



# United States Department of the Interior



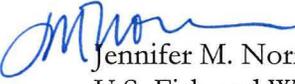
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08ESMF00-  
2015-F-0116-4

FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Suite W-2605  
Sacramento, California 95825-1846

APR 01 2016

## Memorandum

To: Anastasia Leigh, Regional Environmental Officer, Mid-Pacific Regional Office  
U.S. Bureau of Reclamation, Sacramento, California

From:  Jennifer M. Norris, Field Supervisor, Sacramento Fish and Wildlife Office  
U.S. Fish and Wildlife Service, Sacramento, California

Subject: Appending the 2016 Proposed Water Transfers to the *Programmatic Consultation for Bureau of Reclamation's Proposed Central Valley Project Long Term Water Transfers (2015-2024) with Potential Effects on the Giant Garter Snake within Sacramento Valley, California*

The U.S. Fish and Wildlife Service (Service) issued the *Reinitiation of Programmatic Consultation for Bureau of Reclamation's Proposed Central Valley Project Long Term Water Transfers (2015-2024) with Potential Effects on the Giant Garter Snake within Sacramento Valley, California* on June 4, 2015 (Service File Number 08ESMF00-2015-F-0116) (Programmatic Biological Opinion). The Programmatic Biological Opinion required that the Bureau of Reclamation (Reclamation) provide a description of the proposed action for each calendar year no later than January 31. The Service received your January 27, 2016, memo with the proposed action for 2016. At issue are the proposed action's effects on the federally-listed as threatened giant gartersnake (*Thamnophis gigas*) (snake). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act) and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR §402).

The proposed action is within the parameters specified in the Programmatic Biological Opinion. The maximum transfer volume will not exceed 565,614 acre-feet (AF) nor will the maximum annual cropland idling acreages, by region, exceed the values included in Table 4 of the Programmatic Biological Opinion. Therefore, this memo is an agreement by the Service to append the proposed action to the Programmatic Biological Opinion and represents the Service's biological opinion on the effects of the proposed action on the snake.

We based our evaluation on: (1) the Programmatic Biological Opinion; (2) your January 27, 2016, memo; (3) email correspondence between the Service and Reclamation; and (4) other information available to the Service.

## Consultation History

*July 14, 2015* The Service received the July 14, 2015, memo from Reclamation transmitting the *60-Day Compliance Report for the Bureau of Reclamation's Central Valley Project Long-term Water Transfers 2015*.

*December 30, 2015* The Service received the December 30, 2015, memo from Reclamation

transmitting the *Supplement to the Conservation Measures for the Reinitiation of Programmatic Consultation for Bureau of Reclamation's Proposed Central Valley Project Long Term Water Transfers (2015-2024) with Potential Effects on the Giant Garter Snake within Sacramento Valley, California 08ESMF00-2015-F-0116*.

*January 29, 2016* The Service received the January 29, 2016, memo from Reclamation transmitting the *2015 Annual Compliance Report for the Bureau of Reclamation's Central Valley Project Long-term Water Transfers (2015-2024)*.

*February 25, 2016* Representatives of the Service, Reclamation, the U.S. Geological Survey (USGS), the California Department of Water Resources (DWR), and the California Department of Fish and Wildlife met for the annual meeting to discuss the contents and findings of the 2015 annual report and the proposed action. The Service received a copy of the January 27, 2016, memo with the proposed action for 2016.

### Description of the Proposed Action

Four water agencies that were not identified in the Programmatic Biological Opinion have expressed interest in transferring water as part of the proposed action and may transfer water through fallowing (italicized in Tables 1 and 2 below). In addition, some water agencies that were listed in the Programmatic Biological Opinion are proposing to increase the amount of water transferred in 2016. Reclamation also proposes to reassign the Sutter Mutual Water Company to the Feather River Area of Analysis from the Sacramento River Area of Analysis based on its proximity to other agencies east of the Sacramento River. Tables 1 and 2 have been updated from the Programmatic Biological Opinion to reflect these changes. Despite the proposed changes, the maximum transfer volume will not exceed 565,614 AF nor will the maximum annual cropland idling acreages, by region, exceed the values included in Table 4 of the Programmatic Biological Opinion, reiterated below.

