8 CO-HEARING OFFICER DODUC: What of those two
9 sentences are --

10 MS. ANSLEY: Those two sentences are what we
11 object to in Dr. Fries' testimony. But to make clear,
12 it is our understanding Ms. Des Jardins is not --

13 CO-HEARING OFFICER DODUC: It is my --

14 MS. ANSLEY: -- representing the Audubon
15 Society.

16 CO-HEARING OFFICER DODUC: It is my
17 understanding that Ms. Des Jardins is not representing
18 Audubon Society, correct.

19 Mr. Jackson.

20 MR. JACKSON: Yes, I would like to delve into
21 that for a moment.

22 CO-HEARING OFFICER DODUC: Mr. Jackson, unless
23 she has some written authorization from the Audubon
24 Society that she is representing them, it's pretty
25 clear; she has said she is here representing herself

1 and the public interest.

2 MR. JACKSON: I didn't see a written
3 authorization from ICF.

4 CO-HEARING OFFICER DODUC: From whom?

5 MR. JACKSON: From ICF, when they testified
6 for DWR. I didn't see their contract. I didn't -- and
7 nobody asked about it. People hire experts either with
8 lots and lots of money, like ICF, or with doing good
9 for the public benefit and people show up. And so this
10 idea that you have to have a contract --

11 CO-HEARING OFFICER DODUC: Mr. Jackson,
12 Mr. Jackson, just chill here a minute.

13 The concern was that the Audubon chapter, the
14 Audubon Society itself is not a party in this
15 proceeding and that Ms. Des Jardins is not presenting
16 herself as being their representative. No one made the
17 argument that ICF is a party.

18 MR. JACKSON: Right. You don't have to be a
19 party to be an expert witness.

20 CO-HEARING OFFICER DODUC: Correct. I agree
21 with you.

22 MR. JACKSON: Okay.

23 CO-HEARING OFFICER DODUC: But no one has also
24 said that ICF is a party, which I believe is what
25 Ms. Ansley is concerned about, that we somehow

1 recognized the Audubon chapter as a party because
2 they're here in the form of Dr. Fries testifying on
3 behalf of Ms. Des Jardins.

4 MR. JACKSON: Dr. Fries' sentence says that
5 "There are three major concerns that the San Joaquin
6 Audubon chapter and I, their conservation chair, had."

7 CO-HEARING OFFICER DODUC: Yes.

8 MR. JACKSON: And that's why he's testifying
9 as an expert about those.

10 CO-HEARING OFFICER DODUC: Yes.

11 MR. JACKSON: So why in the world is that
12 different than hiring any other expert?

13 CO-HEARING OFFICER DODUC: Noted. Let's move
14 on.

15 MR. MIZELL: Thank you.

16 Mr. Hunt, if you could go to Page 2, please.

17 Starting on -- yeah. Page 3, please.

18 So the paragraph that begins on Line 5, if I
19 could focus you on that. On Line 8 of that, included
20 in that paragraph on Line 8, you speak about the
21 petition taking up to one third of the Sacramento
22 River; is that correct?

23 WITNESS FRIES: Yes.

24 MR. MIZELL: What data to you rely on to
25 support that statement?

1 WITNESS FRIES: I think I read it in the EIR.

2 MR. MIZELL: Do you have a particular flavor
3 of the EIR that you reviewed?

4 WITNESS FRIES: No, just my observation and
5 memory of what I read. I saw some flow charts. I saw
6 the flow things. I saw sometimes it was 10, 20,
7 30 percent, depending on the time of year and the
8 conditions. So up to 30 percent or so at times.

9 MR. MIZELL: Sir, are you familiar with the
10 D1641 standards?

11 WITNESS FRIES: Say it again, please.

12 MR. MIZELL: Are you familiar with the D1641
13 standards?

14 WITNESS FRIES: No.

15 MR. MIZELL: Mr. Hunt, if we could go to
16 Page 4, please. So Doctor, if I could focus you on.
17 Lines 8 and 9, the sentence that begins "No such
18 plans..."

19 So it's your opinion that DWR has not
20 developed plans for using the tunnel material; is that
21 correct?

22 WITNESS FRIES: I have not seen plans.

23 MR. MIZELL: Have you reviewed the Mitigation
24 Monitoring and Reporting Plan for California WaterFix
25 that is SWRCB-111?

1 WITNESS FRIES: I've read it.

2 MR. MIZELL: Have you have you reviewed
3 Section 2.3?

4 WITNESS FRIES: I can't say that I have or
5 haven't. I don't know by memory what that says.

6 MR. MIZELL: Have you reviewed the Mitigation
7 and Monitoring Reporting Program for dredged material?

8 WITNESS FRIES: Say for what?

9 MR. MIZELL: For dredged material?

10 WITNESS FRIES: Yes, I have.

11 MR. MIZELL: Mr. Hunt, if we could go to
12 Page 5, please, on Lines 19 through 21.

13 In these two sentences on Lines 19 through 21,
14 do you assert that California WaterFix is going to
15 destroy habitat prior to completion of mitigation of
16 creating new habitat?

17 WITNESS FRIES: I'm not sure what you're
18 asking me. I think that WaterFix is destroying
19 habitat. And they propose vaguely to mitigate for that
20 in some cases. That's what I think.

21 MR. MIZELL: Okay. And the concern you had,
22 is it on the second sentence, Line 20, that begins,
23 "New habitat must be created," and it goes on to say,
24 "before the established habitat is destroyed"?

25 WITNESS FRIES: Correct.

1 MR. MIZELL: Are you aware the Biological
2 Opinions in the ITP require mitigation to be in place
3 prior to construction?

4 WITNESS FRIES: I read it, but I'm not -- it's
5 not clear to me when things would be put in place
6 because I see changes in wordings as, like, surveys
7 will be done before, but then -- before construction
8 starts, but then I see changes that surveys will be
9 done concomitant with or during.

10 So I'm not sure when surveys are going to be
11 done, much less mitigation for what those surveys turn
12 up.

13 MR. MIZELL: In reaching your opinions, did
14 you analyze the California WaterFix Avoidance
15 Mitigation Measures relevant to cranes in the
16 Mitigation Monitoring and Reporting Plans?

17 WITNESS FRIES: I've read a lot about the
18 crane mitigation, especially on the area around the
19 Stone Lakes Reserve and on Staten Island.

20 But it's my opinion that birds, the cranes on
21 other Islands, as Bouldin, which is a major site for
22 the cranes, and Staten and south of that on Venice
23 Island, aren't -- aren't properly looked at or
24 mitigated for.

25 MR. MIZELL: So you stated that you "read a

1 lot about." Did that include the avoidance mitigation
2 measures?

3 WITNESS FRIES: I'm sorry?

4 MR. MIZELL: You just answered that you read a
5 lot about the cranes. Did reading a lot include the
6 avoidance and mitigation measures?

7 WITNESS FRIES: I read those measures, yes,
8 for the -- particularly, there's a lot for
9 Staten Island.

10 MR. MIZELL: And did that include the
11 Mitigation Monitoring and Reporting Program?

12 WITNESS FRIES: Yes, it did.

13 MR. MIZELL: That's my last question. Thank
14 you.

15 CO-HEARING OFFICER DODUC: Mr. Jackson, do you
16 still have cross for Dr. Fries?

17 MR. JACKSON: Yes.

18 CO-HEARING OFFICER DODUC: If so, we will ask
19 Dr. Fries to return at 2:30, and you may conduct your
20 cross then.

21 At this time, we are adjourning to closed
22 session.

23 (Whereupon, the Hearing Panel adjourned to
24 closed session and the luncheon recess was
25 taken at 12:59 p.m.)

1 Monday, April 9, 2018 2:30 p.m.

2 PROCEEDINGS

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4 CO-HEARING OFFICER DODUC: All right. It is
5 2:30. We're back.

6 Let's do a couple housekeeping items before we
7 turn it over to Mr. Jackson.

8 Mr. Volker, thank you very much for responding
9 so quickly to my request.

10 Miss Ansley, you saw?

11 MS. ANSLEY: (Nodding head.)

12 CO-HEARING OFFICER DODUC: All right. Based
13 on Mr. Volker's clarification of his panels, staff has
14 revised the Order of Presentation and it either will be
15 e-mailed out soon.

16 (Conferring with Conny Mitterhofer.)

17 CO-HEARING OFFICER DODUC: And so we will
18 follow that new one that you'll receive, and hopefully
19 there will not be any further major changes.

20 And we will confirm again that we will get to
21 Miss Des Jardins' witness, Mr. Baxter, on Wednesday.

22 We will be in the Byron Sher Auditorium, the
23 huge big room, and we may stay as late as 7 p.m., if
24 necessary, in order to complete the entirety of his
25 direct and cross.

1 Miss Des Jardins.

2 MS. DES JARDINS: I just wanted to note:

3 I have been keeping fairly careful track of
4 the order of parties, and I believe that Snug Harbor,
5 Clifton Court Forebay and Patrick Porgans were
6 scheduled to go after . . . after PCFFA.

7 And then Save the California Delta Alliance
8 had swapped with Friends of Stone Lake's ECOS. I just
9 was wanting to call the hearing team's attention to
10 that.

11 CO-HEARING OFFICER DODUC: Well, let's
12 double-check that, and let's also hear from Mr. Brodsky
13 to confirm that, please.

14 All right. Any other housekeeping matters?
15 Not hearing any, let's quickly move on before someone
16 brings another housekeeping item.

17 Mr. Jackson.

18 MR. JACKSON: Thank you.

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1 CROSS-EXAMINATION BY

2 MR. JACKSON: Mr. Fries, I've got some
3 questions about five species and their habitats in the
4 Delta.

5 Before I ask specific questions:

6 In your experiene in birding in California,
7 but particularly in the Delta, is the Delta unique area
8 in terms of wetland birds?

9 WITNESS FRIES: I've birded almost throughout
10 the world. I sailed my boat from Glacier Bay to
11 Panama, and I birded the whole West Coast.

12 The San Joaquin/Sacramento Delta is unique as
13 any spot on this earth for birding.

14 MR. JACKSON: And what -- what makes it that
15 way, in your opinion?

16 WITNESS FRIES: It's the largest estuary on
17 the West Coast of the Pacific. It is winter habitat
18 for millions of birds, I think.

19 It has diverse habitat of riparian wetlands,
20 open water. It draws a number of birds and -- and,
21 unfortunately, a lot of them have left their breeding
22 habitat here.

23 MR. JACKSON: Now, there are other places in
24 California that have wetland habitat; for instace, the
25 Grasslands area in the San Joaquin?

1 WITNESS FRIES: Yes

2 MR. JACKSON: And some of the Sacramento
3 Valley U.S. Fish and Wildlife Service wetlands?

4 WITNESS FRIES: Yes

5 MR. JACKSON: Does the San Francisco Bay-Delta
6 wetland complex assist in the effect of those smaller
7 areas?

8 WITNESS FRIES: Yes. It's thought that some
9 of the birds from here are actually having to leave
10 this area to -- because of the -- the Delta area
11 because of lack of.

12 Black Rails, for instance, are starting to
13 habitat some of the small wetland ponds and feeding up
14 into the Sierra Foothills in areas.

15 But -- But, yes, the birds do use the habitats
16 interchangeably to some extent, but the center of a lot
17 of it is right in the Delta.

18 MR. JACKSON: Now, within the Delta complex
19 itself, for birds, is -- are -- are all the different
20 types of habitat, say, riparian habitat and tidal
21 habitat, do they work for all species or are there
22 specialists within those areas?

23 WITNESS FRIES: There are specialized --
24 specialized species. The species have adapted to or --
25 yeah -- have evolved to use specific habitat.

1 MR. JACKSON: And so those habitats are not
2 particularly interchangeable.

3 WITNESS FRIES: It's difficult to change
4 habitat for a bird.

5 MR. JACKSON: Well, for instance, you talked
6 about the Black Rail.

7 WITNESS FRIES: Yes

8 MR. JACKSON: What kind of habitat does the
9 Black Rail use within the Delta?

10 WITNESS FRIES: The Black Rail requires a very
11 heavy cover of a tidal wetland -- birds?

12 A. Tidal wetland, with access to an upland
13 refuge, a higher water. And that's how I really got
14 into this thing.

15 In 1995 or so, a birder named Waldo Holt, and
16 Dan Gifford, who did one of the first studies on the
17 Black Rail there, we were birding a Christmas Count out
18 at Woodbridge Ecological Reserve. And Dan was talking
19 about how important it was for these birds. And then
20 Waldo got into it, wanting to know how these birds --
21 what do they do in high water? What do they use for
22 Refuge?

23 And so me having a boat, we went out there a
24 number of times trying to find these birds in high
25 water and see if they go -- You know, if they fly away

1 or they go -- But they're so secretive, you can hardly
2 find them. I mean, the only way you can find this bird
3 almost is by vocalization. It'll talk to you if it's
4 in a breeding habitat.

5 MR. JACKSON: Now, you indicated an individual
6 by the name of Dan Gifford.

7 Is that the -- Is that the man who worked for
8 DFG?

9 WITNESS FRIES: Dan Gifford is a retired
10 Biologist -- Senior Biologist from Fish & Game, yes.

11 MR. JACKSON: And was he DFG's sort of
12 resident expert on the Black Rail?

13 WITNESS FRIES: I think so. He did all their
14 surveys for them, yes.

15 MR. JACKSON: And have you seen those surveys?

16 WITNESS FRIES: Oh, yes?

17 MR. JACKSON: Did you put them into evidence
18 at the time you talked or . . .

19 WITNESS FRIES: I used Dan's map of his
20 surveys from '92-93 in cross-exam of Dr. Erle, who was
21 the DFG Biologist talking about terrestrial species,
22 yes.

23 MR. JACKSON: Now, you also talked a little
24 bit about the Tricolored Blackbird.

25 WITNESS FRIES: Oh, yes.

1 MR. JACKSON: Is that a species that is
2 listed?

3 WITNESS FRIES: The Trivalley -- The
4 Tricolored Blackbird is a species of -- a threatened
5 species but it's been recommended for the endangered
6 list. It is a bird that colonizes in breeding habitat
7 preferably reeds, marshland, wet -- wetlands.

8 However, most of those lands have been
9 decimated. That's -- 95 percent of the wetland habitat
10 in the Delta's gone.

11 The bird now has adapted some to try to breed
12 in Himalaya Blackberries and certain agricultural
13 fields.

14 But the problem there is, the farmer comes in
15 and -- and harvests the field and chews up the nest and
16 the nestlings and so forth.

17 So it's very difficult for this bird to find
18 nesting habitat at this time.

19 MR. JACKSON: So, if you were going to try to
20 maintain or even restore some of the missing wetland
21 for a species like the Black Rail, is there a potential
22 that, in doing that, you would -- you would negatively
23 affect another bird species?

24 WITNESS FRIES: It's absolutely the effect.

25 And a good example of that I referred to was

1 that WaterFix has been required to restore 1500 acres
2 of land for another species, the Smelt.

3 And in doing that, they are converting
4 wetlands -- area next to wetlands so they can expand it
5 to the 1500 acres for the Smelt, but they're destroying
6 up to 1,000 acres of -- of habitat for the Tricolored
7 Blackbird and another thousand acres potentially for
8 foraging for the Swainson Hawk.

9 MR. JACKSON: Now, the Swainson Hawk, is that
10 a -- a migrant bird or one that's around year-round?

11 WITNESS FRIES: It's mostly a migrant bird.
12 Most all of them fly to as far south as Argentina in
13 our winters.

14 There's a few that hang around out on the
15 point by the -- oh, Korth's Pirate's Cove. I don't
16 know if you know that area or not. It's right at
17 Bouldin Island -- Between Bouldin Island and Moore's
18 Riverboat, there are about half a dozen that stay and
19 have stayed there for 20 or more years over the winter.

20 MR. JACKSON: Is that an area that would be
21 likely to have effects from the WaterFix?

22 WITNESS FRIES: Bouldin Island, I think, is
23 the major center construction area for WaterFix. There
24 are barge landings there. There are shafts there.
25 There's road building there. There's landfill with

1 tunnel muck there. Yes. Pile driving, a lot of noise,
2 yes.

3 MR. JACKSON: So the resident population of
4 Swainson's Hawks are going to have -- in your opinion,
5 are going to have effect --

6 WITNESS FRIES: Possibly.

7 MR. JACKSON: -- be affected by --

8 WITNESS FRIES: Possibly, yes.

9 MR. JACKSON: Calling your attention to
10 another species that you -- you mentioned. You
11 mentioned the Yellow Warbler.

12 WITNESS FRIES: Oh, yes.

13 MR. JACKSON: What kind of habitat does the
14 Yellow Warbler need?

15 WITNESS FRIES: It's a little bird that flies
16 south in the winter. It's a beautiful little bird.

17 It needs a riparian habitat, a thick low shrub
18 cover habitat in the riparian. There's -- If you look
19 at eBird listings, and I see myself, the birds, in all
20 seasons, in the fall and the spring when they're
21 migrating. But even in June and July, you can find
22 them all in the Delta.

