

1 Spencer Kenner (SBN 148930)  
James E. Mizell (SBN 232698)  
**DEPARTMENT OF WATER RESOURCES**  
2 Office of the Chief Counsel  
1416 9<sup>th</sup> St., Room 1104  
3 Sacramento, CA 95814  
Telephone: 916-653-5966  
4 E-mail: jmizell@water.ca.gov

5 Attorneys for California Department of Water  
Resources  
6

7  
8 **BEFORE THE**  
9 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

10 **HEARING IN THE MATTER OF CALIFORNIA**  
11 **DEPARTMENT OF WATER RESOURCES**  
12 **AND UNITED STATES BUREAU OF**  
13 **RECLAMATION REQUEST FOR A CHANGE**  
**IN POINT OF DIVERSION FOR CALIFORNIA**  
**WATER FIX**

**DWR'S SECOND RESPONSES TO**  
**PATRICK PORGANS/ASSOCIATES'**  
**MARCH 2, 2018 WRITTEN CROSS-**  
**EXAMINATION QUESTIONS**

14 In response to the March 27, 2018 Ruling, the CA Department of Water Resources  
15 (DWR) submits the following additional written responses to the March 2, 2018 written  
16 cross-examination questions of Patrick Porgans/Associates submitted for Panel 2 of  
17 Petitioners' Part 2 case-in-chief.<sup>1</sup>  
18

19 WITNESS DR. GREENWOOD

20 **I. QUESTION 1**

21 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
22 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
23 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
24 *ruling.*

25 It is unclear to me if this question includes delta smelt studies in the context of the  
26 California WaterFix project. With respect to CWF H3+, my written testimony (DWR-1012)

27 \_\_\_\_\_  
28 <sup>1</sup> March 27, 2018 Ruling, pp.2-4.

1 includes cross-references to the information that I used to evaluate effects on delta smelt.  
2 Among some of the main sources were the Final EIR/S (Exhibit SWRCB-102, in particular,  
3 Chapter 11), the updated CWF Biological Assessment (Exhibit DWR-1142, in particular,  
4 Chapter 6), the U.S. Fish and Wildlife Service CWF BiOp (Exhibit SWRCB-105, in  
5 particular, Section 9.2.2) and the CWF ITP application (Exhibit DWR-1036, in particular,  
6 Chapter 4.1).

7 Beyond CWF H3+, I have conducted a number of other effects analyses pertaining  
8 to delta smelt in the context of biological assessments for Endangered Species Act  
9 consultations, e.g., related to the south Delta Temporary Barriers Project and the 2011  
10 Georgiana Slough Nonphysical Barrier Project. I do not believe that these documents have  
11 been submitted as exhibits for this hearing. I was also one of team of scientists who  
12 conducted a scientific study on the feasibility of tagging delta smelt, which I also do not  
13 believe has been submitted as an exhibit in this hearing.

## 14 15 **II. QUESTION 2**

16 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
17 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
18 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
19 *number and the date of the CWF ruling.*

20 As I noted previously for delta smelt, it is unclear to me if this question includes  
21 winter-run Chinook salmon studies in the context of the California WaterFix project. With  
22 respect to CWF H3+, my written testimony (DWR-1012) includes cross-references to the  
23 information that I used to evaluate effects on winter-run Chinook salmon and other  
24 salmonids. Similar to my answer for delta smelt, among some of the main sources were the  
25 Final EIR/S (Exhibit SWRCB-102, in particular, Chapter 11), the updated CWF Biological  
26 Assessment (Exhibit DWR-1142, in particular, Chapter 5), the National Marine Fisheries  
27 Service (NMFS) CWF BiOp (Exhibit SWRCB-106, in particular, Section 9.2.2) and the CWF  
28 ITP application (Exhibit DWR-1036, in particular, Chapter 4.3).

1 As I also noted for delta smelt, beyond CWF H3+, I have conducted a number of  
2 other effects analyses pertaining to winter-run Chinook salmon in the context of biological  
3 assessments for Endangered Species Act consultations, e.g., in relation to the 2011  
4 Georgiana Slough Nonphysical Barrier Project. I do not believe that these documents have  
5 been submitted as exhibits for this hearing. I have not participated in scientific studies  
6 directly pertaining to winter-run Chinook salmon.

7  
8 **III. QUESTION 3**

9 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
10 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
11 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
12 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
13 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
14 *date of the CWF ruling.*

15 I have not conducted studies related to CVPIA. In the context of CWF H3+, the 1992  
16 Central Valley Project Improvement Act (CVPIA) Section 3406(b)(1) Anadromous Fish  
17 Restoration was considered implicitly through an evaluation of CWF H3+ in comparison to  
18 the No Action Alternative, which includes the narrative State Water Board D-1641 salmon  
19 protection water quality objective related to CVPIA. I am not aware of studies regarding fish  
20 doubling goals being submitted as exhibits.

21  
22 **IV. QUESTION 4**

23 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*  
24 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*  
25 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*  
26 *operating criteria for the long-term OCAP.*

27 ICF was part of a consultant team working for the Bureau of Reclamation on the  
28 2016 re-initiation for long-term operations. I have not worked on this re-initiation and have

1 had no involvement with any operating criteria.

2  
3 **V. QUESTION 5**

4 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
5 *there been specific studies that addressed the operating criteria relating to the decline in*  
6 *pelagic or anadromous fish populations? If so, please explain.*

7 It is unclear to me what exactly is meant by the 2006 re-initiation of consultation for  
8 the OCAP operating criteria. If this is pertaining to re-initiation of consultation which  
9 ultimately resulted in issuance of the 2008/2009 US Fish and Wildlife Service and NMFS  
10 BOs, then I believe that there have been some studies in relation to the operating criteria,  
11 for example through studies related to delta smelt fall habitat.