**Table 4 Maximum Annual Rice Cropland Idling Acreages**

| <b>Region</b>     | <b>Rice (acres)</b> |
|-------------------|---------------------|
| Sacramento Region | 49,924              |
| Feather Region    | 10,769              |
| Delta Region      | -                   |
| <b>Total</b>      | <b>60,693</b>       |

### *Conservation Measures*

Reclamation will continue to implement the conservation measures specified in the Programmatic Biological Opinion. As per Term and Condition #2 of the Programmatic Biological Opinion, Reclamation submitted a supplement to the conservation measures on December 30, 2015. The supplement consists of a scope of work for a study entitled *Effects of Rice Idling on Occupancy Dynamics of Giant Gartersnakes (Thamnophis gigas) in the Sacramento Valley of California* prepared by USGS. The study is expected to begin in 2016. The supplement meets the requirements of Term and Condition #2, and the Service will evaluate the success of the study and its results in subsequent years throughout the life of the Programmatic Biological Opinion.

**Table 1 Maximum Potential Transfer by Seller (AF) Based on 100% Supply\***

| <b>Water Agency</b>                         | <b>Maximum Potential Transfer</b> |
|---|-----------------------------------|
| <b>Sacramento River Area of Analysis</b>    |                                   |
| Anderson-Cottonwood Irrigation District     | 5,225                             |
| Burroughs Farms                             | 4,000                             |
| Canal Farms                                 | 1,000                             |
| Conaway Preservation Group                  | 35,000                            |
| Cranmore Farms                              | 8,000                             |
| Eastside Mutual Water Company               | 2,230                             |
| Glenn-Colusa Irrigation District            | 91,000                            |
| <i>Guisti Farms</i>                         | 1,000                             |
| <i>Henle Family Limited Partnership</i>     | 700                               |
| <i>Lewis Ranch</i>                          | 2,310                             |
| Maxwell Irrigation District*                | 7,500                             |
| Natomas Central Mutual Water Company        | 30,000                            |
| Pelger Mutual Water Company                 | 4,670                             |
| Pelger Road 1700, LLC                       | 3,400                             |
| Pleasant Grove-Verona Mutual Water Company  | 18,000                            |
| Princeton-Cordora-Glenn Irrigation District | 14,600                            |
| Provident Irrigation District               | 18,900                            |
| Reclamation District 108                    | 55,000                            |
| Reclamation District 1004                   | 29,675                            |
| River Garden Farms                          | 26,000                            |
| Sutter Mutual Water Company                 | 18,000                            |
| Sycamore Mutual Water Company               | 20,000                            |
| T&P Farms                                   | 1,200                             |
| Te Velde Revocable Family Trust             | 7,094                             |
| <b>American River Area of Analysis</b>      |                                   |
| City of Sacramento                          | 5,000                             |
| Placer County Water Agency                  | 47,000                            |
| Sacramento County Water Agency              | 15,000                            |
| Sacramento Suburban Water District          | 30,000                            |
| <b>Yuba River Area of Analysis</b>          |                                   |
| Browns Valley Irrigation District           | 8,100                             |
| Cordua Irrigation District                  | 12,000                            |
| <b>Feather River Area of Analysis</b>       |                                   |
| Butte Water District                        | 17,000                            |
| Garden Highway Mutual Water Company         | 14,000                            |
| Gilsizer Slough Ranch                       | 3,900                             |
| Goose Club Farms and Teichert Aggregates    | 10,000                            |
| South Sutter Water District                 | 15,000                            |
| Sutter Mutual Water Company                 | 18,000                            |
| Tule Basin Farms                            | 7,320                             |
| <b>Merced River Area of Analysis</b>        |                                   |
| Merced Irrigation District                  | 30,000                            |
| <b>Delta Region Area of Analysis</b>        |                                   |
| Reclamation District 2060                   | 3,000                             |
| Reclamation District 2068                   | 7,500                             |
| Pope Ranch                                  | 2,800                             |
| <i>Yolo Ranch</i>                           | 8,000                             |
| <b>Total **</b>                             | <b>565,614</b>                    |

Source: Reclamation in litt. 2016

\* Maxwell Irrigation District maximum transfer would be under a 75% supply scenario.