23 It's very hard to find their nest to prove
24 they're nesting. And I've talked to some experts.
25 They say they know where a couple nests are. And I

1 know that people at -- scientists at U.C. Davis are --
2 have an experiment going to try to track these birds
3 back to their natural.

4 They've all left their natural bird breeding
5 habitat in the Delta. So they're trying to track them
6 back by playing their song when they're coming through
7 a migration, thinking they'll like the area if it's
8 habit -- habited and stay there.

9 MR. JACKSON: How much riparian habitat has
10 the Delta lost in the last 50 years?

11 WITNESS FRIES: Oh, I can say. Most of it.
12 There's not much left.

13 MR. JACKSON: And is there likely to be, in
14 your opinion, an effect on riparian habitat from the
15 WaterFix?

16 WITNESS FRIES: They predicted -- They say
17 10 acres for the -- for the Swainson Hawk, and so many
18 acres for this other bird and so forth. But they
19 missed some birds, too, that are -- really depend on
20 that besides the Warblers.

21 MR. JACKSON: So . . .

22 You indicated that you're in -- that you --
23 you're interested in potential effects on the American
24 White Pelican.

25 What types of habitat does the American White

1 Pelican use?

2 WITNESS FRIES: They feed in shallow
3 waterways, wetland. They scoop. They don't dive like
4 the Brown Pelican we know.

5 They mostly -- They don't nest in the Delta
6 known. They nest kind of up north, Klamath area of
7 California. But they come here to forage -- forage
8 and -- and -- and survive Winters and so forth, so
9 they're here.

10 MR. JACKSON: Now, I -- We've just talked
11 about five species and they're mostly in different
12 habitats --

13 WITNESS FRIES: Yes.

14 MR. JACKSON: -- is that correct?

15 WITNESS FRIES: Yes.

16 MR. JACKSON: Do you have a feel for the
17 overall number of species that use the San Francisco
18 Bay-Delta watershed?

19 WITNESS FRIES: Oh, I don't know. Hundreds.
20 I would guess -- I don't -- I couldn't -- I couldn't
21 say, but I'd say hundreds.

22 I mean, even -- We know that there's at least
23 30 to 40 threatened endangered -- of high concern birds
24 that are using it. And that's not counting the normal
25 birds that, you know, they think are -- the numbers are

1 still pretty big.

2 And all the migrant birds, like the Geese and
3 the other Rails and so forth that -- that migrate here
4 seasonally to survive.

5 MR. JACKSON: You used that number 95 percent
6 of the wetland areas in the San Francisco Bay-Delta
7 Estuary have been lost or affected substantially?

8 WITNESS FRIES: Yes.

9 MR. JACKSON: Is that number generally
10 accepted in the scientific community?

11 WITNESS FRIES: Oh, yes.

12 MR. JACKSON: So I guess -- I'm going to ask
13 you the same question for -- for each of these species.

14 Keeping in mind that 95 percent of the habitat
15 has been affected already, do you feel that it is
16 unreasonable to affect the last 5 percent of the Black
17 Rails' habitat?

18 WITNESS FRIES: It's -- It's -- It's criminal
19 in my mind.

20 MR. JACKSON: Now . . .

21 That could happen well -- in a well-meaning
22 way; right? Trying to -- Trying to preserve the Delta
23 Smelt, for instance --

24 WITNESS FRIES: Certainly.

25 MR. JACKSON: -- could send the Black Rail

1 extinct.

2 WITNESS FRIES: Certainly.

3 MR. JACKSON: Calling your attention to the
4 Yellow Warbler.

5 WITNESS FRIES: Yes.

6 MR. JACKSON: You indicate that that's in
7 riparian habitat.

8 WITNESS FRIES: Yes.

9 MR. JACKSON: And the riparian habitat is down
10 from originally?

11 WITNESS FRIES: Marketed, yes.

12 MR. JACKSON: By the same 95 percent sort of?

13 WITNESS FRIES: I don't know the exact
14 percentage but markedly now.

15 MR. JACKSON: Do you feel it would be
16 unreasonable -- an unreasonable effect on wildlife to
17 alter the last amount of Yellow Warbler habitat in the
18 Delta?

19 WITNESS FRIES: Yes. Not only for the
20 Yellow -- Yellow Warbler but Swainson's Hawks,
21 White-tailed Kites, other birds that are highly
22 dependent on what's left.

23 MR. JACKSON: And so each of these birds, the
24 five that we've talked about in these questions, could
25 be seen as an indicator species for other species that

1 have evolved to use the same kind of habitat?

2 WITNESS FRIES: Yes, I -- I agree with that.

3 MR. JACKSON: So do you believe that to alter
4 the remaining habitat with this program would be an
5 unreasonable effect on this wildlife?

6 WITNESS FRIES: Yes. And that's why I'm here
7 testifying.

8 MR. JACKSON: If there are solutions to
9 avoiding the destruction of habitat, is that generally
10 considered the -- in -- in science the best way to
11 mitigate things is to just avoid them?

12 WITNESS FRIES: Yes. Number one is avoid.
13 Number one primary goal in mitigation is to avoid
14 destruction of critical land.

15 MR. JACKSON: And so to avoid the destruction
16 of the critical habitat for these species, does it
17 follow that one needs to be very, very careful about
18 their monitoring program pre-construction?

19 WITNESS FRIES: Extremely. And that was my --
20 one of my major criticisms of -- of -- of the WaterFix
21 program.

22 There's been very poor preliminary surveys,
23 and certain important data's been ignored for
24 convenience -- in my mind, has been ignored for
25 convenience of putting WaterFix through.

1 MR. JACKSON: Were you here when they
2 testified as to the conceptual level of their WaterFix
3 design?

4 WITNESS FRIES: Would I . . .

5 MR. JACKSON: Were you present when --

6 WITNESS FRIES: No.

7 MR. JACKSON: -- we were talking about the
8 engineering?

9 WITNESS FRIES: I didn't take part any of
10 Part 1.

11 MR. JACKSON: Do you -- Do you believe, from
12 your examination of the environmental documents, that
13 we know enough at the present time of what the effect
14 would be on wildlife in the Delta to build this
15 Project?

16 WITNESS FRIES: No. It's not been
17 investigated properly.

18 MR. JACKSON: Now, you indicated that, in
19 regard to Black Rails, that there was information from
20 Dan Gifford, a retired DFG person?

21 WITNESS FRIES: Yes. And also in a
22 publication that came after that that was critical.

23 MR. JACKSON: And did you find that in the
24 record as you were looking to see where the Rails were?

25 WITNESS FRIES: Yes, I did. I found a paper

1 by Dr. Tsao.

2 MR. JACKSON: So the Board could look for that
3 paper to see what the effect would be?

4 WITNESS FRIES: It's in the record as DDJ-246,
5 I think.

6 MR. JACKSON: Okay. Thank you very much.

7 CO-HEARING OFFICER DODUC: Thank you,
8 Mr. Jackson.

9 That's all the cross I have.

10 Any redirect?

11 MS. DES JARDINS: No.

12 CO-HEARING OFFICER DODUC: Thank you,
13 Dr. Fries.

14 WITNESS FRIES: Thank you very much. Thank
15 you.

16 (Witness excused.)

17 CO-HEARING OFFICER DODUC: And as we're making
18 the change, please come on up.

19 Let me get some estimate of timings.

20 Miss Meserve, how much time do you
21 anticipate -- Oh, are you making an Opening Statement?

22 MS. MESERVE: Yes. I would like 10 minutes
23 for Opening Statement.

24 CO-HEARING OFFICER DODUC: Okay.

25 MS. MESERVE: And then we will need an hour

1 and 15 minutes for direct, which is less than 20
2 minutes per person.

3 CO-HEARING OFFICER DODUC: Thank you. You
4 beat me to it.

5 And what is the estimated cross, please, for
6 Miss Meserve's first panel?

7 MS. ANSLEY: Jolie-Anne Ansley, Department of
8 Water Resources.

9 45 minutes, 40 minutes.

10 CO-HEARING OFFICER DODUC: All right.

11 Any other cross?

12 MR. KEELING: Tom Keeling for San Joaquin
13 County Protestants.

14 No more than 15 minutes.

15 CO-HEARING OFFICER DODUC: Okay.

16 MS. DES JARDINS: Dierdre Des Jardins.

17 Up to 20 minutes.

18 MR. JACKSON: Michael Jackson for the CSPA
19 parties.

20 30 minutes.

21 CO-HEARING OFFICER DODUC: 30 minutes?

22 All right. By my estimate, Miss Meserve, we
23 will not get through this panel today and they will
24 have to return tomorrow.

25 MS. MESERVE: (Nodding head.)

1 CO-HEARING OFFICER DODUC: So let's move on.

2 And Miss Meserve, what is your anticipated
3 direct for your Panel 2? I'm trying to determine
4 whether or not we can get through them tomorrow.

5 MS. MESERVE: I think it's about the same
6 amount of time for direct.

7 CO-HEARING OFFICER DODUC: Okay. And
8 estimated cross for Miss Meserve's second panel?

9 MS. ANSLEY: 20 to 30 minutes for the DWR.

10 CO-HEARING OFFICER DODUC: Anyone else?

11 MR. JACKSON: Michael Jackson for the CSPA
12 parties.

13 30 minutes.

14 CO-HEARING OFFICER DODUC: Okay.

15 MR. KEELING: Tom Keeling for the San Joaquin
16 County Protestants.

17 For the second panel, I don't think more than
18 five minutes.

19 CO-HEARING OFFICER DODUC: Okay.

20 MR. HERRICK: John Herrick, South Delta
21 parties.

22 Maybe 10. It'll be Dean Ruiz.

23 CO-HEARING OFFICER DODUC: All right.

24 Mr. Ruiz.

25 MS. DES JARDINS: Deirdre Des Jardins.

1 Maybe 10.

2 CO-HEARING OFFICER DODUC: I'll do some quick
3 math and we'll regroup at the end of the day.

4 But it looks like we will get through
5 Miss Meserve's second panel tomorrow, which means we
6 might get to PCFFA's first panel in the afternoon.

7 But let me redo my math and make sure.

8 MS. MESERVE: And would -- Does that work,
9 Miss Des Jardins, to -- They have a panel they can put
10 forth in the afternoon.

11 CO-HEARING OFFICER DODUC: That's my
12 understanding from Mr. Volker's letter.

13 MS. DES JARDINS: Yes, they would. There are
14 witnesses they can put on in the afternoon. There is
15 two of the tribal witnesses have another commitment for
16 a big hearing in the Federal Court.

17 CO-HEARING OFFICER DODUC: Yes. We saw that
18 in Mr. Volker's correspondence.

19 All right.

20 MS. MESERVE: Excellent.

21 CO-HEARING OFFICER DODUC: Miss Meserve, you
22 may begin your Opening Statement.

23 MS. MESERVE: Okay. And I will note: I'm
24 assisted here by Jeremy Stone who's a law student at
25 McGeorge who is going to be sitting here today. He's

1 been helping me get the panels ready.

2 CO-HEARING OFFICER DODUC: I'm sorry. What's
3 his name again?

4 MS. MESERVE: Jeremy Stone.

5 CO-HEARING OFFICER DODUC: I don't see a name
6 tag, so . . .

7 MS. MESERVE: I didn't manage to get a name
8 tag. I apologize.

9 OPENING STATEMENT

10 MS. MESERVE: Good afternoon. We're here
11 today, and I'm representing the Friends of Stone Lake
12 National Wildlife Refuge and also appearing as a
13 representative for Save our Sandhill Cranes and
14 Environmental Council of Sacramento to present regional
15 conservation groups regarding the unreasonable impacts
16 on fish and wildlife that granting this Petition would
17 have and why it would not be in the public interests.

18 Before I real briefly go -- give an overview
19 of the testimony, I want to mention two items from our
20 Opening Statement that -- with which we continue to be
21 concerned.

22 One is the -- the Project Description, and
23 especially the impacts to terrestrial resources, are
24 not fully described.

25 If -- The Petition itself, SWRCB-1, has only

1 two paragraphs about impacts to terrestrial resources
2 in it.

3 And the later-submitted DWR-324 is -- simply
4 refers back to the revised Draft EIR without further
5 detail.

6 So we believe this minimalistic approach fails
7 to address the unreasonable impacts on fish and
8 wildlife that are detailed in the local conservation
9 groups' case in chief and throughout Part 2 of the
10 hearing.

11 And, in particular, we're concerned about the
12 failure to -- of the Petitioners to address the
13 Project's illegal take of fully protected species and
14 other public trust wildlife.

15 In addition, we are concerned still that
16 there's no -- no conditions to prevent unreasonable
17 impacts to fish and wildlife. The Petitioners haven't
18 proposed any conditions and choose instead to rely on
19 the measures already adopted by DWR and other agencies.

20 And we believe this Board, however, has the
21 broad authority and must impose the conditions
22 necessary to prevent unreasonable impacts on fish and
23 wildlife if the Petition is granted.

24 So moving on to a very brief overview of our
25 panels.

1 The first panel is focused on Greater Sandhill
2 Crane and other protected species. And while impacts
3 to aquatic life are certainly very important and need
4 to be considered, terrestrial wildlife impacts are also
5 important in considering this particular Water Rights
6 Petition because the footprint is so large and
7 destructive.

8 The panel today will describe how the bird
9 species, including those that are fully protected under
10 State law, would be greatly disturbed and, in some
11 cases, killed by the Project if it is approved.

12 First, we'll be hearing from Rob Burness. He
13 is sitting in the place of Mr. Finley, who is unable to
14 attend today. And we've submitted substitute testimony
15 for him last week, which does not change the content of
16 it.

17 And Mr. Burness is also a Stone Lakes Board
18 Member and a long-time planner at the County of
19 Sacramento with a lot of experience in conservation.
20 So he'll be talking, just giving a brief overview about
21 the Refuge and the Friends group.

22 Then we'll hear from Dr. Gary Ivey, a Sandhill
23 Crane expert who spent decades studying the Crane
24 population that call the Delta home each winter.

25 And he will explain why the characteristics of

1 the Cranes make take from the transmission lines and
2 construction likely, and he also discusses why AMM20
3 and other measures would not prevent that take from
4 occurring.

5 And he touches on some of the other Project
6 disturbances, as well as his concern about the failure
7 to address the Lesser Sandhill Crane, which is also an
8 important public trust resource locally.

9 You'll then hear from Michael Savino, who's
10 President of the Save Our Sandhill Cranes. He will
11 describe the successes of the Crane Festival and the
12 Bird Festival in Galt, and a lot of tours going on, to
13 give context for why this is important for our area
14 that we protect these birds.

15 You'll hear from Dr. Pandolfino after that, an
16 avid birder and researcher writer, regarding avian
17 issues. And he will talk in particular about
18 unreasonable impacts to the fully protected species
19 Black Rail, White-tail Kite, as well as the Crane, and
20 some of the problems with the bird diverter mitigation.

21 And then last today, you'll hear from Jim
22 Pachl, a retired attorney and long-time advocate for
23 Swainson Hawk in our community. He'll describe his
24 concerns with the Project's permanent destruction of
25 thousands of acres of Swainson Hawk habitat.

1 And he also discusses mitigation for habitat
2 for Swainson's Hawks to be too far away to benefit our
3 local population of Swainson Hawk.

4 Tomorrow, we'll hear from our Regional
5 Conservation panel that will give a little broader view
6 of this Project in the context of other local
7 conservation efforts.

8 And we'll hear again from Mr. Burness with his
9 original testimony based on the -- talking about the
10 importance of South Sacramento's habitats to which this
11 Project joins.

12 And he'll describe why he's concerned about
13 the fate of the South Sacramento HCP in conjunction
14 with this Petition Project, and about truck traffic,
15 and also some of his concerns about mitigation being
16 implemented in an effective manner.

17 You'll also hear from Sean Wirth, a Biologist
18 and a steward of our local area's wildlife. And he
19 will be talking about the future and the sensitive
20 areas in our -- here if the Project was built and
21 operated.

22 He'll get a little more detail about the
23 interference of the South Sacramento HCP, some of the
24 mitigation concerns with the Sandhill Crane, including
25 the experimental nature of some of those measures, and

1 discuss the scale of the wetland fill that is proposed
2 to fill some of the last remaining wetlands in
3 California, or a very large part of them.

4 And then you will hear from David Yee, who's
5 an avid bird watcher and bird guide. He will describe
6 the cultural significance of wildlife in the Delta as
7 associated with recreation and a sense of place, and
8 including values for future generations and impacts on
9 tourism in the Delta.

10 Last tomorrow, you'll hear from Dr. Judith
11 Lamar, a public policy professional in air quality.
12 And she will describe her concerns with the multibasin
13 Project not meeting air quality standards -- multibasin
14 Project being proposed in basins that aren't meeting
15 air quality standards and some of the issues that arise
16 when a Project goes across several basins and the
17 mitigation does not properly account for that.