12  
13 **VI. QUESTION 6**

14 *Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses*  
15 *regarding the relationship of the operating criteria and the decline of pelagic and*  
16 *anadromous species listed on the federal Endangered Species Act (ESA) or the California*  
17 *Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and*  
18 *accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit*  
19 *number and the date of the CWF ruling.*

20 As I noted in my responses to questions 1 and 2, my written testimony (DWR-1012)  
21 includes cross-references to the information that I used to evaluate effects on pelagic and  
22 anadromous species with respect to CWF H3+ and its proposed operating criteria. Among  
23 these sources were the Final EIR/S (Exhibit SWRCB-102, in particular, Chapter 11), the  
24 updated CWF Biological Assessment (Exhibit DWR-1142, in particular, Chapters 5 and 6),  
25 the National Marine Fisheries Service (NMFS) CWF BiOp (Exhibit SWRCB-106, in  
26 particular, Section 9.2.2), the U.S. Fish and Wildlife Service CWF BiOp (Exhibit SWRCB-  
27 105, in particular, Section 9.2.2), and the CWF ITP application (Exhibit DWR-1036, in  
28 particular, Chapter 4).

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**VII. QUESTION 7**

*Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the DWR for the proposed operating criteria about the California WaterFix? If so, how familiar are you with the proposed operating criteria?*

I am generally familiar with the proposed operating criteria but was not involved in the development of the criteria.

**VIII. QUESTION 8**

*How does the proposed operating criteria compare to the 2006 re-initiation of consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

As I previously noted, it is unclear to me what exactly is meant by the 2006 re-initiation of consultation for the OCAP operating criteria. If this is pertaining to re-initiation of consultation which ultimately resulted in issuance of the 2008/2009 US Fish and Wildlife Service and NMFS BOs, I believe a comparison of the proposed CWF H3+ operating criteria to existing criteria (including the 2008/2009 BOs) is included in various documents that are among the exhibits for this hearing, e.g., Chapter 3 of the updated BA (Exhibit DWR-1142). The effects analyses included in documents that I referenced in previous answers, such as the updated BA, include assessments of the proposed operating criteria in relation to a no action alternative including existing criteria such as the 2008/2009 BOs. These analyses formed the basis for my opinions regarding reasonable protection for listed species, as described in my written testimony (Exhibit DWR-1012).

**IX. QUESTION 9**

*How do the current operating criteria compare to the proposed operating criteria to ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic decline in both pelagic and anadromous species since 2006?*

I am unsure what adaptive management objectives are being referenced here, but

1 as I previously noted, effects analyses included in documents that I referenced in previous  
2 answers, such as the updated BA, include assessments of the proposed operating criteria  
3 in relation to a no action alternative including existing criteria such as the 2008/2009 BOs.  
4

5 **X. QUESTION 10**

6 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
7 *Moyle that indicates that certain species of salmonids are projected for extinction?*

8 I have seen assessments of extinction potential of salmonids by Dr. Moyle and  
9 others, although it is unclear which particular recent article the question is referring to.  
10

11 **XI. QUESTION 11**

12 *What level of hands-on-experience do members of the expert panel have on the*  
13 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
14 *CVP), i.e., are they senior or junior operators?*

15 I have no hands-on experience in operation of the SWP or CVP and am not an  
16 operator.  
17

18 **XII. QUESTION 12**

19 *In regards to the expert witnesses' testimony are they parties in the implementation*  
20 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
21 *explain.*

22 It is unclear to me which BO is being referred to in this question. If the question  
23 pertains to the 2008/2009 BOs issued by US Fish and Wildlife Service and NMFS in  
24 relation to operations of the SWP/CVP, I have participated primarily in scientific studies  
25 related to compliance with the NMFS BO, such as effectiveness of nonphysical barriers at  
26 the Sacramento River-Georgiana Slough junction, for example. If the question pertains to  
27 the BOs issued for CWF H3+, then I have not participated in implementation and  
28 compliance.

1            *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
2 *the Incidental Take Permits?*

3            I am not a decision maker in this regard.

4            *Would any of the members of the panel be held responsible should the BO or the*  
5 *ITP be exceeded or violated? If so, please explain.*

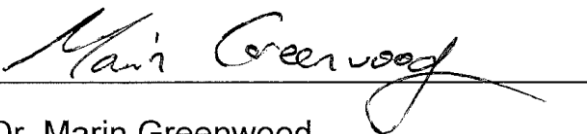
6            To my knowledge, I would not be held responsible.

7  
8            **XIII. QUESTION 13**

9            *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
10 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
11 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
12 *the parties re- institute consultation with the fisheries agencies?*

13            I do not know if there have ever been citations for exceedance of take. I also do not  
14 know if it is customary for consultation to be re-initiated if take limits are exceeded.

15  
16 Dated: April 6, 2018

17              
18            Dr. Marin Greenwood

19            ///

20            ///

21            ///

22            ///

23            ///

24            ///

25            ///

26            ///

27            ///

28

1 WITNESS DR. WILDER

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 In terms of effects analysis for CWF, please see the written testimony of Dr.  
8 Greenwood (DWR-1012), the Final EIR/S (SWRCB-102), CA WaterFix Biological  
9 Assessment (SWRCB-104), U.S. Fish and Wildlife Service CA WaterFix BiOp (SWRCB-  
10 105) and ITP application (DWR-1036).

11 There have been several studies by DWR scientists regarding Delta smelt over past  
12 few decades, including those by Sommer, Mahardja, Schreier, and Conrad. I am unsure if  
13 these have been submitted as exhibits by others, but they have not been submitted by me.

14 I published a recent study related to Delta Smelt tagging procedures. This has not  
15 been submitted as an exhibit.

16  
17 **II. QUESTION 2**

18 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
19 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
20 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
21 *number and the date of the CWF ruling.*

22 In terms of effects analysis for CWF, please see the written testimony of Dr.  
23 Greenwood (DWR-1012), the Final EIR/S (SWRCB-102), CA WaterFix Biological  
24 Assessment (SWRCB-104), National Marine Fisheries Service CA WaterFix BiOp  
25 (SWRCB-106) and ITP application (DWR-1036).