\*\* This column is not additive, as the maximum annual transfer is limited to 565,614 AF. Annual volumes will change as annual participation varies, but will not exceed 565,614 AF.

**Table 2 Transfer Types by Water Agency (AF; Upper Limits) (2016)**

| Water Agency                               | April - June             |                               |                          |              | July - September         |                               |                          |              |
|--|--------------------------|-------------------------------|--------------------------|--------------|--------------------------|-------------------------------|--------------------------|--------------|
|  | Groundwater Substitution | Cropland Idling/Crop Shifting | Stored Reservoir Release | Conservation | Groundwater Substitution | Cropland Idling/Crop Shifting | Stored Reservoir Release | Conservation |
| <b>Sacramento River Area of Analysis</b>   |                          |                               |                          |              |                          |                               |                          |              |
| Anderson-Cottonwood Irrigation District    | 2,613                    |                               |                          |              | 2,613                    |                               |                          |              |
| Burroughs Farms                            | 2000                     |                               |                          |              | 2000                     |                               |                          |              |
| Canal Farms                                | 575                      | 235                           |                          |              | 425                      | 400                           |                          |              |
| Conaway Preservation Group                 | 21,550                   | 7,900                         |                          |              | 13,450                   | 13,450                        |                          |              |
| Cranmore Farms                             | 5,140                    | 925                           |                          |              | 2,860                    | 1,575                         |                          |              |
| Eastside Mutual Water Company              | 1,067                    | 683                           |                          |              | 1,163                    | 1,163                         |                          |              |
| Glenn-Colusa Irrigation District           | 12,500                   | 24,420                        |                          |              | 12,500                   | 41,580                        |                          |              |
| Maxwell Irrigation District                | 1,330                    | 888                           |                          |              | 2,270                    | 1,512                         |                          |              |
| <i>Guisti Farms</i>                        | 500                      |                               |                          |              | 500                      |                               |                          |              |
| Natomas Central Mutual Water Company       | 15,000                   |                               |                          |              | 15,000                   |                               |                          |              |
| <i>Henle Family Limited Partnership</i>    | 425                      |                               |                          |              | 275                      |                               |                          |              |
| <i>Lewis Ranch</i>                         |                          | 855                           |                          |              |                          | 1,455                         |                          |              |
| Pelger Mutual Water Company                | 2,151                    | 939                           |                          |              | 2,670                    | 1,599                         |                          |              |
| Pleger Road 1700, LLC                      | 1,700                    |                               |                          |              | 1,700                    |                               |                          |              |
| Pleasant Grove-Verona Mutual Water Company | 8,000                    | 3,330                         |                          |              | 10,000                   | 5,670                         |                          |              |
| Princeton-Codora-Glenn Irrigation District | 2,000                    | 3,552                         |                          |              | 3,000                    | 6,048                         |                          |              |
| Provident Irrigation District              | 3,000                    | 4,773                         |                          |              | 3,000                    | 8,127                         |                          |              |
| Reclamation District 108                   | 7,500                    | 14,800                        |                          |              | 7,500                    | 25,200                        |                          |              |
| Reclamation District 1004                  |                          | 8,325                         |                          |              | 7,175                    | 14,175                        |                          |              |
| River Garden Farms                         | 5,000                    | 9,250                         |                          |              | 5,000                    | 15,750                        |                          |              |
| Sycamore Mutual Water Company              | 7,500                    | 3,700                         |                          |              | 7,500                    | 6,300                         |                          |              |
| T&P Farms                                  | 650                      | 330                           |                          |              | 550                      | 560                           |                          |              |
| Te Velde Revocable Family Trust            | 2,700                    | 2,581                         |                          |              | 4,394                    | 4,394                         |                          |              |