18 So, we'll go ahead and get started on our
19 first panel today.

20 We're going to start with Mr. Rob Burness.

21 And do you want them to take the oath?

22 CO-HEARING OFFICER DODUC: Thank you.

23 Please stand and raise your right hands.

24

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Gary Ivey,
Michael Savino,
Ed Pandolfino
and
James Pachl,

called as witnesses by the Friends of Stone
Lake National Wildlife Refuge, Save our
Sandhill Cranes & Environmental Council of
Sacramento , having been duly sworn, were
examined and testified as follows:

CO-HEARING OFFICER DODUC: Thank you.

THE WITNESS: Ready? I have a -- under
Scott's name, I think there is -- or maybe mine, there
is a --

CO-HEARING OFFICER DODUC: Would you make sure
your microphone is on.

MS. MESERVE: Yes.

CO-HEARING OFFICER DODUC: There should be a
green light.

MS. MESERVE: We'll be looking for his
testimony at FSL-2, which is the PowerPoint.

DIRECT EXAMINATION BY

MS. MESERVE: So just to begin with:

Mr. Burness, can you -- Is FSL-3 a true and

1 correct copy of your testimony?

2 WITNESS BURNES: Yes, it is.

3 MS. MESERVE: And is FSL-2 a true and correct
4 copy of the PowerPoint presentation you'll be using
5 today?

6 WITNESS BURNES: Yes.

7 MS. MESERVE: And can you please provide some
8 background of your relative experience for this
9 testimony.

10 WITNESS BURNES: I was a planner with
11 Sacramento County for close to 30 years, directly
12 involved in conservation efforts at the county and in
13 the area.

14 For the last 12 years, I have been the
15 Co-Chair -- or the Chair of the conservation committee
16 of the Friends of Stone Lakes, and my testimony this
17 afternoon will focus on the Refuge and the friends'
18 groups efforts to protect it.

19 MS. MESERVE: And in preparation for your
20 testimony today and tomorrow, did you review portions
21 of the EIR for the Project as well as other Project
22 documents?

23 WITNESS BURNES: Yes.

24 MS. MESERVE: All right. Well, go ahead.

25 WITNESS BURNES: Thank you.

1 (Exhibit displayed on screen.)

2 WITNESS BURNES: I'd like to begin with a
3 little bit about the role of the -- the friends group.

4 For the last 25 years or so, we have been
5 actively involved in protecting the Refuge. We provide
6 interpretation, environmental and conservation programs
7 and materials to visitors and the general public.

8 We reach out to various events by tabling.

9 We assist Refuge with resource conservation
10 Projects. We work with the Manager of the Refuge
11 constantly.

12 And we advocate for protecting the Refuge
13 resources with local and other agencies as well as
14 venues such as this.

15 The -- Specifically -- Could we have the next
16 slide, please.

17 (Exhibit displayed on screen.)

18 WITNESS BURNES: I've got to remember to do
19 that.

20 You can't see it very well but this
21 illustrates --

22 CO-HEARING OFFICER DODUC: Okay. We have to
23 see this.

24 WITNESS BURNES: This picture illustrates why
25 we are enamored with and want to protect the Refuge.

1 There are some beautiful and important wildlife
2 habitats that are well out of public view that are not
3 generally recognized.

4 As far as our role with the WaterFix, we
5 initiated and participated in meetings with the BDCP
6 staff and the DWR in addressing the impacts on the
7 Refuge.

8 We commented on several documents throughout
9 the process, the 2013 EIR/EIS, the 2015 recirculated
10 document, and the 2016 Final EIR/EIS; as well as
11 communicating our concerns to the Department of Fish
12 and Wildlife regarding their authority to issue
13 Incidental Take Permits for the WaterFix.

14 Specifically, our concern was that lead
15 agencies hadn't demonstrated that preferred -- the
16 preferred alternative would meet zero take standards
17 for fully protect the species or would minimize and
18 fully mitigate take of CESA-listed species utilizing
19 the Refuge.

20 The Refuge was established in 1994.

21 If I could have the next slide, please.

22 (Exhibit displayed on screen.)

23 WITNESS BURNES: It was the 505th Natural
24 Wildlife Refuge in the system and one of the first
25 so-called Urban Refuges, which was a program at the

1 time by the Fish and Wildlife Service.

2 The boundary within the Refuge includes
3 approximately 18,000 acres, of which 6,500 are actively
4 managed by the Fish and Wildlife Service.

5 It is located in what is called the
6 Beach-Stone Lakes Basin in Southwest Sacramento and
7 part of the Sacramento-San Joaquin Delta ecoregion.

8 It extends from essentially Freeport, the Town
9 Freeport, south to Snodgrass Slough and Twin Cities
10 Road.

11 And I did note as I was preparing for this,
12 this particular map is somewhat in error. The actual
13 boundary Refuge -- boundary of the Refuge only goes as
14 far as Twin Lakes Boulevard -- Twin Lakes Road --

15 MS. MESERVE: Twin Cities Road.

16 WITNESS BURNES: -- Twin Cities Road.

17 Refuge management is guided by a comprehensive
18 Conservation Plan that was adopted soon after the
19 Refuge was created.

20 As I mentioned, it's one of the first Urban
21 Refuges and helps bridge the gap between the Consumnes
22 River Preserve and the Yolo Basin Refuge. And we'll be
23 talking more about that role -- that physical role in
24 the testimony tomorrow.

25 As early as 2005, the Refuge was designated by

1 the Fish and Wildlife Service as one of the sixth most
2 threatened Refuges in the country, primarily because of
3 urban encroachment and the impacts associated with
4 that.

5 Next slide, please.

6 (Exhibit displayed on screen.)

7 WITNESS BURNES: Here, you can see that urban
8 encroachment. Approximately 450 acres have been
9 urbanized within the boundary of the Refuge. And I
10 don't have a laser pointer, but if you look at the
11 northeast part of the red area, there's some yellow
12 area in the second slide that shows a part of -- a
13 little bit --

14 (Witness Pandolfino hands pointer to Witness
15 Burness.)

16 WITNESS BURNES: I don't think I want to try
17 to use that now. I'm -- I'm not technologically
18 advanced.

19 -- within the -- Within the Refuge boundary,
20 the red boundary of the Refuge.

21 Also, since the establishment of the Refuge,
22 you can see the extent of additional urbanization that
23 has occurred around the Refuge boundary up through the
24 expansion of Elk Grove City.

25 And, actually, as we speak, Elk Grove is

1 working on General Plan amendments that would allow for
2 further -- further urbanization to the south of the
3 current yellow area and east of Franklin Boulevard.

4 The . . .

5 Could I have the next slide, please.

6 (Exhibit displayed on screen.)

7 WITNESS BURNES: Among the impacts of the --
8 this urbanization are the loss of origin habitat for
9 vulnerable species like the Greater Sandhill Crane and
10 Lesser Sandhill Cranes, potential for diminished water
11 quality from urban runoff, as you can see from this
12 slide. And, of course, the greater threats of invasive
13 species due to the proximity of -- of human contact.

14 The Delta Tunnels Project, which is largely to
15 the -- to the east of the urbanization, on the east
16 side of the Refuge boundary, adds one more threat from
17 the east.

18 Slide Number 6, please.

19 (Exhibit displayed on screen.)

20 WITNESS BURNES: Prior to European arrival,
21 this entire area, like much of the valley, was subject
22 to frequent river flooding and was at times entirely
23 filled.

24 It supported thousands -- tens of thousands of
25 migratory waterfowl. And there were also Elk, Prong

1 Horn and Grizzlies.

2 Today, only about 10 percent of the wetlands
3 remain, but it is still an important stopover on the
4 flyway. In particular, since it is just south of the
5 large urban area, it becomes a -- a -- the first
6 opportunity for birds, at least moving south, to -- to
7 stop over for rest and -- and feeding during their
8 migration.

9 The . . . area also supports a diversity of
10 vegetative communities, including Valley Grassland,
11 Riparian Forests, Valley Oak, and we'll talk more about
12 that tomorrow.

13 Could I have the next slide, please.

14 (Exhibit displayed on screen.)

15 WITNESS BURNES: There are over 200 bird
16 species with 90 breeding species that utilize the
17 Refuge wetlands. Waterfowl and shorebirds make
18 extensive use of those wetlands.

19 Next slide, please.

20 (Exhibit displayed on screen.)

21 WITNESS BURNES: The grasslands provide
22 foraging area for birds of prey, including Swainson's
23 Hawk, White-tail Kite, Golden Eagles, Great Horn and
24 Barn Owls and the American Kestrel. And, in addition,
25 it is a foraging area for not only Sandhill Cranes but

1 White-Front Canada and Ross's Geese.

2 Number -- Slide Number 9, please.

3 (Exhibit displayed on screen.)

4 WITNESS BURNESSE: In particular, the Refuge
5 and the surrounding lands provide important habitat for
6 Sandhill Cranes.

7 They arrive in September and October from the
8 northeast part of California primarily, and they --
9 they depart in March and April.

10 The -- In the last few years, the number of
11 roosting Cranes within the Refuge -- roosting -- mostly
12 Greater Sandhills, has increased to over 100 -- 1,000
13 birds from virtually nothing in prior years. And they
14 are commonly seen feeding in and around the Refuge on
15 agricultural lands and grasslands.

16 Turning now to Slide Number 11 to the public
17 use of the Refuge.

18 (Exhibit displayed on screen.)

19 WITNESS BURNESSE: In 2011, the Refuge
20 management, with aid from the Friends group,
21 constructed and restored wetlands, and opened up a -- a
22 Visitors Center, outdoor Visitors Center, which serves
23 as the primary focus for visitor use in the area with
24 over 30,000 visitor use days.

25 We -- In conjunction with the Refuge

1 management, the Friends group provide transportation
2 for school kids for learning experience throughout the
3 winter season, and they sponsor an annual Nature Bowl
4 that -- where the children compete among different
5 schools on their knowledge of nature.

6 Next slide, please.

7 (Exhibit displayed on screen.)

8 WITNESS BURNES: In addition, we conduct a
9 number of wildlife walks. And these are mostly guided
10 because the primary mission of the -- of the Fed --
11 Fish and Wildlife Service is -- is protect the critters
12 first. And to the extent that we can allow a visitor
13 experience, we do.

14 In conclusion, for the last slide.

15 (Exhibit displayed on screen.)

16 WITNESS BURNES: In conclusion, this -- Well,
17 let me explain the slide a little bit.

18 This -- This slide shows the proximity of the
19 Refuge in green to the structures of the proposed
20 WaterFix Project, including the pump stations, and --
21 to the north, and the -- the location of the forebay in
22 the south, at the very south end within the Refuge
23 boundary.

24 Also, you can see that they propose --
25 proposed muck storage on Zacharias Island just to the

1 west of that, also within the Refuge boundary. So
2 there is a very definite link here between the proposed
3 improvements and this National Wildlife Refuge.

4 In conclusion, the Friends has established --
5 a long-established record for advocating for the
6 Refuge.

7 We are extremely concerned about the direct
8 and the indirect adverse impacts to the Refuge from the
9 Delta tunnels.

10 We are extremely concerned about the
11 likelihood of mortality to Sandhill Cranes from new
12 transmission.

13 And we believe that the Project's impacts --
14 for example, construction truck traffic -- will be
15 extremely detrimental to a number of species using the
16 Refuge and will result in degradation of the Refuge's
17 resources.

18 And you will hear more about these issues in
19 the testimony to follow.

20 Thank you.

21 CO-HEARING OFFICER DODUC: Thank you.

22 MS. MESERVE: Now, moving on to Mr. Mike
23 Savino.

24 Mr. Savino, is SOSC-1 a true and correct copy
25 of your written testimony?

1 WITNESS SAVINO: Yes.

2 MS. MESERVE: And can you please provide some
3 of your relevant experience for -- for giving this
4 testimony today.

5 WITNESS SAVINO: Well, I've lived in
6 California a little over 50 years.

7 And then, when I retired around 2001, I've
8 been able to volunteer for many environmental
9 organizations and, through that, I've learned a lot
10 about -- and come to love the open green spaces in
11 California and learned about wildlife.

12 And this -- this has led me to really
13 appreciate our good fortune in having -- sharing our
14 habitat with the Greater Sandhill Cranes.

15 I serve as the President of Save Our Sandhill
16 Cranes.

17 MS. MESERVE: And what is -- What are the
18 goals of Save Our Sandhill Cranes?

19 WITNESS SAVINO: When we became incorporated
20 as a nonprofit in California about 12 years ago -- it's
21 a 501(c)(3) -- we were concerned about the loss of
22 habitat. So our mission was to protect the habitat
23 through advocacy and testifying in hearings, such as
24 today, at the local level, state level, regional level.

25 As you all know, the Greater Sandhill Crane is

1 protected under CESA, California Endangered Species
2 Act, as a threatened species. So we want to educate
3 the public, advocate for -- for the Cranes.

4 And we do this public education through
5 conducting free tours to see the Cranes, and to engage
6 with the public at events such as the recent 21st
7 Annual Lodi Sandhill Crane Festival, and the Galt
8 Winter Bird Festival which we helped originate about 10
9 years ago.

10 While we're relatively small, we do have about
11 750 supporters.

12 MS. MESERVE: And Mr. Savino, why do you think
13 people travel from all over the state and beyond to see
14 the Greater Sandhill Cranes?

15 WITNESS SAVINO: Firstly, if I could get the
16 projectionist to show Exhibit SOSC-3 up on the screen,
17 you'll begin to get an understanding of what it is
18 that --

19 (Exhibit displayed on screen.)

20 WITNESS SAVINO: -- attracts so many people.

21 There are hundreds of species of birds in
22 North America. And the Sandhill Crane, among those
23 hundreds, is among the top 10 largest birds in all of
24 North America. Stands about 5 feet tall, has a
25 wingspan of about 6 feet. So, therefore, it stands out

1 at a distance.

2 It's revered in many cultures as a symbol of
3 fidelity, it mates for life, longevity, could live up
4 to over 30 years in the wild, and it's a -- and it's
5 seen as a harbinger of good luck.

6 The Cranes appear in mythology of cultures all
7 around the world. It is also one of the oldest extant
8 bird species in the world. Paleontologists have found
9 the remains of Cranes going back perhaps 10 million
10 years. So, therefore, we feel we're truly blessed to
11 be able to share our space with this ancient iconic
12 animal.

13 MS. MESERVE: And, now, Mr. Savino, aside from
14 the potential threats from the tunnels, is the Greater
15 Sandhill Crane already subject to habitat loss?

16 WITNESS SAVINO: Absolutely. It's been
17 suffering habitat loss since -- not only since the --
18 well, since the Europeans came here, but recently in a
19 more accelerated basis.

20 And the Delta Tunnels Project would only
21 increase the pressure on the Cranes.

22 MS. MESERVE: And going back to your group,
23 Save Our Sandhill Cranes, what's the group's most
24 popular outreach activity?

25 WITNESS SAVINO: I think, by far, the most

1 popular activity is the free viewing Crane tours we
2 conduct in the Delta Region.

3 Over the years, we've attracted literally
4 hundreds of ecotourists to the Delta to see these
5 iconic megafauna. People from all over the state and
6 beyond participate in our tours.

7 I also lead Crane-viewing tours for the State
8 Department of Fish and Wildlife. I'm a trained tour
9 docent for them.

10 And these tours -- that is, the DFW tours --
11 also introduce hundreds of tourists to the Delta every
12 year. So taken together, the DFW, Audubon and SOSC
13 Crane tours, have introduced thousands of people to the
14 Delta.

15 If you could put up image -- Exhibit SOSC-5,
16 scroll to Pages 2 and 3.

17 This gives you an indication of the impact of
18 the -- what we consider our flagship event each year,
19 the Lodi Sandhill Crane Festival.

20 About --

21 (Exhibit displayed on screen.)

22 WITNESS SAVINO: -- between 1500 and 2,000
23 visitors come to that festival every year. They do 46
24 tours for over a thousand reserved spots.

25 Last November 2017, online registration

1 included people from a variety of areas. They did 46
2 tours.

3 The participants was surveyed as to location,
4 and we found 35 percent come from the greater Bay Area,
5 about 29 percent from the greater Sacramento area,
6 11 percent Stockton/Manteca/Modesto area, 11 percent
7 from the greater Lodi area, about 14 percent for the
8 northern coastal and Southern California, plus a
9 handful from out of the state.

10 Perhaps 800 individuals participate in tours
11 during that weekend. And these numbers are fairly
12 consistent with previous years.

13 MS. MESERVE: And do you think, Mr. Savino,
14 that the influence of Save Our Sandhill Cranes and
15 these festivals extends afterward, after these events?