26 There have been several studies by DWR scientists regarding winter-run Chinook  
27 salmon over the past few decades including those by Sommer, Harvey, Reece, and  
28 Conrad. I am unsure if these have been submitted as exhibits by others, but they were not



1 submitted by me.

2 I have conducted some preliminary research regarding potential climate change  
3 effects on winter-run Chinook salmon that I presented at two conferences. This work has  
4 not been submitted as an exhibit.

5  
6 **III. QUESTION 3**

7 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
8 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
9 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
10 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
11 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
12 *date of the CWF ruling.*

13 I have not been involved in any CVPIA studies.

14  
15 **IV. QUESTION 4**

16 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*  
17 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*  
18 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*  
19 *operating criteria for the long-term OCAP.*

20 I have not been a consultant for the Bureau of Reclamation or the DWR for the 2016  
21 re-initiation of consultation for the long-term OCAP.

22  
23 **V. QUESTION 5**

24 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
25 *there been specific studies that addressed the operating criteria relating to the decline in*  
26 *pelagic or anadromous fish populations? If so, please explain.*

27 I am unaware of any 2006 re-initiation of consultation for the OCAP.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**VI. QUESTION 6**

*Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses regarding the relationship of the operating criteria and the decline of pelagic and anadromous species listed on the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit number and the date of the CWF ruling.*

In terms of effects analysis for CWF, please see the written testimony of Dr. Greenwood (DWR-1012) and myself (DWR-1013-signed) for information used to evaluate effects on listed pelagic (Delta Smelt and Longfin Smelt) and anadromous (Chinook Salmon, Steelhead, and Green Sturgeon) species. Also, please see the Final EIR/S (SWRCB-102), CA WaterFix Biological Assessment (SWRCB-104), U.S. Fish and Wildlife Service CA WaterFix BiOp (SWRCB-105), National Marine Fisheries Service CA WaterFix BiOp (SWRCB-106) and ITP application (DWR-1036).

I know of no studies by DWR scientists regarding operating criteria and the pelagic organism decline. SWP/CVP operations were one of many potential mechanisms evaluated during POD investigations, which included DWR scientists Sommer, Conrad, and Breuer. I am unsure if these have been submitted as exhibits by others, but they were not submitted by me.

**VII. QUESTION 7**

*Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the DWR for the proposed operating criteria about the California WaterFix? If so, how familiar are you with the proposed operating criteria?*

I am not involved in developing operating criteria for CWF.

**VIII. QUESTION 8**

*How does the proposed operating criteria compare to the 2006 re-initiation of*

1 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

2 I am unaware of any 2006 re-initiation of consultation for the OCAP.

3  
4 **IX. QUESTION 9**

5 *How do the current operating criteria compare to the proposed operating criteria to*  
6 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
7 *decline in both pelagic and anadromous species since 2006?*

8 I am not an expert in these topics and, therefore, cannot answer this question.

9  
10 **X. QUESTION 10**

11 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
12 *Moyle that indicates that certain species of salmonids are projected for extinction?*

13 I am aware that Dr. Moyle and colleagues have developed a report in which they  
14 provided their opinions regarding the status of multiple native salmonids based largely on  
15 literature review. I have not read the report in detail.

16  
17 **XI. QUESTION 11**

18 *What level of hands-on-experience do members of the expert panel have on the*  
19 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
20 *CVP), i.e., are they senior or junior operators?*

21 I do not have experience in operating the SWP or CVP.

22  
23 **XII. QUESTION 12**

24 *In regards to the expert witnesses' testimony are they parties in the implementation*  
25 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
26 *explain.*

27 No, I am not.

28 *Are any of the panelist decision makers as it pertains to compliance with the BO or*

1 *the Incidental Take Permits?*

2 No, I am not.

3 *Would any of the members of the panel be held responsible should the BO or the*  
4 *ITP be exceeded or violated? If so, please explain.*

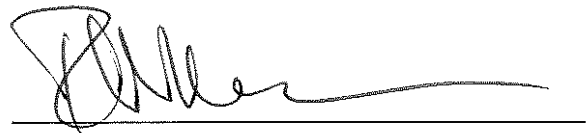
5 No, I would not.

6  
7 **XIII. QUESTION 13**

8 *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
9 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
10 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
11 *the parties re- institute consultation with the fisheries agencies?*

12 I am not aware of any citations for violations. I am not aware of the process for  
13 when take limits are exceeded by SWP/CVP.

14  
15 Dated: April 6, 2018



16 Dr. Richard Wilder

17  
18 ///

19 ///

20 ///

21 ///

22 ///

23 ///

24 ///

25 ///

26 ///

27 ///

28

1 WITNESS MS. SMITH

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I'm not aware of the specific studies, but I am aware that the Department uses  
8 hydrodynamic modeling to inform fish studies generally.

9  
10 **II. QUESTION 2**

11 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
12 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
13 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
14 *number and the date of the CWF ruling.*

15 I'm not aware of the specific studies, but I am aware that the Department uses  
16 hydrodynamic modeling to inform fish studies generally.

17  
18 **III. QUESTION 3**

19 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
20 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
21 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
22 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
23 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
24 *date of the CWF ruling.*

25 I am unaware of any studies for the CVPIA Anadromous Fish Restoration.

26 I do not recall if I was involved in CVPIA in any way.  
27  
28

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**IV. QUESTION 4**

*Was ICF or any other panelist a consultant for either the Bureau of Reclamation or the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the operating criteria for the long-term OCAP.*

I do not know who is a consultant for the 2016 re-initiation of consultation, and my role is limited to providing modeling support.

**V. QUESTION 5**

*Since the 2006 re-initiation of consultation for the OCAP operating criteria have there been specific studies that addressed the operating criteria relating to the decline in pelagic or anadromous fish populations? If so, please explain.*

I am unaware of any such information since a 2006 re-initiation of consultation. I am also unaware of any such information for the 2016 re-initiation of consultation.