16 WITNESS SAVINO: Definitely.

17 You know, when we take people out on tours,
18 they learn the route, they learn where the Cranes are,
19 what time to see them. So then they could come back on
20 their own. And when they do so, they bring friends,
21 they bring relatives. So our influence is
22 multiplied -- multiplied in countless ways that way.

23 And, then, many, I guess, ask us for
24 recommendations on places to stay or dine, and we
25 usually refer them to local Delta restaurants or to

1 Lodi or Galt Thus, the Cranes bring visitors and
2 economic benefits to our region.

3 As I just discussed, additionally, the Lodi
4 Crane Festival attracts thousands of visitors, which
5 causes people to stay in the region and spend money in
6 the region.

7 MS. MESERVE: And, now, considering the tours
8 and the popularity of the Crane-viewing locations, what
9 is your opinion about the Tunnels Project as it relates
10 to the public interest?

11 WITNESS SAVINO: I don't know that it'll be a
12 final straw, but it's getting down to the wire now.

13 This will be another terrible impact on
14 Cranes, and I think it'll be a terrible negative
15 impact, and I don't think it's in the public interest.

16 MS. MESERVE: Thank you, Mr. Savino.

17 Now we'll go to Dr. Gary Ivey for his
18 testimony.

19 Dr. Ivey, is FSL-21-Errata a true and correct
20 copy of your written testimony?

21 WITNESS IVEY: Yes, it is.

22 MS. MESERVE: And make sure to turn on your
23 mic.

24 WITNESS IVEY: Oh, there we go.

25 Yes, it is.

1 MS. MESERVE: And is FSL-22 a true and correct
2 copy of your Statement of Qualifications?

3 WITNESS IVEY: Yes, it is.

4 MS. MESERVE: And is FSL-23 a true and correct
5 copy of your PowerPoint presentation?

6 WITNESS IVEY: Yes.

7 MS. MESERVE: And did you review the Final EIR
8 and other associated documents in preparation for your
9 testimony?

10 WITNESS IVEY: I did.

11 MS. MESERVE: Can you go ahead and give us
12 some of your background in academic and other
13 credentials for providing this testimony today, please.

14 WITNESS IVEY: Yes.

15 I'm Gary Ivey. I grew up in Seres,
16 California, so I spent a little bit of time here. I
17 live in Oregon.

18 Back in the '60s, when I was in high school, I
19 used to enjoy seeing Cranes, and they used to be in the
20 foothills east of Modesto, and they're no longer there,
21 but I got very interested then.

22 But I went to Humboldt State and got a degree
23 in Wildlife Management and a Bachelors -- Bachelors
24 Degree in biology there. Got a job, started working in
25 Refuges primarily.

1 And in 1979, I worked on a nesting study at
2 Malheur National Wildlife Refuge, which is the most
3 important refuge in the west for breeding Greater
4 Sandhill Cranes. About 250 pairs there.

5 I ended up later in '83 working there for 15
6 years studying nesting and ended up doing my Master's
7 project on breeding ecology of Greater Sandhill Cranes.

8 I also spent about a year working in
9 Sacramento Refuge Complex here in the valley and
10 tracked Cranes around the wintering areas.

11 I worked at Kern Refuge Complex, which
12 includes Pixley Refuge. And Pixley is a very important
13 wintering site as well.

14 And I'm -- Because I worked here in the valley
15 and spent a lot of time in the valley, I'm very
16 familiar with all the Refuges and all the different
17 sites where these Cranes are, including the Delta.

18 I ended up going back to grad school and
19 getting my Ph.D. and finished in 2015 on wintering
20 ecology of Greater and Lesser Sandhill Cranes in the
21 Sacramento Delta.

22 MS. MESERVE: Thank you, Dr. Ivey.

23 Now, using your PowerPoint, FSL-23, if we
24 could, please, could you go ahead and summarize your
25 testimony.

1 (Exhibit displayed on screen.)

2 WITNESS IVEY: Yes.

3 If we could move on to the second slide.

4 (Exhibit displayed on screen.)

5 WITNESS IVEY: To give you a little history of
6 the -- of the species -- the subspecies of Greater
7 Sandhill Crane. It's not well documented,
8 unfortunately, in historic details.

9 But in the 1850s, as Americans were looking
10 for ways to get people out west, there were railroad
11 surveys across the Intermountain West.

12 And on those surveys, they had a bunch of
13 geologists and botanists and biologists that documented
14 the flora and fauna that they encountered.

15 And in regards to Greater Sandhill Cranes they
16 said that there were fairly regularly -- They
17 encountered them regularly in their travels across the
18 Intermountain West. And Cranes primarily breed in the
19 Sierras and off to the east of there.

20 We don't have direct evidence they nested in
21 the valley but they breed in the mountains and
22 throughout the great -- into the Rocky Mountains and so
23 forth.

24 So, they also described them -- Some of the
25 indian villages had Cranes that were like chickens,

1 treated like chickens as pets, so they were pretty
2 common.

3 As the Gold Rush came into the area, you know,
4 All the western states were invaded by gold miners,
5 California more than others. And I can only speculate
6 those guys were pretty hungry and removed a lot of
7 Cranes from the landscape just to feed themselves.

8 And as that -- that population of gold miners
9 came into the west, there's new industries came in to
10 feed them, and that was primarily market hunting.

11 There was heavy market hunting that's been
12 documented here in the Central Valley where the Cranes
13 were wintered. They were decimated by market hunting.

14 By -- When they started recording them -- what
15 happened with Cranes, they were protected in 1918 by
16 the Migratory Bird Treating Act. They were declared a
17 huntable species but they closed the seasons on them
18 because populations were so low.

19 In the 1940s, a fellow by the name of
20 Walkinshaw reported there were only four to five pairs
21 left breeding in California. They went extinct.

22 In Washington State, the last egg they knew
23 about it was in 1941.

24 And in Oregon, unfortunately, about a hundred
25 pairs survived all that onslaught.

1 On top of the hunting impacts a lot of habitat
2 where they breed, which is seasonal wetland habitats,
3 wet meadows, was developed and homesteaded, you know,
4 because water is were where people settled, so a lot of
5 the habitat was eliminated for their breeding grounds
6 as well. So there's these double impacts of both
7 overhunting and habitat loss.

8 And here in the valley, you know, you heard a
9 couple references already today about 90 to 95 percent
10 of the wetlands being lost. That's -- That was a huge
11 impact on these wintering Cranes which probably
12 historically mostly fed in seasonal wetlands, in these
13 flood claims.

14 But the other big factor: They're kind of a
15 grassland wetland species. They like to feed in the
16 uplands.

17 And I suspect, because common Cranes in Europe
18 feed in oak savannas in Spain, that the Greater
19 Sandhill Cranes had a lot of interest in the acorns of
20 Valley Oaks and that was probably at least 90 --
21 probably 99 of the Valley Oak habitat has been
22 destroyed in California with development settlements
23 so . . .

24 But, fortunately for their recovery, they've
25 learned, like other spices of waterfowl, to forage in

1 grain fields which has helped their populations grow.
2 And so now they're focused on mostly corn and rice here
3 in the wintering grounds. And so it isn't all bad, but
4 they're still losing habitat pretty fast.

5 CO-HEARING OFFICER DODUC: Miss Ansley?

6 MS. ANSLEY: Yeah.

7 Just I -- Not to interrupt a lot, but I'd like
8 to also put in an objection and caution that, you know,
9 we need to stay on the bounds of the direct testimony.

10 I under -- I'm looking at this slide and I did
11 hear the facts here. But I also note there were a
12 number of facts that were supplemented on about the
13 history, which I don't have a problem with right now.
14 I'm just cautioning that.

15 I would like the witness, as he moves forward
16 into his impact analysis and more substantial data, to
17 stick to their direct testimony.

18 Thank you.

19 WITNESS IVEY: Okay.

20 MS. ANSLEY: But I will not move to strike the
21 historical stuff.

22 CO-HEARING OFFICER DODUC: Very kind of you.

23 Dr. Ivey.

24 WITNESS IVEY: Yeah. Just my last point there
25 is, they really haven't fully recovered to their

1 historic levels still. You know . . . I'll just leave
2 it at that.

3 Moving on to the next slide.

4 (Exhibit displayed on screen.)

5 WITNESS IVEY: This basically shows their
6 breeding distribution in this large green polygons.

7 And the last survey for the breeding
8 population in California, which I myself and one of my
9 associates conducted, showed 565 pairs, so they have
10 recovered somewhat.

11 But you can see the wintering sites. Most of
12 the Greater Sandhill Cranes winter in the Sacramento
13 Valley and the Delta. There's very few south of the
14 Delta, few around Modesto/San Joaquin River Refuge.
15 And in the San Joaquin Valley, very low percentages of
16 the Greater. So it's mostly Sacramento Valley and the
17 Delta.

18 In the Delta, about 20 percent of the
19 population winters there, and there's much more numbers
20 in Sacramento Valley.

21 And, also, the Delta supports about a third of
22 the Lesser Sandhill Crane population.

23 Next slide.

24 (Exhibit displayed on screen.)

25 WITNESS IVEY: Any new power lines that are

1 Project-related propose a mortality threat to Greater
2 Sandhill Cranes.

3 Anytime there's a new line in the air, these
4 birds are very susceptible. And I'll go into some more
5 details about that. But they're very susceptible to
6 collision with power lines. And take is likely with
7 any new wires that are in the system from the Project.

8 My understanding, since this -- this
9 Alternative 4A is no longer a Natural Communities
10 Conservation Plan or Habitat Conservation Plan, the
11 take may not be appropriate or permissible.

12 And I'm not the legal expert on that so
13 that's -- that's a premise I'm going to take here.
14 There is going to be take. Birds are going to be
15 killed from any new lines.

16 Next slide.

17 (Exhibit displayed on screen.)

18 WITNESS IVEY: Could we put up FSL-37 for a
19 second?

20 (Exhibit displayed on screen.)

21 WITNESS IVEY: I just wanted to show this.
22 Part of my testimony talks about their distribution in
23 the Delta.

24 And this is a figure that was in the Bay-Delta
25 Plan, that I worked on and helped develop, that shows

1 risk index but also it shows the distribution of the
2 roost sites and basically the densities of Greater
3 Sandhill Cranes in different areas of the Delta.

4 I just wanted to highlight at the very north
5 end, these darker areas are higher density areas of
6 Cranes.

7 So at the very north end, we've got Stone
8 Lakes. Down there, next to that darker circle/polygon
9 there, kind of southeast of there is the Consumnes
10 River Preserve Complex and than this -- this other big
11 dark area is two complexes. One's the Staten Island
12 and Bracktrack (phonetic), which is Isenberg.

13 So I just wanted to point out: This figure
14 shows basically where you can expect to see Cranes in
15 the Delta. And they're -- they're not everywhere and
16 they generally, because of their energetics, their
17 energy needs, they only have so much energy to fly so
18 far, so . . . they're limited to this landscape, very
19 limited landscape, that they use.

20 Go back to the PowerPoint, please.

21 (Exhibit displayed on screen.)

22 WITNESS IVEY: So it is a State fully
23 protected species and threatened in California.

24 And so mitigation is required for take in the
25 Habitat Conservation Plan, Natural Communities

1 Conservation Plan context.

2 I did work on the Bay-Delta Conservation Plan
3 and worked with DWR and the other consultants on Crane
4 mitigation measures and also worked on issues of power
5 line mortality, so I'm going to describe that.

6 My task was to estimate take from different
7 versions of the Project from power line installations,
8 and to make recommendations to achieve no net loss to
9 mitigate take of Greater Sandhill Cranes.

10 I'm going to describe that work a little bit.

11 Next slide.

12 (Exhibit displayed on screen.)

13 WITNESS IVEY: Basically, this is kind of the
14 same figure I just showed.

15 But we have these different areas of mortality
16 risk that I highlighted. And using this GIS figure, I
17 came up with estimates of basically Crane overflights
18 and wires -- and some other data which I'll go into
19 more detail here shortly -- to estimate take.

20 And basically what I did was develop a model.
21 You know, models are not perfect but they're very
22 useful.

23 And so the model, in some cases, there's some
24 assumptions we make, which may not be the best model
25 but it's the best we could come up with at the time

1 using the best-available scientific information. So
2 that was the tact.

3 I want to talk -- next slide -- a little bit
4 more about --

5 (Exhibit displayed on screen.)

6 WITNESS IVEY: -- why Cranes are so vulnerable
7 to power lines, why it's such an issue with Cranes and
8 other large birds.

9 Basically body size really makes it tough for
10 Cranes and Swans and large-body birds to maneuver very
11 fast if they -- especially under poor visibility
12 conditions. They can't react and change course, so
13 they're likely to collide more than other smaller
14 birds.

15 Cranes, because of their behavior --

16 Next slide.

17 (Exhibit displayed on screen.)

18 WITNESS IVEY: Just showing these large birds.
19 They're pretty vulnerable to collisions.

20 Next slide.

21 Ready for the next.

22 (Exhibit displayed on screen.)

23 WITNESS IVEY: There we go.

24 And when they take off, they take off at a
25 very low incline so they're very likely to collide with

1 these lower power lines.

2 Also, in their daily flights, from foraging to
3 roosting, they don't fly very high. They're flying
4 about the level of these wires and so that also makes
5 them more vulnerable to collide.

6 Next slide.

7 (Exhibit displayed on screen.)

8 WITNESS IVEY: That was that point.

9 And the next slide.

10 (Exhibit displayed on screen.)

11 WITNESS IVEY: Because they're in large
12 flocks, they're also -- they have trouble seeing the
13 wires sometimes because the birds in front of them
14 obscure their vision.

15 And I actually, during the middle of the day,
16 on a bright sunny day, watched a flock of Cranes flying
17 over a line very carefully about two feet over the
18 wire, and the last bird in the flock hit the line
19 because he couldn't see it for the birds in front of
20 this many. So that's an issue.

21 Their behavior. They spend their night --
22 their nights on these communal roost sites in large
23 flocks in very shallow. And as soon as it gets light,
24 they generally get a little hungry and start moving off
25 those roost sites in low-light conditions.

1 And they return to those roost sites sometimes
2 during the middle of the day and then fly out again in
3 the evening for a second feeding from those roost sites
4 and then fly back just about dusk when the light,
5 again, is poor.

6 So any wires near roost sites are particularly
7 dangerous for these birds.

8 Next slide.

9 (Exhibit displayed on screen.)

10 WITNESS IVEY: And I'm getting ahead of myself
11 talking, but that was my point.

12 Next slide.

13 (Exhibit displayed on screen.)

14 CO-HEARING OFFICER DODUC: I want to linger on
15 the photo.

16 WITNESS IVEY: You want to go back to that
17 sunset there? Sunrise, actually.

18 (Exhibit displayed on screen.)

19 WITNESS IVEY: The distance of lines from
20 roost sites is important. The closer these lines
21 are --

22 Next slide.

23 (Exhibit displayed on screen.)

24 WITNESS IVEY: The closer these lines are to a
25 roost, the more likely the birds are going to strike

1 and, because of that, take off incline, and because
2 there's more birds closer to roost sites than further
3 away.

4 In a study at Colorado found -- they didn't
5 find any evidence of bird strikes more than a mile
6 from -- at lines that were a mile or more from the
7 roost sites. However, there are records of birds being
8 killed further out than that in other areas.

9 Next slide.

10 (Exhibit displayed on screen.)

11 WITNESS IVEY: So, to put this model together,
12 these are the things that I considered:

13 Their movement patterns and how long they use
14 a particular wintering site.

15 The probabilities of flying certain distances
16 from the roost sites.

17 The average bird population at each roost
18 site.

19 Estimates of abundance of Cranes by distance
20 from the site.

21 And estimate -- All that data was used to
22 estimate the number of power line crossings per day
23 and, using the data from the literature on mortalities
24 per crossing, I was able to estimate mortality from
25 different configurations.

1 Next slide.

2 (Exhibit displayed on screen.)

3 WITNESS IVEY: I already kind of said this.

4 They roost in water at night. They feed in
5 the morning. And they loaf in the middle of day. And
6 they may fly over the wires again to return to the
7 sites. They resume feeding in the afternoon and return
8 to roost sites in late evening.

9 I assumed four flights per day over the wires
10 in my model and then we used data from my Ph.D for most
11 of this stuff to look at the duration that radio-marked
12 Greater Sandhill Cranes spent in the winter here. They
13 averaged 130 days. So there's 130 days times four
14 flights a day.

15 Next slide.

16 (Exhibit displayed on screen.)

17 WITNESS IVEY: And also looked at the
18 percentage of birds that would fly at different
19 intervals, at zero to 5-kilometers.

20 And so there's two different metrics here.
21 One is the percentage of all of the flights of Sandhill
22 Cranes at these different intervals, but not all the
23 Greater Sandhill Cranes that we marked flew to all
24 these intervals.

25 So it's a combination of the probability of

1 all the flights that go out to a certain interval, plus
2 the probability of an individual going out to that
3 interval, which is in the next slide.