**VI. QUESTION 6**

*Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses regarding the relationship of the operating criteria and the decline of pelagic and anadromous species listed on the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit number and the date of the CWF ruling.*

I am aware of studies being conducted by DWR. I looked at the relationship between residence time of particles and the pelagic organism decline using the DSM2 Particle Tracking Model. This modeling was not submitted as an exhibit in this hearing.

**VII. QUESTION 7**

*Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*

1 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
2 *are you with the proposed operating criteria?*

3 I am not a panelist for the proposed operating criteria about the California WaterFix.  
4

5 **VIII. QUESTION 8**

6 *How does the proposed operating criteria compare to the 2006 re-initiation of*  
7 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

8 I am unaware of any 2006 re-initiation of consultation for the OCAP. I am also  
9 unaware of any proposed operating criteria for the 2016 re-initiation of consultation.  
10

11 **IX. QUESTION 9**

12 *How do the current operating criteria compare to the proposed operating criteria to*  
13 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
14 *decline in both pelagic and anadromous species since 2006?*

15 I don't know.  
16

17 **X. QUESTION 10**

18 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
19 *Moyle that indicates that certain species of salmonids are projected for extinction?*

20 I am unaware of Dr. Moyle's article.  
21

22 **XI. QUESTION 11**

23 *What level of hands-on-experience do members of the expert panel have on the*  
24 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
25 *CVP), i.e., are they senior or junior operators?*

26 I do not have experience in operations of the SWP or CVP.  
27

28 **XII. QUESTION 12**

1 *In regards to the expert witnesses' testimony are they parties in the implementation*  
2 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
3 *explain.*

4 I am DWR staff.

5 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
6 *the Incidental Take Permits?*

7 No.

8 *Would any of the members of the panel be held responsible should the BO or the*  
9 *ITP be exceeded or violated? If so, please explain.*

10 No.

11  
12 **XIII. QUESTION 13**

13 *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
14 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
15 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
16 *the parties re- institute consultation with the fisheries agencies?*

17 I do not know.

18  
19 Dated: April 6, 2018



20 Ms. Tara Smith

21  
22 ///

23 ///

24 ///

25 ///

26 ///

27 ///



1 WITNESS MR. REYES

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I am not aware of specific studies, but I am aware that the Department uses  
8 hydrodynamic modeling to inform fish studies generally.

9  
10 **II. QUESTION 2**

11 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
12 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
13 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
14 *number and the date of the CWF ruling.*

15 I am not aware of specific studies, but I am aware that the Department uses  
16 hydrodynamic modeling to inform fish studies generally.

17  
18 **III. QUESTION 3**

19 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
20 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
21 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
22 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
23 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
24 *date of the CWF ruling.*

25 I am unaware of the specifics behind Anadromous Fish Restoration stated in the  
26 above question and whether it failed.

27 I was not involved in studies evaluating CVPIA.  
28

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**IV. QUESTION 4**

*Was ICF or any other panelist a consultant for either the Bureau of Reclamation or the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the operating criteria for the long-term OCAP.*

I was not involved in the 2016 re-initiation of consultation for the long-term OCAP.

**V. QUESTION 5**

*Since the 2006 re-initiation of consultation for the OCAP operating criteria have there been specific studies that addressed the operating criteria relating to the decline in pelagic or anadromous fish populations? If so, please explain.*

I am unaware of any such information since a 2006 for the re-initiation of consultation.

**VI. QUESTION 6**

*Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses regarding the relationship of the operating criteria and the decline of pelagic and anadromous species listed on the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit number and the date of the CWF ruling.*

I am unaware of any such information.

**VII. QUESTION 7**

*Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the DWR for the proposed operating criteria about the California WaterFix? If so, how familiar are you with the proposed operating criteria?*

1 I am not a panelist for the proposed operating criteria about the California WaterFix.

2

3 **VIII. QUESTION 8**

4 *How does the proposed operating criteria compare to the 2006 re-initiation of*  
5 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

6 I am unaware of any 2006 re-initiation of consultation for the OCAP.

7

8 **IX. QUESTION 9**

9 *How do the current operating criteria compare to the proposed operating criteria to*  
10 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
11 *decline in both pelagic and anadromous species since 2006?*

12 I am unaware of the Adaptive Management objectives.

13

14 **X. QUESTION 10**

15 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
16 *Moyle that indicates that certain species of salmonids are projected for extinction?*

17 I am not familiar with such a paper.

18

19 **XI. QUESTION 11**

20 *What level of hands-on-experience do members of the expert panel have on the*  
21 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
22 *CVP), i.e., are they senior or junior operators?*

23 I do not have experience in operations of the SWP or CVP.

24

25 **XII. QUESTION 12**

26 *In regards to the expert witnesses' testimony are they parties in the implementation*  
27 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
28 *explain.*



1 WITNESS DR. BRYAN

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I have not been involved in any Delta Smelt studies associated with its population  
8 nearing extinction.

9  
10 **II. QUESTION 2**

11 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
12 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
13 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
14 *number and the date of the CWF ruling.*

15 I have not been involved in any winter-run chinook salmon studies.

16  
17 **III. QUESTION 3**

18 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
19 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
20 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
21 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
22 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
23 *date of the CWF ruling.*

24 I have not been involved with CVPIA studies that evaluated success or failure of its  
25 fish-doubling goals.

26  
27 **IV. QUESTION 4**

28 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*

1 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*  
2 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*  
3 *operating criteria for the long-term OCAP.*

4 I was not involved in the re-initiation of consultation for the long-term operations  
5 criteria and plan (OCAP).

6  
7 **V. QUESTION 5**

8 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
9 *there been specific studies that addressed the operating criteria relating to the decline in*  
10 *pelagic or anadromous fish populations? If so, please explain.*

11 I am unaware of any such studies since 2006 that relate operating criteria to the  
12 decline in pelagic or anadromous fish populations.