4 (Exhibit displayed on screen.)

5 WITNESS IVEY: So the model considered that to
6 estimate the percentage of flights that went to each
7 polygon that might have been crossed by a power line,
8 and I'll explain that in a minute.

9 Let's go to the next slide.

10 (Exhibit displayed on screen.)

11 WITNESS IVEY: I had estimates of the number
12 of Greaterers at various roosts sites in the Delta. And
13 you can see here in the middle, it says 150. That's
14 the estimate for the Consumnes River Preserve, kind of
15 the core part of the Preserve.

16 Out towards the floodplain on the northeast
17 corner there, there are about 50 using the roost site.
18 That's along Highway 99.

19 And then over here (indicating) is the
20 Zacharias Island. It says 10 south of the Stone Lakes
21 part of the Refuge there.

22 And so I used these numbers -- and they were
23 the best numbers we had -- to estimate Greaterers at each
24 roost site.

25 Next slide.

1 (Exhibit displayed on screen.)

2 WITNESS IVEY: So I used these numbers and
3 buffered these roost sites by those different intervals
4 and had a population estimate at each roost site, and
5 the probability they fly to these certain polygons, and
6 use that to construct this red line here, proposed
7 power line.

8 I could add up the number of crossings for all
9 these segments. I came up with a number of crossings
10 per year and estimate mortality for that line.

11 And the original analysis that I did, I came
12 up with 48 Sandhill Cranes.

13 Next slide.

14 (Exhibit displayed on screen.)

15 WITNESS IVEY: Just to give you an example,
16 too, in that situation where I had these different
17 roost sites. This is kind of theoretical, but we have
18 2,000 and 200 and 500 at these different roost sites.

19 Where they overlap those polygons, they're
20 additive. So the probability of them being there is
21 additive when those polygons overlap.

22 So that's how the model works. It's a little
23 complicated, but it gave me a very precise way of
24 estimating mortality.

25 Next slide.

1 (Exhibit displayed on screen.)

2 WITNESS IVEY: And, then, when I was asked
3 to -- how to mitigate for those losses, I said, well,
4 let's use the same model.

5 And if we can take the existing lines in that
6 landscape and modify them by either marking them --
7 Which isn't 100 percent effective. It's about
8 60 percent effective when they put line markers on. It
9 reduces take but doesn't completely eliminate it.

10 But you could add up enough segments of
11 marking lines by reducing by 60 percent to get to that
12 same figure, or you could come up with varying a
13 certain segment of line and get 100 percent saving
14 Cranes. And you come up with strategies to eliminate
15 the take and mitigate fully for that.

16 So that's the model. It isn't perfect, like I
17 said, but it's very useful. And since we didn't put
18 that together, there's a lot more information that
19 should be considered in a revised model in the future
20 if we use this strategy.

21 Next slide.

22 (Exhibit displayed on screen.)

23 WITNESS IVEY: I want to change gears here and
24 talk about other threats to Sandhill Cranes.

25 And the biggest threat is loss of habitat.

1 Urbanization is a big issue, particularly here in the
2 Consumnes floodplain around Sacramento and Elk Grove,
3 mostly Elk Grove and Galt.

4 But there's also Refuge issues with
5 non-compatible crops, particularly orchards, vineyards,
6 turf farms, nurseries and, more recently, solar farms
7 which are developments more or less.

8 Because these birds are so limited in their
9 energetics, they can't fly miles and miles to go feed.
10 So it's this limited landscape they depend on, which is
11 around these traditional, secure roost sites like the
12 ones at Stone Lakes. They're limited to that
13 landscape.

14 And it's a big concern of mine personally
15 that, at some point in time, we're going to run out of
16 food to be able to feed these populations and maintain
17 them in the future, the carrying capacity. As well as
18 science talks about there's a limit to how many birds
19 you can support in the landscape, but it keeps
20 shrinking.

21 Other issues: Potential loss of levees in the
22 Delta's always a threat, and that's -- you know, a lot
23 of great habitat is in the core part of the Delta,
24 which is below sea level.

25 I'm also concerned about -- We've had over

1 time salt water intrusion into the Delta and I'm
2 concerned this Project may increase that if you take
3 more freshwater out of the system.

4 And, at some level, there's been changes in
5 habitat management with different goals of these
6 different conservation groups where they had good Crane
7 habitat and an easement for an ag fill but they decided
8 to restore riparian habitat and it's no longer Crane
9 habitat.

10 So there's a lot of issues and a lot of
11 threats that should be considered.

12 Also, disturbance is increasing and
13 disturbance is an issue. Project disturbance could
14 create more flights over these wires, which could lead
15 to more take as well.

16 But, in -- generally, in the landscape,
17 because we have more people settling in and, you know,
18 some farms are getting smaller. Generally they're
19 being disturbed and that stresses these birds, makes it
20 a little harder for them to make a living.

21 So it's a combination. You know, you've heard
22 of death from a thousand cuts. That's what's happening
23 with these birds and that's why we should be very
24 careful about a Project such as this WaterFix Project.

25 So going to the next slide.

1 (Exhibit displayed on screen.)

2 WITNESS IVEY: My conclusions: I find that
3 take of the fully protected and threatened Greater
4 Sandhill Crane from Project implementation will occur.
5 And since the Petition Project Alternative 4A is no
6 longer an HCP/NCCP, the take would be illegal, unless
7 the final Project should only consider transmission
8 line options that prevent the take of subspecies.

9 Actions to permit take at existing lines, that
10 would be mitigation, but they would not stop some take,
11 particularly during the construction period.

12 The Project failed to consider disturbance
13 effects fully that might increase mortality and risk
14 because of more flights over the wires.

15 It also did not address the cumulative impacts
16 of habitat loss and these other issues with Cranes and
17 how those might overall affect the welfare of this
18 subspecies here in the Delta.

19 And it -- I don't think it adequately
20 addressed the salinity issues that could -- if fresh
21 water's leaving the Delta or going to a different part
22 of the Delta, not directly into this North Delta where
23 most of the Crane habitat is, I -- I suspect there's
24 going to be changes in the crops that they depend on
25 and the ability of farmers to provide good grain crops

1 over time, and that I don't think was adequately
2 considered.

3 And also, I -- I'm concerned that the Lesser
4 Sandhill Crane, which is going to have all these same
5 impacts, really wasn't addressed adequately. The
6 Greater was covered pretty well but the Lesser Sandhill
7 Crane is a State species of conservation concern.

8 They're sharing the landscape and competing
9 for food with the Greater, but all these issues affect
10 them as well, and I don't think that the -- the Project
11 has addressed the Lesser Sandhill Crane well enough.

12 I believe that the Project as petitioned would
13 result in unreasonable effect on both Greater and
14 Lesser Sandhill Cranes and is contrary to the public
15 interest.

16 MS. MESERVE: Thank you, Dr. Ivey.

17 Just to clarify one point from your testimony.

18 You mentioned in your analysis that you
19 assisted in -- for the BDCP, which included, you said,
20 48 Sandhill Cranes.

21 Is it that 48 Sandhill Cranes you predicted
22 would die per year? Is that --

23 WITNESS IVEY: Yes.

24 MS. MESERVE: -- what --

25 WITNESS IVEY: Yes. That was an estimate of

1 annual mortality, yes.

2 MS. MESERVE: And that was included in
3 Appendix 5J.C of the BDCP; is that correct?

4 WITNESS IVEY: Yes, it is.

5 MS. MESERVE: Just for clarity of the record,
6 that's FSL-29. That's the long document.

7 Okay. Thank you very much.

8 Now, moving on to Dr. Pandolfino.

9 Dr. Pandolfino, is SOSC-21 a true and correct
10 copy of your written testimony?

11 WITNESS PANDOLFINO: Yes, it is.

12 MS. MESERVE: And is SOSC-23 a true and
13 correct copy of your Statement of Qualifications?

14 WITNESS PANDOLFINO: Yes, it is.

15 MS. MESERVE: And is SOSC-22 a true and
16 correct copy of your PowerPoint?

17 WITNESS PANDOLFINO: Yes.

18 MS. MESERVE: And in preparing for this
19 testimony, did you review portions of the Environmental
20 Impact Report and other associated documents?

21 WITNESS PANDOLFINO: Yes, I did.

22 MS. MESERVE: And, to begin with, can you
23 please explain your academic credentials and work
24 experience, and other experience that is relevant to
25 your testimony you're presenting today.

1 WITNESS PANDOLFINO: Well, my Ph.D. is in
2 biochemistry, not in biology, but -- and I actually
3 spent most of my career working in management positions
4 in the medical device industry.

5 But I became obsessed with birds in the early
6 1990s and that sort of reawakened by inner scientist
7 and also inspired me to retire early.

8 So I retired in 2000 and, since then, I've
9 spent pretty much all of my time doing ornithological
10 research, published dozens of papers, a book on Sierra
11 Nevada birds.

12 But most of my focus has been on status,
13 distribution and population trends of birds of the
14 Central Valley.

15 MS. MESERVE: And using SOSC-22, could you
16 please go ahead and summarize your testimony?

17 WITNESS PANDOLFINO: Sure.

18 Got the PowerPoint up?

19 (Exhibit displayed on screen.)

20 WITNESS PANDOLFINO: Thanks.

21 More pictures of Sandhill Cranes.

22 Okay. You can move to the next slide.

23 (Exhibit displayed on screen.)

24 WITNESS PANDOLFINO: I'm going to make points
25 on three different species, two fully protected

1 California species, Greater Sandhill Crane and
2 White-tailed Kite, and also a State endangered species
3 Black Rail.

4 So with regard to the Cranes, my first point
5 is that the estimated mortality from the original plan
6 is almost certainly too low.

7 Next slide.

8 (Exhibit displayed on screen.)

9 WITNESS PANDOLFINO: Most of the studies --
10 Back one slide.

11 (Exhibit displayed on screen.)

12 WITNESS PANDOLFINO: There you go.

13 Most of the studies that have been done to
14 estimate Crane mortality and estimate effectiveness of
15 mitigation measures counts on counting dead Cranes
16 underneath the wires to get a sense of how many are
17 colliding with wires and being killed.

18 But as everyone doing the research knows, that
19 doesn't really account for all of the collisions, all
20 of the deaths, because some of those birds may be
21 scavenged and, even more importantly, some birds may be
22 injured but may be able to fly or walk away from the
23 general area and those carcasses are never found.

24 And there have been several ways to try to
25 account for that but really none of them that good

1 until --

2 Next slide.

3 (Exhibit displayed on screen.)

4 WITNESS PANDOLFINO: Some recent work
5 published in 2016 by Murphy, et al.

6 And, by the way, this study was done after the
7 original analysis in the BDCP.

8 And what that group did was go well beyond
9 just counting carcasses, is, they put, first of all,
10 sensors on the power lines so that they can get an
11 estimate of number of collisions that didn't result in
12 a dead bird underneath.

13 And they also used night vision optics,
14 realizing that most of these collisions occur in the
15 dark. And that allowed them to realize that there were
16 a lot more collisions with these lines than people
17 realized.

18 And when they went back and looked at prior
19 studies that had been done to estimate these
20 collisions, they estimated that prior studies had
21 underestimated the collisions by at least a factor of
22 three or four.

23 Next slide.

24 (Exhibit displayed on screen.)

25 WITNESS PANDOLFINO: So the plan relies

1 primarily for mitigation from risk on these lines in
2 diverters. These are various devices that are hung
3 from the wires to try to make them more visible to
4 birds. But, as Dr. Ivey mentioned, none of these are
5 100 percent effective.

6 Next slide.

7 (Exhibit displayed on screen.)

8 WITNESS PANDOLFINO: This is just a variety of
9 studies on a variety of birds, all large birds, that
10 are susceptible. And you can see the effect. The
11 third column ranges from less than 10 years to, in some
12 cases, 80 percent.

13 Next slide.

14 (Exhibit displayed on screen.)

15 WITNESS PANDOLFINO: And the results for
16 Sandhill Crane range in the range of 50 to 70 percent.
17 So these diverters are helpful but they're clearly not
18 100 percent effective.

19 Next slide.

20 (Exhibit displayed on screen.)

21 WITNESS PANDOLFINO: The other issue that
22 makes Cranes much more susceptible in the Delta than
23 other areas where they've been studied is the weather
24 conditions.

25 Next slide.

1 (Exhibit displayed on screen.)

2 WITNESS PANDOLFINO: Probably at the time this
3 study was the -- the estimates originally made, the
4 best study in Crane mortality from lines was this
5 Brown & Drewein study in Colorado.

6 But the problem is, the weather conditions in
7 the Delta are very different from the conditions in
8 San Luis Valley, Colorado.

9 Next slide.

10 (Exhibit displayed on screen.)

11 WITNESS PANDOLFINO: Birds are particularly
12 susceptible to hitting the wires in the fog. And fog
13 is seven times more likely during the time Cranes are
14 there in the Delta than in San Luis Valley.

15 The next slide shows a graph of that just to
16 show it dramatically.

17 (Exhibit displayed on screen.)

18 WITNESS PANDOLFINO: So essentially, as all of
19 us know who live in the area, during the months when
20 Cranes are around, November to February, the peak time,
21 about one out of every three days has significant fog.

22 And San Luis Valley, during the spring and
23 fall anytime when Cranes are there, it's less than five
24 percent. So that just adds a much bigger chance that
25 birds are going to encounter lines.

1 Next slide.

2 (Exhibit displayed on screen.)

3 WITNESS PANDOLFINO: Oh, next slide. That's
4 just a repeat of the same thing.

5 (Exhibit displayed on screen.)

6 WITNESS PANDOLFINO: In addition, because
7 activity associated with the construction is likely to
8 flush Cranes, this makes them even more susceptible
9 even to existing lines. So there'll be additional risk
10 from any new lines, temporary or permanent, but
11 there'll also be increased risk from existing lines if
12 they're flushed by activity.

13 And, as Dr. Ivey pointed out, that's one of
14 the real risky areas. A lot of the collisions do occur
15 when birds are -- are flushed.

16 Okay. Next slide.

17 (Exhibit displayed on screen.)

18 WITNESS PANDOLFINO: And this just points out
19 the fact that Murphy's study as well showed that
20 flushing was -- resulted in a large increase in -- in
21 risk.

22 Next slide.

23 (Exhibit displayed on screen.)

24 WITNESS PANDOLFINO: One of the mitigations
25 that's proposed in Alternative 4A is to -- as I

1 understand it, to eliminate new transmission lines on
2 Staten Island. And Staten Island certainly is the most
3 important area for Greater Sandhill Cranes, but it is
4 not the only area where they occur.

5 So next slide.

6 (Exhibit displayed on screen.)

7 WITNESS PANDOLFINO: So this is a map using
8 some Dr. Ivey's observations of Cranes in 2007 to 2009
9 and another study in 2012. And it shows the
10 distribution in Sandhill Crane encounters throughout
11 the whole area.

12 And if you go to the next slide.

13 (Exhibit displayed on screen.)

14 WITNESS PANDOLFINO: You can see outlined in
15 red the border of Staten Island. So, clearly, Staten
16 Island is the highest concentration but, as you can
17 see, Cranes move well outside that area. So
18 eliminating the transmission lines for Staten Island
19 does not eliminate the risk.

20 Next slide.

21 (Exhibit displayed on screen.)

22 WITNESS PANDOLFINO: So, suggesting a few
23 things that -- that we think could help reduce risk.

24 First of all --

25 Next slide.

1 (Exhibit displayed on screen.)

2 WITNESS PANDOLFINO: -- it would be until
3 since Murphy, et al., technique using electronic
4 collision sensors and night vision so that there is
5 more risk than previous studies indicated, it would be
6 really important to do a similar sort of study in the
7 actual area to get a better estimate of the risk
8 mortality and collisions.

9 Next slide.

10 (Exhibit displayed on screen.)

11 WITNESS PANDOLFINO: And another
12 recommendation would be to look into the use of
13 glow-in-the-dark or lighted diverters, since that
14 should make the lines more visible.

15 I don't know that any of these have been
16 well-tested, although a separate study by Murphy showed
17 that at least Cranes seem to be reacting to the lighted
18 or glow-in-the-dark diverters more than they did the
19 ones that aren't.

20 And since most of these collisions may occur
21 in foggy or dark conditions, that could be helpful.

22 And last of all.

23 (Exhibit displayed on screen.)

24 WITNESS PANDOLFINO: And then to further
25 increase (sic) the risk from the existing lines, to go

1 ahead and put the best possible diverters on the lines
2 that are already there as well. This would
3 additionally reduce more -- more mortality.

4 Okay. Move on. Next slide.

5 (Exhibit displayed on screen.)

6 WITNESS PANDOLFINO: Talk a little bit about
7 Black Rail, which is a State endangered species.

8 Next slide.

9 (Exhibit displayed on screen.)