13  
14 **VI. QUESTION 6**

15 *Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses*  
16 *regarding the relationship of the operating criteria and the decline of pelagic and*  
17 *anadromous species listed on the federal Endangered Species Act (ESA) or the California*  
18 *Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and*  
19 *accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit*  
20 *number and the date of the CWF ruling.*

21 I was not involved in any studies, nor am I familiar with any studies conducted by  
22 others, regarding the relationship of the operating criteria and the decline of ESA-listed  
23 pelagic and anadromous species.

24  
25 **VII. QUESTION 7**

26 *Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*  
27 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
28 *are you with the proposed operating criteria?*

1 I am not a panelist for the proposed operating criteria about the California WaterFix.

2

3 **VIII. QUESTION 8**

4 *How does the proposed operating criteria compare to the 2006 re-initiation of*  
5 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

6 I am unaware of the 2006 re-initiation of consultation for the OCAP and thus do not  
7 know how the proposed operating criteria would compare to it.

8

9 **IX. QUESTION 9**

10 *How do the current operating criteria compare to the proposed operating criteria to*  
11 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
12 *decline in both pelagic and anadromous species since 2006?*

13 I am unaware of how the current operating criteria compare to the proposed  
14 operating criteria with regards to their biological significance.

15

16 **X. QUESTION 10**

17 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
18 *Moyle that indicates that certain species of salmonids are projected for extinction?*

19 I am not familiar with any recent articles by Dr. Moyle regarding salmonid population  
20 projections.

21

22 **XI. QUESTION 11**

23 *What level of hands-on-experience do members of the expert panel have on the*  
24 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
25 *CVP), i.e., are they senior or junior operators?*

26 I do not have experience in operations of the SWP or CVP.

27

28 **XII. QUESTION 12**

1 *In regards to the expert witnesses' testimony are they parties in the implementation*  
2 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
3 *explain.*

4 No.

5 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
6 *the Incidental Take Permits?*

7 No.

8 *Would any of the members of the panel be held responsible should the BO or the*  
9 *ITP be exceeded or violated? If so, please explain.*

10 No.

11  
12 **XIII. QUESTION 13**

13 *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
14 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
15 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
16 *the parties re- institute consultation with the fisheries agencies?*

17 I am not aware of citations for violations. I am also not aware of what process  
18 ensues if SWP/CVP take limits are exceeded.

19  
20 Dated: April 6, 2018

21   
22 Dr. Michael Bryan

23 ///

24 ///

25 ///

26 ///

27 ///



1 WITNESS DR. PREECE

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I have not participated in any Delta smelt studies.

8  
9 **II. QUESTION 2**

10 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
11 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
12 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
13 *number and the date of the CWF ruling.*

14 I have not participated in any winter-run chinook salmon studies.

15  
16 **III. QUESTION 3**

17 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
18 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
19 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
20 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
21 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
22 *date of the CWF ruling.*

23 I was not involved in conducting these studies.

24  
25 **IV. QUESTION 4**

26 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*  
27 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*  
28 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*

1 *operating criteria for the long-term OCAP.*

2 No.

3  
4 **V. QUESTION 5**

5 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
6 *there been specific studies that addressed the operating criteria relating to the decline in*  
7 *pelagic or anadromous fish populations? If so, please explain.*

8 I am unaware of any such information since a 2006 for the re-initiation of  
9 consultation.

10  
11 **VI. QUESTION 6**

12 *Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses*  
13 *regarding the relationship of the operating criteria and the decline of pelagic and*  
14 *anadromous species listed on the federal Endangered Species Act (ESA) or the California*  
15 *Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and*  
16 *accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit*  
17 *number and the date of the CWF ruling.*

18 I am not aware of any studies.

19  
20 **VII. QUESTION 7**

21 *Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*  
22 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
23 *are you with the proposed operating criteria?*

24 I am not a panelist for the proposed operating criteria about the California WaterFix.

25  
26 **VIII. QUESTION 8**

27 *How does the proposed operating criteria compare to the 2006 re-initiation of*  
28 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

1 I am unaware of any 2006 re-initiation of consultation for the OCAP.

2

3 **IX. QUESTION 9**

4 *How do the current operating criteria compare to the proposed operating criteria to*  
5 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
6 *decline in both pelagic and anadromous species since 2006?*

7 I am unaware of how the current operating criteria compare to the proposed  
8 operating criteria with regards to their biological significance.

9

10 **X. QUESTION 10**

11 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
12 *Moyle that indicates that certain species of salmonids are projected for extinction?*

13 I am not familiar with this article.

14

15 **XI. QUESTION 11**

16 *What level of hands-on-experience do members of the expert panel have on the*  
17 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
18 *CVP), i.e., are they senior or junior operators?*

19 I do not have experience in operations of the SWP or CVP.

20

21 **XII. QUESTION 12**

22 *In regards to the expert witnesses' testimony are they parties in the implementation*  
23 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
24 *explain.*

25 No.

26 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
27 *the Incidental Take Permits?*

28 No.

1            *Would any of the members of the panel be held responsible should the BO or the*  
2 *ITP be exceeded or violated? If so, please explain.*

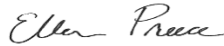
3            No.

4  
5            **XIII. QUESTION 13**

6            *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
7 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
8 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
9 *the parties re- institute consultation with the fisheries agencies?*

10           I am not aware of citations for violations. I am not aware of what process ensues if  
11 SWP/CVP take limits are exceeded.

12  
13 Dated: April 6, 2018



14           Dr. Ellen Preece

15  
16 ///

17 ///

18 ///

19 ///

20 ///

21 ///

22 ///

23 ///

24 ///

25 ///

26 ///

27 ///

28

1 WITNESS DR. OHLENDORF

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I am not aware of studies DWR has conducted on Delta smelt.

8  
9 **II. QUESTION 2**

10 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
11 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
12 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
13 *number and the date of the CWF ruling.*

14 I am not aware of studies DWR has conducted on winter-run Chinook salmon.

15  
16 **III. QUESTION 3**

17 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
18 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
19 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
20 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
21 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
22 *date of the CWF ruling.*

23 I have not been involved in studies conducted relative to 1992 CVPIA Section  
24 3406(b)(1) Anadromous Fish Restoration, and I am not aware of such studies.

25  
26 **IV. QUESTION 4**

27 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*  
28 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*

1 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*  
2 *operating criteria for the long-term OCAP.*

3 I was not a consultant for either the Bureau of Reclamation or the DWR for the 2016  
4 re-initiation of consultation for the long-term OCAP.

5  
6 **V. QUESTION 5**

7 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
8 *there been specific studies that addressed the operating criteria relating to the decline in*  
9 *pelagic or anadromous fish populations? If so, please explain.*

10 I don't know about that re-initiation of consultation.

11  
12 **VI. QUESTION 6**

13 *Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses*  
14 *regarding the relationship of the operating criteria and the decline of pelagic and*  
15 *anadromous species listed on the federal Endangered Species Act (ESA) or the California*  
16 *Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and*  
17 *accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit*  
18 *number and the date of the CWF ruling.*

19 I am not aware of any studies regarding the relationship of the operating criteria and  
20 the decline of pelagic and anadromous species listed on the federal ESA or the California  
21 CESA.

22  
23 **VII. QUESTION 7**

24 *Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*  
25 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
26 *are you with the proposed operating criteria?*

27 I am a consultant for the EIR/EIS but I am not aware of any proposed operating  
28 criteria for the California WaterFix.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**VIII. QUESTION 8**

*How does the proposed operating criteria compare to the 2006 re-initiation of consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

I am unaware of any 2006 re-initiation of consultation for the OCAP.

**IX. QUESTION 9**

*How do the current operating criteria compare to the proposed operating criteria to ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic decline in both pelagic and anadromous species since 2006?*

I do not know how the current operating criteria compare to the proposed operating criteria to ensure the effectiveness of Adaptive Management objectives.

**X. QUESTION 10**

*Are any member of the panel familiar with a recent article authored by Dr. Peter Moyle that indicates that certain species of salmonids are projected for extinction?*

I am not familiar with details in a recent article by Dr. Moyle about salmonids.

**XI. QUESTION 11**

*What level of hands-on-experience do members of the expert panel have on the operation of either the State Water Project (SWP) or the federal Central Valley Project (CVP), i.e., are they senior or junior operators?*

I do not have experience in operation of either the SWP or CVP.

**XII. QUESTION 12**

*In regards to the expert witnesses' testimony are they parties in the implementation and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please explain.*

1 I am not a party in the implementation and compliance of the BO.

2 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
3 *the Incidental Take Permits?*

4 No.

5 *Would any of the members of the panel be held responsible should the BO or the*  
6 *ITP be exceeded or violated? If so, please explain.*

7 No.

8

9 **XIII. QUESTION 13**

10 *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
11 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
12 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
13 *the parties re- institute consultation with the fisheries agencies?*

14 I am not aware of any citations for violations, and I do not know what process follows  
15 if SWP/CVP take limits are exceeded.

16

17 Dated: April 6, 2018



18

Dr. Harry Ohlendorf

19 ///

20 ///

21 ///

22 ///

23 ///

24 ///

25 ///

26 ///

27 ///

28



1 WITNESS DR. GUERIN

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I am only tangentially aware of the literature on Delta Smelt or studies done by DWR  
8 as this topic is outside of my area of professional expertise on flow and transport modeling.

9  
10 **II. QUESTION 2**

11 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
12 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
13 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
14 *number and the date of the CWF ruling.*

15 I do not have any direct knowledge of Delta winter-run Chinook salmon studies that  
16 have been done by DWR or its' panel of experts. This topic is outside of my area of  
17 professional expertise.

18  
19 **III. QUESTION 3**

20 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
21 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
22 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
23 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
24 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
25 *date of the CWF ruling.*

26 I am not aware of the conduction of studies on the failure of the doubling goal for  
27 salmonid fish populations. I was not involved in the conduction of any studies for the 1992  
28 CVPIA Section 3406(b)(1).

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**IV. QUESTION 4**

*Was ICF or any other panelist a consultant for either the Bureau of Reclamation or the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the operating criteria for the long-term OCAP.*

I was not a consultant for either DWR or the Bureau of Reclamation for studies on the 2016 re-initiation of consultation on OCAP.

**V. QUESTION 5**

*Since the 2006 re-initiation of consultation for the OCAP operating criteria have there been specific studies that addressed the operating criteria relating to the decline in pelagic or anadromous fish populations? If so, please explain.*

I am not aware of studies relating to the decline of pelagic or anadromous fish population undertaken since the 2006 re-initiation of consultation on OCAP.

**VI. QUESTION 6**

*Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses regarding the relationship of the operating criteria and the decline of pelagic and anadromous species listed on the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit number and the date of the CWF ruling.*

I am not aware of studies conducted by DWR or ICF relating operating criteria to ESA or CESA as they relate to the decline of pelagic or anadromous fish populations.

**VII. QUESTION 7**

*Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*

1 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
2 *are you with the proposed operating criteria?*

3 I am not a consultant for either DWR or the Bureau of Reclamation for the proposed  
4 operating criteria about the California WaterFix.

5  
6 **VIII. QUESTION 8**

7 *How does the proposed operating criteria compare to the 2006 re-initiation of*  
8 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

9 I do not have any direct involvement in or knowledge of the 2006 re-initiation of  
10 consultation for the OCAP or how it relates to the protection of listed species.