10 WITNESS PANDOLFINO: So the EIR essentially
11 dismisses any risk from the transmission lines for
12 Black Rail.

13 And it does that in several places by stating
14 that Black Rails are known to be sedentary and
15 non-migratory. That is simply not true, and research
16 more recently than that shows absolutely that it's not
17 true.

18 Next slide.

19 (Exhibit displayed on screen.)

20 WITNESS PANDOLFINO: So in the 1990s, a
21 substantial population of Black Rails was found in
22 these small marshes in the Sierra Foothills.

23 And further --

24 Next slide.

25 (Exhibit displayed on screen.)

1 WITNESS PANDOLFINO: -- studies were done on
2 the genetics of the Bay Area, the Bay Area Delta
3 population of Black Rails and the ones that were found
4 in the foothills, and it was found that there were
5 significant recent gene flow, indicating that birds are
6 moving back and forth. In fact, the indication was,
7 there was a lot of movement really in both directions.

8 So, clearly, Black Rails are moving from the
9 Bay Area -- from the Bay Area Delta area to these areas
10 in the Sierra Foothills or even in the other direction,
11 and so clearly they are migratory.

12 Next slide.

13 (Exhibit displayed on screen.)

14 WITNESS PANDOLFINO: So this map just shows --
15 Obviously, we don't know what route they're taking.
16 But, as you can see, those three red dots at the top
17 show some of the major locations in the Sierra
18 Foothills, largely in Yuba County, Nevada County,
19 Placer County, a little bit in Butte County, and
20 location of the Cranes, obviously, in the Bay and
21 Delta. So quite possible that they are moving through
22 these areas.

23 They migrate at night so they are definitely
24 at risk of hitting these -- these lines.

25 Next slide.

1 (Exhibit displayed on screen.)

2 WITNESS PANDOLFINO: We also know they're
3 certainly not sedentary.

4 So, there have been some significant studies
5 down with these Sierra Foothill populations that shows
6 that the birds move very easily between these little
7 isolated patches.

8 So in the -- in the foothills, rather than a
9 large continuous amount of habitat, there are lots of
10 small patches that they're using. And what they found
11 was that they will find new patches almost immediately,
12 within the first year.

13 So, clearly, birds are moving around. They're
14 looking around. They're prospecting for new areas so
15 they clearly are not sedentary.

16 Next slide.

17 (Exhibit displayed on screen.)

18 WITNESS PANDOLFINO: There's also populations
19 that have been found breeding in the Central Valley
20 floor, and there could well be movement between the
21 Delta and these slides.

22 And the next slide kind of shows that
23 possibility.

24 (Exhibit displayed on screen.)

25 WITNESS PANDOLFINO: So a couple of sites in

1 Consumnes Preserve and in White Slough in San Joaquin
2 County where Cranes are known to occur.

3 We don't know if they move back and forth
4 because the genetic studies haven't been done but they
5 may well. And this would through the Project area.

6 Next slide.

7 (Exhibit displayed on screen.)

8 WITNESS PANDOLFINO: It's also been shown in
9 the Bay Area that there is frequent movement of Rails
10 within the Bay Area from the South Bay to the North
11 Bay.

12 So, again, these birds are not sedentary and
13 non-migratory so they are at risk.

14 Okay. Next slide.

15 (Exhibit displayed on screen.)

16 WITNESS PANDOLFINO: The only way to reduce to
17 zero the effect of -- really for any of these
18 species -- of the transmission lines would be to put
19 them all under -- underground. But at least, you know,
20 adding more diverters to existing and new lines would
21 be really important.

22 Next.

23 (Exhibit displayed on screen.)

24 WITNESS PANDOLFINO: Because they migrate at
25 night, again, these glow-in-the-dark or lighted

1 diverters might be more helpful with Black Rails.

2 Next slide.

3 (Exhibit displayed on screen.)

4 WITNESS PANDOLFINO: Okay. Last, I'm going to
5 talk a little bit about White-tailed Kite, a California
6 state fully protected species.

7 Next slide.

8 (Exhibit displayed on screen.)

9 WITNESS PANDOLFINO: So the EIR, to mitigate
10 for effects on White-tailed Kite, relies mostly on
11 Swainson's Hawk habitat mitigation and breeding area
12 mitigation.

13 And while Swainson's Hawks and White-tailed
14 Kites do overlap quite a bit in terms of habitat use,
15 there are some significant differences.

16 Next slide.

17 (Exhibit displayed on screen.)

18 WITNESS PANDOLFINO: Next slide.

19 (Exhibit displayed on screen.)

20 WITNESS PANDOLFINO: For instance, Swainson's
21 Hawks graze -- forage along the grassland and
22 White-tailed Kites as well. However, White-tailed
23 Kites almost entirely prefer ungrazed, fairly overgrown
24 grasslands, almost of a void, very well-grazed
25 grasslands. And just the opposite with Swainson's

1 Hawks, you know, looking for grazed grasslands.

2 So if you preserve grassland for Swainson's
3 Hawk, it is not necessarily going to be useful for
4 White-tailed Kites.

5 Next slide.

6 (Exhibit displayed on screen.)

7 WITNESS PANDOLFINO: And we've shown, at least
8 in winter, that White-tailed kites are most strongly
9 associated with wetlands and it's a habitat that
10 Swainson's Hawks make little or no use of.

11 Next slide.

12 (Exhibit displayed on screen.)

13 WITNESS PANDOLFINO: While both species use
14 some row crops, sugar beets in particular, that's only
15 in the growing season.

16 And Swainson's Hawks are here -- Almost all
17 the Swainson's Hawks are here only in the summer and
18 they leave in the winter except for a tiny population
19 in the Delta, whereas White-tailed Kites are here all
20 year round.

21 So, those row crops that may be useful for
22 Swainson's Hawks and White-tailed Kite in the breeding
23 season are not going to be useful for White-tailed Kite
24 in the winter.

25 Next slide.

1 (Exhibit displayed on screen.)

2 WITNESS PANDOLFINO: Another important point
3 is that White-tailed Kites are relatively sedentary.
4 They tend to do almost all of their foraging within
5 1 kilometer of their nest site, unlike Swainson's
6 Hawks, which will cover pretty good distances to find
7 foraging habitat.

8 So if you're going to preserve habitat --
9 foraging habitat for nesting White-tailed Kites, it
10 needs to be very close to where they are nesting.

11 Next slide.

12 (Exhibit displayed on screen.)

13 WITNESS PANDOLFINO: So some recommended
14 Conditions for Approval for White-tailed Kite.

15 Next slide.

16 (Exhibit displayed on screen.)

17 WITNESS PANDOLFINO: First of all, the plan
18 needs to specify how grassland and other ag land are
19 going to be managed differently for Swainson's Hawk and
20 White-tail Kite for their differences in the way they
21 use it.

22 And one of the major concerns is that the
23 Project does not specify how ag land, while it might be
24 maintained as some kind of agricultural land, is going
25 to be maintained as high-quality habitat really for

1 either of these two species.

2 Typical conservation easements may extinguish
3 the development rights for the land, but they still
4 will allow the -- the owner to change crops if it turns
5 out that it's not economically feasible.

6 So a high-value crop to both these species,
7 like alfalfa, that's great if it maintains that, but if
8 they decide to put in some other kind of row crop
9 that's not of use for White-tailed Kites, then you
10 haven't done anything in terms of habitat mitigation.

11 Next slide.

12 (Exhibit displayed on screen.)

13 WITNESS PANDOLFINO: Also, to ensure that
14 you've really avoided any chance of take, especially
15 for White-tailed Kites, these habitats need to be
16 acquired before the Project begins.

17 And high-quality habitat needs to be acquired
18 within 1 kilometer for White-tailed Kite nesting
19 habitat in order for it to be useful.

20 So even temporary impacts could result in
21 death of nestlings, death of adult birds trying to
22 raise nestlings, if habitat that was nearby is now
23 removed.

24 So I think that's all that I have.

25 Just in summary: The risks from the collision

1 with power lines for both Greater Sandhill Crane and
2 Black Rail that are significant, unavoidable and, I
3 think, pose an unreasonable risk to both those species.

4 And the plan as it currently exists does not
5 really adequately mitigate for impacts on White-tailed
6 Kite.

7 CO-HEARING OFFICER DODUC: Thank you.

8 Miss Meserve, before you proceed, I'm going to
9 take a break.

10 So let's take a short break and we will return
11 at 4:15.

12 (Recess taken at 4:04 p.m.)

13 (Proceedings resumed at 4:15 p.m.):

14 CO-HEARING OFFICER DODUC: All right. It is
15 4:15. We are resuming.

16 A couple of items, though, before I return to
17 Miss Meserve.

18 First of all, I have a ruling on DWR's Motion
19 to Strike two sentences, I guess, of Dr. Fries'
20 testimony.

21 I believe DWR raised an objection and moved to
22 strike based -- strike portions of Dr. Fries' testimony
23 in which he offered opinions on behalf of the
24 San Joaquin County Chapter of the Audubon Society.

25 As we understood that objection, DWR asserted

1 that Miss Des Jardins could not present a witness
2 purporting to represent the view of an -- of an
3 organization that is not a party to this hearing and
4 which Miss Des Jardins is not authorized to represent.

5 DWR's objection is overruled.

6 Dr. Fries provided testimony solely as an
7 expert witness, not as a representative of a party to
8 this hearing. There is nothing improper about
9 Dr. Fries testifying that his testimony represents both
10 his views and those of the San Joaquin County Chapter
11 of the Audubon Society.

12 Those statements do not confer the status of a
13 party on his organization, and overruling DWR's
14 objection does not require that we grant his
15 organization any rights in this hearing reserved solely
16 for parties.

17 Also, Dr. Fries -- Dr. Fries. Now I'm
18 getting --

19 MS. DES JARDINS: I'm sorry.

20 CO-HEARING OFFICER DODUC: Now I'm doing it.

21 Dr. Fries' testimony that he is presenting
22 both his views and the views of the San Joaquin County
23 Chapter of the Audubon Society does not mean that
24 Miss Des Jardins is now representing that organization.

25 Putting on Dr. Fries as a witness for her case

1 in chief is different from advocating to secure legal
2 rights for his organization.

3 That's one.

4 Two. Based on my time estimates, not
5 accounting for any possible direct -- redirect of this
6 panel as well as Panel 2 tomorrow, we are already
7 looking at around 3 o'clock.

8 So I'm going to say to Mr. Volker that he does
9 not have to have his witnesses here tomorrow afternoon.
10 We will take up PCFFA's case in chief on Monday --
11 whatever the date is -- when we return.

12 And my understanding of the correct order now
13 for presenting case in chief, is: PCFFA on Monday;
14 then followed by North Delta C.A.R.E.S; Mr. Porgans;
15 Snug Harbor; Clifton Court --

16 I'm sorry. Wait a minute. Didn't South --
17 Was ECOS after?

18 Okay. So then came -- then would come save
19 the California Delta Alliance and RDC and the remainder
20 of CP -- CSPA, et al.

21 That's my understanding, and unless something
22 major happens, there will be no further changes to
23 that.

24 Good?

25 So, tomorrow, we will conclude with

1 Miss Meserve's second panel and her, I believe, case in
2 chief for this particular set of clients.

3 If we adjourn early, I think we will all be
4 happy because Wednesday looks to be a very long day.

5 Any questions?

6 All right. Miss Meserve, back to you.

7 MS. MESERVE: Thank you.

8 And now we'll go to our last witness,
9 Mr. Pachl.

10 Now, Mr. Pachl, is ECOS-27-Errata a true and
11 correct copy of your written testimony?

12 WITNESS PACHL: It is a true and correct copy,
13 yes.

14 MS. MESERVE: Turn on your microphone, please.

15 WITNESS PACHL: Oh, good idea. Thank you.

16 MS. MESERVE: Great.

17 WITNESS PACHL: Okay.

18 MS. MESERVE: Okay. And does your written
19 testimony accurately reflect your opinions today as it
20 relates to the Petitioned Project?

21 WITNESS PACHL: It does with one rather
22 important exception.

23 My opinion was based on the Incidental Take
24 Permit issued by Department of Fish and Wildlife which
25 said that there were 300 -- that there were 3700 acres

1 of Swainson Hawk foraging habitat permanently impacted,
2 1100 acres of foraging habitat temporarily impacted,
3 totaling, I guess, 4800.

4 And then after my testimony was submitted, I
5 got a copy of the Project Optimization Fact Sheet of
6 DWR, dated March 28.

7 CO-HEARING OFFICER DODUC: Okay. Hold on.
8 Hold on. Stop.

9 First of all, please move the microphone
10 closer to you.

11 WITNESS PACHL: Okay. Is --

12 CO-HEARING OFFICER DODUC: And --

13 WITNESS PACHL: -- that satisfactory?

14 CO-HEARING OFFICER DODUC: That's much better.
15 Thank you.

16 And, secondly, if you are attempting to
17 correct -- in parentheses -- your testimony based on
18 what was released on March 28th, you do not need to do
19 it at this time.

20 There are some motions that have been
21 submitted that we are still considering that we will be
22 ruling on shortly.

23 WITNESS PACHL: Okay. I will just simply say
24 that if --

25 CO-HEARING OFFICER DODUC: Now, I can't -- I

1 can't hear you. What happened?

2 Microphone. Did you turn it off?

3 WITNESS PACHL: Ah, yeah.

4 Okay. I was going to say, if it turns out
5 that the correct acreage of impact to Swainson Hawk
6 foraging habitat is 11,000 instead of 4800, yes, that
7 would substantially change my testimony.

8 This is an issue that needs to get resolved
9 and I can't resolve it right now.

10 CO-HEARING OFFICER DODUC: Understood. You're
11 just flagging it.

12 Miss Ansley?

13 MS. ANSLEY: Yes.

14 And I would object at least at this time --
15 and it could be taken care of rebuttal or cross -- that
16 I would object to any expansion --

17 CO-HEARING OFFICER DODUC: Beyond --

18 MS. ANSLEY: -- to the second of his direct
19 testimony in terms of preparations of cross.

20 CO-HEARING OFFICER DODUC: Thank you.

21 He's simply pointing out that there is that
22 issue that is still outstanding that we will resolve
23 one way or another.

24 WITNESS PACHL: Somebody better resolve it
25 yeah.

1 MS. MESERVE: Okay. Now, Mr. Pachl, please go
2 ahead and explain briefly your relevant experience for
3 preparing your testimony today.

4 WITNESS PACHL: I graduated at Berkeley School
5 of Law. Retired attorney.

6 In 1994, I helped cofound the Friends of the
7 Swainson Hawk. It's a very small environmental
8 nonprofit dedicated to the education, advocacy for the
9 protection of the Swainson Hawk, which is listed as a
10 threatened specie under the California Endangered
11 Specie Act.

12 And we submitted written comments, letters,
13 verbal comments, on various Incidental Take Permits,
14 Environmental Impact Reports, various other documents
15 and decisions pertaining to the Swainson Hawk in the
16 Central Valley.

17 Represented an organization in some litigation
18 involving Swainson Hawk habitat, lobbied local
19 government officials, and had frequent and close
20 contact with a professional Biologist who specialized
21 in the Swainson Hawk, as well as with the staff of the
22 California Department of Fish & Game, who deal with
23 Swainson Hawk issues in this state.

24 MS. MESERVE: And are there any other details
25 about the organization that you've missed that you need

1 to . . .

2 WITNESS PACHL: Okay. Friends of Swainson
3 Hawk is a member of the Environmental Council of
4 Sacramento which is a party here, so this is -- which
5 is why I'm appearing on behalf of Environmental Council
6 of Sacramento, called ECOS.

7 MS. MESERVE: And the Swainson's Hawk group --
8 Friends of the Swainson Hawk is an education and
9 advocacy group, as you've just explained; right?

10 WITNESS PACHL: Education and advocacy and
11 occasionally we sue somebody, yes.

12 MS. MESERVE: Now, can you tell me about the
13 Central Valley population of the Swainson's Hawk and
14 its habitat just a little bit.

15 WITNESS PACHL: Okay. The Swainson Hawk is
16 about the same size as a Red tail. It -- It catches
17 and eats rodents and larger insects which use the
18 grasslands.

19 It's basically a flat -- It's a -- It forages
20 over the flatlands. It does not forage over hills or
21 mountains.

22 Open fields.

23 Back in the old days, it foraged over the
24 grasslands of the Central Valley. The grasslands have
25 since been converted to crops and it is now foraging

1 over suitable low-growing crops where the hawks can
2 look down from the air and see the critters to grab,
3 especially concentrates on fields that have been
4 freshly harvested, such as alfalfa or wheat, thereby
5 exposing the rodents that live there and maybe they
6 will concentrate in flocks of 50 or 100 until they
7 clean the field out. That's how they operate.

8 There's about 2,000 left in the Central
9 Valley. That's by estimates by Biologists and
10 California Department of Fish and Wildlife.

11 The majority of them nest within 50 miles of
12 the City of Sacramento, one of the fastest-growing
13 areas around, concentrated in Sacramento County, Yolo,
14 San Joaquin, Eastern Solano County.

15 They nest in these areas during the summer --
16 spring and summer, and winter migrate down to Mexico
17 and points south, come back in the spring, and
18 typically go back to the same nest sites or to nest
19 sites very close to where they were. The Biologists
20 say they have very, you know -- have strong nest site
21 fidelity.

22 And they are increasingly losing both the
23 nesting habitat, which are the big trees, as well as
24 foraging habitat due to urban development, conversion
25 of row crops to vineyards and orchards, which they

1 really cannot forage on because they can't get -- you
2 know, get between the trees.

3 And the large trees that they use for nesting
4 are becoming increasingly scarce due to die-off, being
5 cut down, urban development.

6 Many of these remaining large trees grow along
7 the riparian areas of the Central Valley and these have
8 been cut down in large numbers by various Levee
9 Districts and the Corps, because they think it's going
10 to improve flood approximately, which it won't but they
11 do it annually.

12 So, yes, they've got a problem.

13 MS. MESERVE: And just to make sure you
14 covered it, what was the population in the late 1800s
15 as compared to today?

16 WITNESS PACHL: The estimates I have seen are
17 17, 18,000.

18 MS. MESERVE: Of nesting pairs?

19 WITNESS PACHL: Yeah, nesting pair. I'm
20 sorry. Of nesting pair.

21 There's maybe about 2,000 nesting pair now in
22 the Central Valley.

23 MS. MESERVE: And why has the Swainson Hawk
24 been declared threatened under the California
25 Endangered Species Act?

1 WITNESS PACHL: My understanding is because
2 the numbers were very low. Particularly in 1983, the
3 numbers were very low and habitat was being chewed up,
4 as I discussed earlier.

5 MS. MESERVE: And now moving on to the effect
6 of the Tunnels Project if built.

7 How would that Project affect the Swainson's
8 Hawk during construction?

9 WITNESS PACHL: Well, the construction
10 would -- Well, it would eliminate habitat, knock down
11 trees. There would be noise, disturbance, lights. All
12 these things can be quite disturbing to nesting hawks,
13 might cause them, you know, to have -- will cause them
14 to abandon their nests and, again, thereby reducing the
15 breeding success of the species.

16 It needs to be understood that breeding is
17 essential to survival of the species. If the breeding
18 success is diminished or eliminated, that's a good way
19 to kill off a specie.

20 MS. MESERVE: And --

21 WITNESS PACHL: They have to keep breeding or
22 they're not going to make it.

23 MS. MESERVE: Mr. Pachl, what are your
24 concerns of the long-term effects of operation of the
25 Tunnels Project?

1 WITNESS PACHL: Operation.

2 It's been said repeatedly by experts that the
3 operation of the diversion could very well lead to
4 further saline intrusion into the Delta and even up
5 towards Sacramento, as eventually that water becomes so
6 saline that it cannot be used for irrigation, in which
7 case the farmers in the Delta, particularly the lower
8 Delta, that have to rely on this water to irrigate
9 their crops will have to abandon agriculture.

10 If they abandon agriculture, their fields
11 become overgrown with brush, which is -- hawks can't
12 get through.

13 Farmers may no longer maintain the levees, and
14 so the levees go -- give out, and you end up with a big
15 pond, and Swainson Hawks don't catch fish. So, yes,
16 you will lose a very substantial amount of habitat and
17 that's one reason why there's a lot of concern about
18 what the appropriate amounts of diversions would be.

19 MS. MESERVE: So is it -- Just to clarify
20 that.

21 It's fair to say, Mr. Pachl, you're concerned
22 about the tunnels' operation effect on agricultural
23 land, and then how that --

24 WITNESS PACHL: Correct.

25 MS. MESERVE: -- would impact the Swainson

1 Hawk?

2 WITNESS PACHL: How that affects the species
3 that use the agricultural land, which is not just the
4 Swainson Hawks. There's others as well.

5 MS. MESERVE: And, then, in thinking about the
6 mitigation and avoidance measures you saw related to
7 the Swainson's Hawk in the Project documents, what is
8 your opinion of those?

9 WITNESS PACHL: Well, a lot of them are
10 actually quite good. I give -- hand it to DWR and Fish
11 & Game Biologists. They did a good job there.

12 With one rather important exception, which is
13 the part that allows the mitigation land to be acquired
14 50 miles away from the Project site, which is basically
15 useless. The population of Hawks is impacted.

16 And let me explain that briefly.

17 The female Hawk has to remain with the nest to
18 take care of the eggs and the chicks, and daddy Hawk's
19 job is to go out and catch enough mice and bring them
20 back to feed the female Hawk and all the little chicks
21 so they can grow up to big Hawks.

22 The further the Hawk has to travel to bring in
23 rodents, the fewer rodents they can bring up, the more
24 energy it uses up, and the nest can starve. Nestlings
25 can starve. And that is actually a fairly common cause

1 of nest failure, is not enough food.

2 Studies by Department of Fish & Game and
3 Biologists have indicated that, for successful nesting,
4 the Hawk needs to be -- daddy Hawk needs to get -- be
5 able to catch rodents within, say, 10 miles of the nest
6 so that he can bring back enough during the daytime to
7 feed the hungry chicks.

8 If a Hawk's got to go 20 miles to find
9 rodents, he's not going to be able to bring in enough
10 to keep the chicks alive.

11 I've -- Most mitigation programs I have heard
12 of for Swainson Hawks know about -- require that the
13 mitigation land for loss of habitat be within 10 miles
14 of the point of impact of the habitat that's lost,
15 which usually includes the Hawk nest.

16 And 50 miles is ridiculous. It may benefit
17 some -- the Hawks who live out 50 miles away. And I do
18 like the three-mile from nest site requirement, but
19 it's not going to benefit the Hawks who are -- who have
20 lost their habitat due to the Project.

21 And then if they don't get the benefit of the
22 mitigation, maybe they can't feed -- get enough rodents
23 to feed their young, and you end up losing that
24 population and reducing the range of the Swainson Hawk
25 population, which is an issue.

1 I mean, the idea is to expand the Hawk's
2 range, if possible, not restrict it any further than it
3 is now.

4 MS. MESERVE: So your concern, just to be
5 clear, is specific to the Central Valley population of
6 the Swainson's Hawk.

7 WITNESS PACHL: Correct. Correct. The
8 Central Valley population is a distinct population. As
9 far as is known, it does not mix with other
10 populations, say the population on the other side of
11 the Rocky Mountains. They do not mix.

12 Hawks lost in the Central Valley are not going
13 to be replaced by Hawks coming in from the other side
14 of the Rocky's.

15 MS. MESERVE: And, in your opinion, in your --
16 and given your experience with Projects in mitigation
17 for Swainson Hawk, do you believe there's adequate
18 mitigation habitat available to --

19 WITNESS PACHL: Oh, yeah. Yeah, there's
20 plenty.

21 The pathway of the -- at the diverters, at the
22 tunnels and that area, is mostly in rural area, area
23 around it is rural.

24 There are suitable crop patterns. There's
25 plenty of potential mitigation land out there that

1 would work perfectly well as Swanson Hawk foraging and
2 nesting habitat, very -- you know, quite close by.

3 MS. MESERVE: Thank you, Mr. Pachl.

4 Unless there's anything else, I think that
5 concludes your testimony.

6 WITNESS PACHL: Well, give me a minute here.

7 Yes, it does.

8 MS. MESERVE: Thank you very much.

9 We'll get situated for cross-examine.

10 CO-HEARING OFFICER DODUC: Thank you.

11 You can switch places and ask Miss Ansley to
12 come up.

13 And, Miss Ansley, we do have a hard stop at
14 5:00, so since you requested 45 minutes, we may not get
15 through your cross-examination today.

16 Just find a reasonable spot in your line of
17 questioning to stop before 5:00.

18 MR. JACKSON: Does that mean the rest of the
19 cross-examiners can go?

20 CO-HEARING OFFICER DODUC: I'm sorry. What's?

21 MR. JACKSON: Does that mean the rest of the
22 cross-examiners can go?

23 CO-HEARING OFFICER DODUC: Aren't you, like,
24 totally fascinated by this?

25 MR. JACKSON: I am, but I'm totally fascinated

1 by your rulings that I haven't read yet.

2 CO-HEARING OFFICER DODUC: Go ahead.

3 MR. JACKSON: Thanks.

4 CO-HEARING OFFICER DODUC: We won't get to you
5 until tomorrow, Mr. Jackson.

6 MS. MESERVE: Just if I can clarify and make
7 sure. And we're fine if we need to have everyone come
8 back tomorrow. But --

9 CO-HEARING OFFICER DODUC: Oh.

10 MS. MESERVE: -- if there's -- if there are
11 any witnesses for which there's no questions, we might
12 want to dismiss them.

13 And, also, I would note that Mr. -- Dr. Ivey
14 is here from Oregon, and if he was able to finish
15 today, he could start heading home but he knows he may
16 have to stay over.

17 CO-HEARING OFFICER DODUC: We have
18 Mr. Keeling, Mr. Jackson, and Miss Des Jardins here, so
19 any three of you have questions for Dr. Ivey?

20 MR. KEELING: I do.

21 CO-HEARING OFFICER DODUC: Okay.

22 MS. DES JARDINS: (Raising hand.)

23 CO-HEARING OFFICER DODUC: And, Mr. Jackson,
24 do you?

25 MR. JACKSON: I do, but I just drove down from

1 Oregon yesterday, and so I was going to forego them
2 given that drive, but it doesn't save anybody.

3 CO-HEARING OFFICER DODUC: Okay. Mr. Keeling,
4 are there any witnesses from whom you do not have
5 questions?

6 MR. KEELING: I do not have any for
7 Mr. Savino.

8 And, frankly, as to Dr. Ivey, I could ask mine
9 today if -- if the -- if the --

10 CO-HEARING OFFICER DODUC: I will get to that.
11 I'm just for now asking.

12 So Mr. Savino is the only one you do not know
13 have questions for.

14 MR. KEELING: Right.

15 CO-HEARING OFFICER DODUC: Does anyone else
16 has questions for Savino?

17 MR. JACKSON: No.

18 CO-HEARING OFFICER DODUC: All right.

19 MS. ANSLEY: And the DWR does not have
20 questions for Mr. Savino.

21 CO-HEARING OFFICER DODUC: Thank you,
22 Mr. Savino.

23 (Witness Savino excused.)

24 CO-HEARING OFFICER DODUC: Mr. Keeling, do you
25 have questions for the remainder of the panel?

1 MR. KEELING: I do.

2 CO-HEARING OFFICER DODUC: Your questions for
3 Dr. Ivey, are they short?

4 MR. KEELING: I would think they could be done
5 in less than five minutes. It depends on his answers,
6 but . . .

7 CO-HEARING OFFICER DODUC: Miss Des Jardins?

8 MS. DES JARDINS: It might be 10 minutes.

9 CO-HEARING OFFICER DODUC: Let's do this,
10 then.

11 Let's have your questions for Dr. Ivey first.

12 Then I will have Mr. Keeling and
13 Miss Des Jardins ask their questions of Dr. Ivey, so
14 that we can dismiss him today, assuming you don't have
15 redirect.

16 MS. MESERVE: Yeah. Well, let's just see how
17 it goes. If --

18 CO-HEARING OFFICER DODUC: Okay.

19 MS. MESERVE: -- it's possible, I don't want
20 to stress people out over it.

21 CO-HEARING OFFICER DODUC: Okay. Let's -- So
22 we'll play it by ear and see how it goes.

23 MS. ANSLEY: Okay. I have found my questions
24 for Dr. Ivey. And I have his testimony here in front
25 of you.

1 CROSS-EXAMINATION BY

2 MS. ANSLEY: Please correct me, Dr. Ivey, the
3 copy I have is not your errata version. I'm not
4 meaning to misrepresent anything. I believe you only
5 corrected some citations, so --

6 WITNESS IVEY: Yes, that's correct.

7 MS. ANSLEY: -- please correct me if there's
8 something different.

9 Dr. Ivey, you assisted with the development of
10 the mitigation plan for the BDCP; is that correct?

11 WITNESS IVEY: Yes, it is.

12 MS. ANSLEY: And you were on the team that
13 completed the effects analysis for the Sandhill Crane;
14 correct?

15 WITNESS IVEY: Yes.

16 MS. ANSLEY: And we were listening, of course,
17 to your questioning earlier and you did the take
18 assessment for the Sandhill Crane for the analysis; is
19 that correct?

20 WITNESS IVEY: Yes, I did.

21 MS. ANSLEY: However, you have not been
22 involved in the DWR's assessment of the California
23 WaterFix design changes, including changes in the
24 locations of the power lines, since 2015; have you?

25 WITNESS IVEY: No, I have not.

1 MS. ANSLEY: You were part of the team that
2 developed Avoidance and Minimization Measure 20; is
3 that correct?

4 WITNESS IVEY: Yes, it is.

5 MS. ANSLEY: For the Greater Sandhill Crane?

6 WITNESS PACHL: Yes.

7 MS. ANSLEY: And this is the Sandhill Crane
8 Mitigation Measure that addresses potential issues with
9 power lines and construction noise; correct?

10 WITNESS IVEY: Correct.

11 MS. MESERVE: Objection: Just a point of
12 clarification:

13 Isn't AMM20 an Avoidance and Minimization
14 Measure? It's not a Mitigation Measure?

15 MS. ANSLEY: Let me make sure.

16 Yes. To -- to make sure it's clear, I am
17 talking about AMM20.

18 Is that clear for you, Dr. Ivey?

19 WITNESS IVEY: Yes.

20 MS. ANSLEY: Okay.

21 Do you see on Page 7 of your testimony, which
22 is FSL-21-Errata, that the Final Project should include
23 transmission line choices that prevent take of species;
24 is that correct?

25 WITNESS IVEY: Yes.

1 MS. ANSLEY: Is it your understanding that
2 AMM20 makes that commitment?

3 WITNESS IVEY: My understanding about AMM20 is
4 that it -- you know, it was intended to mitigate any
5 potential take from the Project lines.

6 Is that what you asked?

7 MS. ANSLEY: I asked whether it includes
8 transmission line choices that prevent the take of
9 species.

10 WITNESS IVEY: It -- It -- It laid out a
11 process using a model to estimate no net loss of
12 Greater Sandhill Cranes.

13 MS. ANSLEY: Does AMM20 state that the DWR
14 will work with a qualified -- an agency-approved Crane
15 Biologist to develop a power line design that will
16 demonstrate no take?

17 WITNESS IVEY: It does.

18 MS. ANSLEY: Doesn't AMM20 seek that power
19 lines would place in locations including underground
20 design to avoid Crane take?

21 WITNESS IVEY: Yes, it does.

22 MS. ANSLEY: On Page 7 of your testimony, you
23 state that you were hired to complete an analysis of
24 potential take.

25 We've established that; correct?

1 WITNESS IVEY: Yes.

2 MS. ANSLEY: And you described your analysis
3 that you performed as less than perfect in relying on
4 studies conducted in other regions and during other
5 seasons?

6 WITNESS IVEY: That's correct. We used the
7 best -- I used the best data that was available and
8 also consulted with the other subconsultants and DWR
9 staff about, you know, what was appropriate and best
10 for that model during that process.

11 MS. ANSLEY: Did your model consider how close
12 the lines were to riparian trees, tree roosts, single
13 trees, and other structures that could deter Cranes
14 from hitting power lines?

15 WITNESS IVEY: It did not.

16 MS. ANSLEY: Did your model use collision data
17 from the existing lines in the Delta to better
18 understand what the true risk was from the new lines?

19 WITNESS IVEY: No. We had no good collision
20 data in the Delta. Or -- Well, there was one study by
21 Marcus Yee that I was advised not to use because it was
22 a very small sample size. We did not use that study.

23 It was the consensus to use the Colorado study
24 because it was much larger, more qualified data,
25 basically.

1 MS. ANSLEY: Even though the Yee study was
2 conducted in the Delta?

3 WITNESS IVEY: Correct.

4 MS. ANSLEY: There are extensive transmission
5 lines in the winter-use area for Sandhill Cranes
6 currently; correct?

7 WITNESS IVEY: Yes.

8 MS. ANSLEY: In your testimony, you reference
9 unpublished data that you relied on. That would be on
10 Page 3. It was Lines 1 through 3 where you discuss how
11 much of the population of Sandhill Cranes and Lesser
12 Sandhill Cranes -- Greater and Lesser Sandhill Cranes
13 winter in the Delta.

14 Do you see that testimony?

15 WITNESS IVEY: Yes.

16 MS. ANSLEY: And you state that the data is
17 unpublished.

18 So does that mean the data is not released
19 anywhere?

20 WITNESS IVEY: I used that data for a Project.
21 I had a contract with the Nature Conservancy and I used
22 data on species composition in different sites.