11  
12 **IX. QUESTION 9**

13 *How do the current operating criteria compare to the proposed operating criteria to*  
14 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
15 *decline in both pelagic and anadromous species since 2006?*

16 I do not have any involvement in or knowledge of how the proposed operating  
17 criteria will ensure the effectiveness of Adaptive Management objectives.

18  
19 **X. QUESTION 10**

20 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
21 *Moyle that indicates that certain species of salmonids are projected for extinction?*

22 I am not familiar with the recent article authored by Dr. Peter Moyle.

23  
24 **XI. QUESTION 11**

25 *What level of hands-on-experience do members of the expert panel have on the*  
26 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
27 *CVP), i.e., are they senior or junior operators?*

28 I do not have hands-on experience with the operations of the SWP or CVP. I am not

1 an operator for either project.

2  
3 **XII. QUESTION 12**

4 *In regards to the expert witnesses' testimony are they parties in the implementation*  
5 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
6 *explain.*

7 I am not a party to the implementation of or compliance with the BO.

8 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
9 *the Incidental Take Permits?*

10 I am not a decision maker for the BO or for incidental take permits.

11 *Would any of the members of the panel be held responsible should the BO or the*  
12 *ITP be exceeded or violated? If so, please explain.*

13 I have no level of responsibility for the BO or for the ITP.

14  
15 **XIII. QUESTION 13**

16 *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
17 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
18 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
19 *the parties re- institute consultation with the fisheries agencies?*

20 I am not aware of any citations to DWR or the Bureau of Reclamation for violating  
21 the ESA "TAKE" limits. I have no knowledge of conditions that would require re-  
22 consultation of the projects with the fish agencies.

23  
24 Dated: April 6, 2018

25   
26 **Dr. Marianne Guerin**  
27  
28

1 WITNESS DR. HSU

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I am not familiar with those studies.

8  
9 **II. QUESTION 2**

10 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
11 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
12 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
13 *number and the date of the CWF ruling.*

14 I am not familiar with those studies.

15  
16 **III. QUESTION 3**

17 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
18 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
19 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
20 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
21 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
22 *date of the CWF ruling.*

23 I was not involved in CVPIA.

24 I am unaware of those studies.

25  
26 **IV. QUESTION 4**

27 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*  
28 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*

1 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*  
2 *operating criteria for the long-term OCAP.*

3 I am unaware of any such information.  
4

5 **V. QUESTION 5**

6 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
7 *there been specific studies that addressed the operating criteria relating to the decline in*  
8 *pelagic or anadromous fish populations? If so, please explain.*

9 I am unaware of any such information since a 2006 for the re-initiation of  
10 consultation.  
11

12 **VI. QUESTION 6**

13 *Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses*  
14 *regarding the relationship of the operating criteria and the decline of pelagic and*  
15 *anadromous species listed on the federal Endangered Species Act (ESA) or the California*  
16 *Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and*  
17 *accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit*  
18 *number and the date of the CWF ruling.*

19 I am unaware of those studies.  
20

21 **VII. QUESTION 7**

22 *Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*  
23 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
24 *are you with the proposed operating criteria?*

25 I am not a panelist for the proposed operating criteria about the California WaterFix.  
26

27 **VIII. QUESTION 8**

28 *How does the proposed operating criteria compare to the 2006 re-initiation of*

1 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

2 I am unaware of any 2006 re-initiation of consultation for the OCAP.

3  
4 **IX. QUESTION 9**

5 *How do the current operating criteria compare to the proposed operating criteria to*  
6 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
7 *decline in both pelagic and anadromous species since 2006?*

8 I am not familiar with this comparison.

9  
10 **X. QUESTION 10**

11 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
12 *Moyle that indicates that certain species of salmonids are projected for extinction?*

13 I am not familiar with this article.

14  
15 **XI. QUESTION 11**

16 *What level of hands-on-experience do members of the expert panel have on the*  
17 *operation of either the State Water Project (SWP) or the federal Central Valley Project*  
18 *CVP), i.e., are they senior or junior operators?*

19 I do not have experience in operations of the SWP or CVP.

20  
21 **XII. QUESTION 12**

22 *In regards to the expert witnesses' testimony are they parties in the implementation*  
23 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
24 *explain.*

25 I am DWR staff.

26 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
27 *the Incidental Take Permits?*

28 No.

1            *Would any of the members of the panel be held responsible should the BO or the*  
2 *ITP be exceeded or violated? If so, please explain.*

3            No.

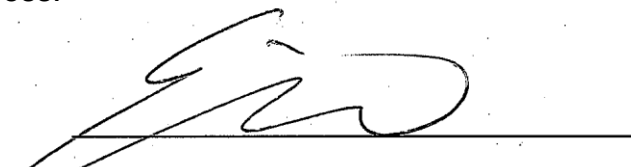
4  
5            **XIII. QUESTION 13**

6            *Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits*  
7 *contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If*  
8 *so, please explain. Is it customary when the Project operators exceed the TAKE limits that*  
9 *the parties re- institute consultation with the fisheries agencies?*

10           I am unaware of citations for violations.

11           I am unaware of any such process.

12  
13 Dated: April 6, 2018

14             
15           Dr. En Ching Hsu

16           ///

17           ///

18           ///

19           ///

20           ///

21           ///

22           ///

23           ///

24           ///

25           ///

26           ///

27           ///

28           ///



1 WITNESS MR. MILLER

2 **I. QUESTION 1**

3 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
4 *smelt near extinction? If so, have those studies been submitted as exhibits and accepted*  
5 *by the CWF Teams; please provide the exhibit number and the date of the Hearing Officers*  
6 *ruling.*

7 I am unaware of specific studies or publications.

8  
9 **II. QUESTION 2**

10 *What studies, if any, have been done by the DWR or its' panel of experts on Delta*  
11 *winter-run Chinook salmon declining populations? If so, have those studies been submitted*  
12 *as exhibits and accepted by the Hearing Officers ruling? If so, please provide the exhibit*  
13 *number and the date of the CWF ruling.*