23 And so I was able to come up with those
24 estimates based on the percentage of Lessers and
25 Greaterers in the flocks that we counted during that 2012

1 flock study and also some of the counts we did for my
2 Ph.D. in 2007-2008 winters.

3 MS. ANSLEY: Just to make sure that I have
4 that correctly.

5 So the data that you cite there as unpublished
6 is 2007-2008 data from your --

7 WITNESS IVEY: Ph.D.

8 MS. ANSLEY: -- thesis -- your Ph.D.
9 dissertation -- excuse me -- and as well as a 2012
10 flock study performed for the Nature Conservancy.

11 WITNESS IVEY: That's correct.

12 MS. ANSLEY: Is the flock study data published
13 anywhere by the Nature Conservancy.

14 WITNESS IVEY: No. There was some discussion
15 about getting it -- getting that into the California
16 wildlife database, all that data, but I don't think
17 it's happened.

18 TNC basically owns that data. I have copies
19 of it, of course.

20 MS. ANSLEY: So you would need permission from
21 the TNC to release that data?

22 WITNESS IVEY: Yes, but I believe it would be
23 easy.

24 MS. ANSLEY: And we would like to request that
25 data.

1 Does your dissertation include the data from
2 2007-2008 such that, if I pulled your dissertation --

3 WITNESS IVEY: No. It's buried in the
4 analysis of my -- of my dissertation. It's rough data
5 from our accounts.

6 MS. ANSLEY: But you also have that data in
7 your possession --

8 WITNESS IVEY: I hope so.

9 MS. ANSLEY: -- I assume?

10 WITNESS IVEY: Yeah. It's a bunch of field
11 data sheets that are -- some are digital and some are
12 paper. And I -- At this point, I'm not sure how well
13 organized it is.

14 CO-HEARING OFFICER DODUC: So, Miss Ansley,
15 was that a request to Miss Meserve to produce those two
16 sets of data?

17 MS. ANSLEY: Yes. It would be requested to
18 confirm the numbers that he says here for the
19 percentage of Sandhill Cranes that winter in the Delta
20 Region at issue here.

21 WITNESS IVEY: And my memory's, also, there's
22 some coordinated risk counts that have been done,
23 mostly by Refuges in the San Joaquin Valley so that the
24 Merced, Pixley, San Luis Refuge complex.

25 And during my Ph.D. study, we did the same

1 kind of coordinated counts here in the Delta, so that
2 was some of the data we also looked at from these
3 coordinated roost counts.

4 And more recently -- I don't have the current
5 data but there's annual coordinated roost counts for
6 those areas, the Sac Valley excluded.

7 So there's some datasets on numbers of Cranes
8 but not subsequent distribution.

9 MS. ANSLEY: I might have lost something
10 there. Specific to the Delta Region, or including the
11 San Luis or Merced region?

12 WITNESS IVEY: Including the San Joaquin
13 Valley Refuges and the Delta.

14 And so we had estimates of populations at
15 different roost sites from that data that also looked
16 at the subspecies ratios we got from our flock counts.

17 MS. MESERVE: If I might, just to clarify:

18 If there's a data request, I'll have to confer
19 with Dr. Ivey to see what form the data is and whatnot.

20 And if perhaps there might be some other
21 published study that recounts these amounts that might
22 be much less burdensome.

23 It's sounding to me like there's a lot of
24 different sources that was stated, so I don't want to
25 agree to something that's going to take days of

1 research for Dr. Ivey to pull up.

2 I think he's here now, and, I think, you know,
3 if we need to go into tomorrow, that's fine. I think
4 if DWR has questions about -- If there's a dispute
5 about whether the numbers provided here on the top of
6 Page 3 are correct, I think now is the time to dig into
7 that, not to send Dr. Ivey off on a --

8 WITNESS IVEY: Maybe it would be simpler. I
9 do have a report I produced for TNC that summarizes all
10 that information in.

11 MS. ANSLEY: Yeah. I'm -- I'm not sure if
12 it's simpler.

13 What I know is that there are numbers here of
14 population estimates for Greater Sandhill Crane and
15 Pacific Coast population of Lesser Sandhill Cranes for
16 the Delta Region, which is what, obviously, Dr. Ivey's
17 here to provide an opinion on.

18 And since it's unpublished data, you know,
19 there is -- I understand -- I'm learning more
20 information about it right now, but I have no way to
21 assess that data and the quality of that data.

22 CO-HEARING OFFICER DODUC: Understood.

23 Dr. Ivey, you mentioned that there perhaps is
24 a study that could be produced --

25 WITNESS IVEY: Well, there's --

1 CO-HEARING OFFICER DODUC: -- that has the
2 data.

3 WITNESS IVEY: Yeah. There's a report that
4 summarizes all that information, but it doesn't go down
5 into the details I think you're asking for maybe.

6 Because you have a combination of roost site
7 counts and the subspecies counts during my Ph.D. for
8 foraging Cranes, and then these block surveys where
9 they also did subspecies composition, so it's different
10 datasets we looked at?

11 MS. ANSLEY: And I guess what I can say to
12 that is, until I've seen the TNC report, I can't make
13 an assessment of whether our own Biologist would feel
14 like that's enough information, but . . .

15 I'm willing to do it in stages, but in this
16 hearing, our practice is typically, especially for
17 unpublished data, to provide the sources.

18 CO-HEARING OFFICER DODUC: If possible.

19 MS. ANSLEY: If possible.

20 MS. MESERVE: Maybe let's start with the
21 unpublished report from TNC and then we can see if that
22 answers the question.

23 CO-HEARING OFFICER DODUC: And when might you
24 be able to provide that?

25 WITNESS IVEY: It's available online,

1 actually, so I could probably -- I mean, they've
2 already allowed me to release it, more or less.

3 CO-HEARING OFFICER DODUC: At this point,
4 assume that you will return tomorrow, so let's make
5 sure that we have that available.

6 WITNESS IVEY: Okay.

7 MS. MESERVE: Yes.

8 MS. ANSLEY: And I'm down to my last couple
9 questions.

10 CO-HEARING OFFICER DODUC: We have 10 minutes
11 and 5 minutes, and we are adjourning at 5:00, so . . .

12 MS. ANSLEY: So, on Page 2 of your testimony,
13 Dr. Ivey, you reach a conclusion regarding ecotourism.
14 I think it's around Lines 18 to 27.

15 WITNESS IVEY: Yes.

16 MS. ANSLEY: Do you recall that generally?

17 WITNESS IVEY: Yes, I do.

18 MS. ANSLEY: Have you completed any
19 independent analysis to support your opinion about
20 ecotourism?

21 WITNESS IVEY: I have not, except I would
22 comment that -- you know, that the Platte River is a
23 very important spring staging area for Sandhill Cranes.
24 The get about 500,000 Cranes there and they attract a
25 lot of visitors. But it's about a three-week window.

1 Here, as Mr. Savino talked about, a lot of the
2 visitors are coming to the Delta here and going on the
3 tours. And knowing what I know about the Central
4 Valley and the various Cranes locations, Cranes are
5 basically a destination for wildlife enthusiasts and
6 photographers. And they have both high economic value
7 for the money these people spend, and it's a 130-day
8 season instead of maybe a 21-day season in Nebraska.

9 So it just makes sense to me that it would be
10 at least that high, if not higher, here in California,
11 with a much bigger population than Nebraska and, you
12 know, a lot of these major cities near these Crane
13 sites.

14 And people are getting more and more excited
15 about Cranes with wildlife photography which is a
16 growing thing. So I just feel -- I mean, It's my
17 opinion that there's a very high economic value in
18 these Cranes.

19 MS. ANSLEY: And it is your opinion that it is
20 on the order of the study you cite for the Platte River
21 in Nebraska?

22 WITNESS IVEY: I think it's probably higher
23 because there's more opportunity here for a longer
24 season.

25 MS. ANSLEY: Okay. But you -- you yourself --

1 That is based on your -- just your -- Basically, you --

2 WITNESS IVEY: My --

3 MS. ANSLEY: -- provided --

4 WITNESS IVEY: -- speculation based on what I
5 know about people looking at Cranes and going to
6 festivals and interacting with people, yes.

7 MS. ANSLEY: But you yourself are not relying
8 on any particular study --

9 WITNESS IVEY: No.

10 MS. ANSLEY: -- of ecotourism in the Delta.

11 WITNESS IVEY: I am not.

12 MS. ANSLEY: Okay. Looking at your testimony,

13 Page 11 --

14 (Exhibit displayed on screen.)

15 MS. ANSLEY: -- is where you talk about
16 reduced salinity as a potential impact of the Project.

17 Do you see that, Lines 1 through 10?

18 MS. MESERVE: Objection: Misstates. Does it
19 say "reduced"?

20 WITNESS IVEY: "Increased salinity."

21 MS. ANSLEY: Oh, I'm sorry. I was reading
22 "reduced outflow salinity control."

23 So I am looking at Page -- at Lines 1 through
24 10 on Page 11.

25 WITNESS IVEY: Yes.

1 MS. ANSLEY: Do you see that testimony.

2 WITNESS IVEY: I do.

3 MS. ANSLEY: And you cite there II-24 and
4 II-13 and LAND-78.

5 WITNESS IVEY: Yes, I see that.

6 MS. ANSLEY: Are those studies the sole basis
7 for your conclusions?

8 WITNESS IVEY: No. I -- I've been concerned
9 about this issue for a long time. And, you know, I
10 spent 18 years in Refuge management in western Refuges
11 here in the valley, particularly Kern and Pixley
12 Refuge, and salinity's a big issue with managing
13 freshwater wetlands, so I'm very familiar with the
14 issues.

15 For example, the salinity problems at
16 Kesterson from their tidal drain, issues with high
17 levels of selenium.

18 And I have seen -- And I've also done quite a
19 bit of work on Staten Island under contract with the
20 Nature Conservancy and working with the farmers there,
21 and know they have some real battles with salinity.

22 So -- And it seems to be an increasing,
23 ongoing problem. I've read about it, that salt water
24 intrusion's increasing in the Delta for various
25 reasons.

1 And I'm just concerned that this Project,
2 which diverts very fresh Sacramento River from Freeport
3 around the Delta, cannot add any freshwater to that
4 core Delta area where the Cranes area wintering.

5 So I can't imagine it cannot have impacts on
6 salinity.

7 MS. ANSLEY: And is your -- and I think I
8 probably misspoke, then, earlier -- not your general
9 basis for the issue but your basis for -- that the
10 California WaterFix would have an impact on salinity.
11 Is based on II-24 and II-13 and LAND-78 that's cited
12 there? Specifically the California WaterFix Project.

13 WITNESS IVEY: I reviewed those but I . . .
14 This has just been a concern of mine because
15 I've seen this trend and I'm concerned about the
16 quality of food for Sandhill Cranes and the loss of
17 grain agriculture due to increased salinity.

18 And I just see this as a potential increased
19 threat to increase salinity issues and cause the
20 problems to be exacerbated, along with all the other
21 habitat loss impacts that are already occurring in the
22 Crane landscape in the Delta.

23 MS. ANSLEY: Well, besides your general
24 concerns, perhaps you could list for me the basis for
25 your conclusion that the California WaterFix would have

1 an impact on salinity, an adverse impact.

2 MS. MESERVE: Asked and answered.

3 He already gave a description of why he
4 thought it was siphoning off freshwater.

5 CO-HEARING OFFICER DODUC: Miss Ansley, I
6 don't know that you -- He's answered it twice.

7 MS. ANSLEY: Okay. I can move on.

8 Can we look at SOSC-9.

9 And these are my final couple questions on
10 this map.

11 (Exhibit displayed on screen.)

12 MS. ANSLEY: Did you create this map, SOSC-9,
13 Dr. Ivey?

14 WITNESS IVEY: I did not.

15 MS. ANSLEY: Who did create this map?

16 WITNESS IVEY: I'm not positive, but I think
17 it was our representative Osha Meserve or her staff.

18 MS. ANSLEY: Do you know where the base map
19 was identified from or was obtained from?

20 WITNESS IVEY: I do not.

21 MS. ANSLEY: So you don't know whether it was
22 in electronic format, the base map?

23 WITNESS IVEY: No, I don't.

24 MS. ANSLEY: And do you recall creating maps
25 of roosting areas for your work with the BDCP?

1 WITNESS IVEY: Yes, I did.

2 MS. ANSLEY: Are you -- Is it your
3 understanding that the same roosting locations are
4 identified on this map?

5 MS. MESERVE: Objection.

6 I don't think he cited to this map, so I'm not
7 quite sure of the foundation of your --

8 MS. ANSLEY: Well, this is a map that shows
9 roosting areas. And I know that Dr. Ivey was involved
10 in creating maps for the BDCP that identified roosting
11 areas, so I wanted to find out who had created this
12 map, whether he cited to it or not.

13 So I'm simply with my last few questions
14 asking if the roosting areas on this map were --

15 WITNESS IVEY: They -- They are definitely not
16 the map of roosting sites that I provided under the GIS
17 mapping, but they're overlapping quite a bit.

18 CO-HEARING OFFICER DODUC: Have you seen this
19 map before? Are you familiar with it?

20 WITNESS IVEY: I have seen it but I haven't
21 really used it in the extent of my testimony. I've
22 seen it mostly to look at the Project information on
23 the west side there.

24 MS. ANSLEY: Could we look at the bottom of
25 the map real fast?

1 (Exhibit displayed on screen.)

2 MS. ANSLEY: Do you see how at the -- on the
3 bottom right, how it says that it's using your roost
4 site data? So you see that, sir?

5 That's, I think, the genesis of why I was
6 asking if you were involved in the creation of this
7 map.

8 WITNESS IVEY: I see that now, yeah.

9 MS. ANSLEY: Okay. But -- But you don't have
10 a memory of creating this map.

11 WITNESS IVEY: No.

12 MS. ANSLEY: Okay. That's all my questions.

13 Thank you.

14 CO-HEARING OFFICER DODUC: Is that all of your
15 questions for Dr. Ivey?

16 MS. ANSLEY: Oh, no, no. I thought we were
17 stopping at 5:00. That was my questions for Dr. Ivey.

18 CO-HEARING OFFICER DODUC: No, we are.

19 MS. ANSLEY: Oh.

20 CO-HEARING OFFICER DODUC: Yes.

21 MS. ANSLEY: I do have more questions for the
22 panel.

23 CO-HEARING OFFICER DODUC: I understand.

24 MS. ANSLEY: Except for Mr. Savino, obviously.

25 CO-HEARING OFFICER DODUC: So, Dr. Ivey, if

1 you could provide Miss Ansley with the link to the
2 report --

3 WITNESS IVEY: I will do that.

4 CO-HEARING OFFICER DODUC: -- that you
5 mentioned.

6 And, Miss Ansley, you will have some homework
7 to do tonight, and let us know tomorrow if you need
8 more data beyond that.

9 MS. ANSLEY: Sure.

10 CO-HEARING OFFICER DODUC: And so, with that,
11 we will adjourn until 9:30 tomorrow.

12 Are we back in this room?

13 MR. DEERINGER: (Nodding head.)

14 CO-HEARING OFFICER DODUC: We are?

15 CO-HEARING OFFICER MARCUS: Yeah.

16 CO-HEARING OFFICER DODUC: All right. Thank
17 you.

18 (Proceedings adjourned at 4:56 p.m.)

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1 State of California)
2 County of Sacramento)

3

4 I, Candace L. Yount, Certified Shorthand Reporter
5 for the State of California, County of Sacramento, do
6 hereby certify:

7 That I was present at the time of the above
8 afternoon proceedings;

9 That I took down in machine shorthand notes the
10 afternoon proceedings and testimony given;

11 That I thereafter transcribed said shorthand notes
12 with the aid of a computer;

13 That the above and foregoing is a full, true, and
14 correct transcription of said shorthand notes (Pages
15 138 - 256), and a full, true and correct transcript of
16 all proceedings had and testimony taken;

17 That I am not a party to the action or related to
18 a party or counsel;

19 That I have no financial or other interest in the
20 outcome of the action.

21

22 Dated: April 13, 2018

23

24

25

Candace L. Yount, CSR No. 2737

1 STATE OF CALIFORNIA)
) ss.
 2 COUNTY OF MARIN)

3 I, DEBORAH FUQUA, a Certified Shorthand
 4 Reporter of the State of California, do hereby
 5 certify that the foregoing proceedings (Pages 1
 6 through 137) were reported by me, a disinterested
 7 person, and thereafter transcribed under my
 8 direction into typewriting and which typewriting is
 9 a true and correct transcription of said
 10 proceedings.

11 I further certify that I am not of counsel
 12 or attorney for either or any of the parties in the
 13 foregoing proceeding and caption named, nor in any
 14 way interested in the outcome of the cause named in
 15 said caption.

16 Dated the 13th day of April, 2018.

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DEBORAH FUQUA
 CSR NO. 12948