14 I am unaware of specific studies or publications.

15  
16 **III. QUESTION 3**

17 *Were any of the panelist involved in conducting studies as to why the 1992 Central*  
18 *Valley Project Improvement Act (CVPIA) Section 3406 (b)(1) Anadromous Fish Restoration*  
19 *for doubling salmonid populations failed? If so, please explain. Were there any studies*  
20 *regarding the failure of the Fish-Doubling Goals submitted as exhibits and accepted into*  
21 *evidence by the Hearing Officers ruling? If so, please provide the exhibit number and the*  
22 *date of the CWF ruling.*

23 I have not been involved in studying CVPIA Section 3406(b)(1) Anadromous Fish  
24 Restoration doubling goals.

25  
26 **IV. QUESTION 4**

27 *Was ICF or any other panelist a consultant for either the Bureau of Reclamation or*  
28 *the DWR for the 2016 re-initiation of consultation for the long-term Operations Criteria and*

1 *Plan (OCAP)? If so, please explain ICF's or the panelist's level of involvement in the*  
2 *operating criteria for the long-term OCAP.*

3 No.

4  
5 **V. QUESTION 5**

6 *Since the 2006 re-initiation of consultation for the OCAP operating criteria have*  
7 *there been specific studies that addressed the operating criteria relating to the decline in*  
8 *pelagic or anadromous fish populations? If so, please explain.*

9 I am not aware of specific studies. However, after re-initiation of consultation, the  
10 2008 USFWS and 2009 NMFS biological opinions imposed Reasonable and Prudent  
11 Alternatives onto the operations of the CVP and SWP. My understanding is that those  
12 alternatives were imposed based on various studies relating to decline of species.

13  
14 **VI. QUESTION 6**

15 *Were there any studies conducted by the DWR, ICF, or its panel of expert witnesses*  
16 *regarding the relationship of the operating criteria and the decline of pelagic and*  
17 *anadromous species listed on the federal Endangered Species Act (ESA) or the California*  
18 *Endangered Species Act (CESA)? If so, were any such studies submitted as exhibits and*  
19 *accepted into evidence by a Hearing Officers ruling? If so, please provide the exhibit*  
20 *number and the date of the CWF ruling.*

21 I am not aware of any studies beyond the extent of my answer to Question 5.

22  
23 **VII. QUESTION 7**

24 *Is ICF or any other panelist a consultant for either the Bureau of Reclamation or the*  
25 *DWR for the proposed operating criteria about the California WaterFix? If so, how familiar*  
26 *are you with the proposed operating criteria?*

27 I am a little confused by the question. I am not a consultant, but I do work for DWR.  
28 I am familiar with the proposed operating criteria and I provided an analysis of that criteria

1 under the hydrologic conditions observed in 2016. Please see my testimony DWR-1011,  
2 and supporting Exhibits DWR-1032, DWR-1033 and DWR-1034. I am also very familiar  
3 with operational analyses provided by Mr. Leahigh's Part 1 testimony DWR-61 and  
4 supporting Exhibits DWR-411 and DWR-412, and Mr. Leahigh's Part 1 Rebuttal testimony  
5 DWR-78 and supporting Exhibits DWR-850, DWR-851, DWR-852, DWR-853, DWR-854,  
6 DWR-855 and DWR-856.

7  
8 **VIII. QUESTION 8**

9 *How does the proposed operating criteria compare to the 2006 re-initiation of*  
10 *consultation for the OCAP, as it pertains to ensuring the protection of listed species?*

11 I am not an expert in biology, so I do not have an opinion on how the operating  
12 criteria relates to protection of listed species.

13  
14 **IX. QUESTION 9**

15 *How do the current operating criteria compare to the proposed operating criteria to*  
16 *ensure the effectiveness of Adaptive Management objectives, bearing in mind the dramatic*  
17 *decline in both pelagic and anadromous species since 2006?*

18 I am not an expert in the Adaptive Management Program, so I do not have an  
19 opinion on this question.

20  
21 **X. QUESTION 10**

22 *Are any member of the panel familiar with a recent article authored by Dr. Peter*  
23 *Moyle that indicates that certain species of salmonids are projected for extinction?*

24 No.

25  
26 **XI. QUESTION 11**

27 *What level of hands-on-experience do members of the expert panel have on the*  
28 *operation of either the State Water Project (SWP) or the federal Central Valley Project*

1 CVP), i.e., are they senior or junior operators?

2 I have worked in the SWP Water Operations Office since July of 2006 and have  
3 worked at the senior and supervising engineer level during that time. I have extensive  
4 experience scheduling project operations for compliance with the many regulatory  
5 requirements both upstream of the Delta and in the Delta. Please see my statement of  
6 qualifications in Exhibit DWR-1000.

7  
8 **XII. QUESTION 12**

9 *In regards to the expert witnesses' testimony are they parties in the implementation*  
10 *and compliance of the Biological Opinion (BO), other than DWR personnel? If so, please*  
11 *explain.*

12 I am DWR staff.

13 *Are any of the panelist decision makers as it pertains to compliance with the BO or*  
14 *the Incidental Take Permits?*

15 No.

16 *Would any of the members of the panel be held responsible should the BO or the*  
17 *ITP be exceeded or violated? If so, please explain.*

18 No.

19 ///

20 ///

21 ///

22 ///

23 ///

24 ///

25 ///

26 ///

27 ///

28

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**XIV. QUESTION 13**

*Has the DWR or the Bureau every been cited for violating the ESA "TAKE" limits contained imposed in the BO or the ITP by either the state or federal fisheries agencies? If so, please explain. Is it customary when the Project operators exceed the TAKE limits that the parties re- institute consultation with the fisheries agencies?*

I am not aware of the ESA take limits being exceeded. I am not certain what happens when a take level is exceeded.

Dated: April 6, 2018

  
\_\_\_\_\_  
Mr. Aaron Miller