| <b>American River Area of Analysis</b>     |                          |                               |                          |              |                          |                               |                          |              |
| City of Sacramento                         |                          |                               |                          |              | 5,000                    |                               |                          |              |
| Placer County Water Agency                 |                          |                               |                          |              |                          |                               | 47,000                   |              |
| Sacramento County Water Agency             |                          |                               |                          |              | 15,000                   |                               |                          |              |
| Sacramento Suburban Water District         | 15,000                   |                               |                          |              | 15,000                   |                               |                          |              |
| <b>Yuba River Area of Analysis</b>         |                          |                               |                          |              |                          |                               |                          |              |
| Browns Valley Irrigation District          |                          |                               |                          |              |                          |                               | 5,000                    | 3,100        |
| Cordua Irrigation District                 |                          |                               |                          |              | 12,000                   |                               |                          |              |
| <b>Feather River Area of Analysis</b>      |                          |                               |                          |              |                          |                               |                          |              |
| Butte Water District                       | 2,750                    | 5,750                         |                          |              | 2,750                    | 5,759                         |                          |              |
| Garden Highway Mutual Water Company        | 6,500                    |                               |                          |              | 7,500                    |                               |                          |              |
| Gilsizer Slough Ranch                      | 1,500                    |                               |                          |              | 2,400                    |                               |                          |              |
| Goose Club Farms and Teichert Aggregates   | 4,000                    | 3,700                         |                          |              | 6,000                    | 6,300                         |                          |              |
| South Sutter Water District                |                          |                               |                          |              |                          |                               | 15,000                   |              |
| Sutter Mutual Water Company*               |                          | 12,660                        |                          |              |                          | 22,680                        |                          |              |
| Tule Basin Farms                           | 3,800                    |                               |                          |              | 3,520                    |                               |                          |              |
| <b>Merced River Area of Analysis</b>       |                          |                               |                          |              |                          |                               |                          |              |
| Merced Irrigation District                 |                          |                               |                          |              |                          |                               | 30,000                   |              |
| <b>Delta Region Area of Analysis</b>       |                          |                               |                          |              |                          |                               |                          |              |
| Reclamation District 2060                  |                          | 1,110                         |                          |              |                          | 1,890                         |                          |              |
| Reclamation District 2068                  | 2,250                    | 2,775                         |                          |              | 2,250                    | 4,725                         |                          |              |
| Pope Ranch                                 | 1,400                    |                               |                          |              | 1,400                    |                               |                          |              |
| <i>Yolo Ranch</i>                          |                          | 2,960                         |                          |              |                          | 5,040                         |                          |              |
| <b>Total (AF)**</b>                        | <b>140,101</b>           | <b>116,441</b>                | <b>0</b>                 | <b>0</b>     | <b>178,365</b>           | <b>195,352</b>                | <b>97,000</b>            | <b>3,100</b> |

Source: Reclamation in litt. 2016

\* Moved from the Sacramento Area of Analysis to the Feather River Area of Analysis

\*\*These totals cannot be added together. Agencies could make water available through groundwater substitution, cropland idling, or a combination of the two; however, they would not make the full quantity available through both methods. Table 2-1 reflects the total upper limit for each agency.

## Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” The action area remains the same as that described in the Programmatic Biological Opinion.

## Status of the Species

Refer to pages 19-23 of the Programmatic Biological Opinion.

## Environmental Baseline

Table 5 has been updated from the Programmatic Biological Opinion to reflect changes in the amount of rice produced in the Sacramento Valley.

**Table 5 Estimated Sacramento Valley Rice Production (acres) from 1992-2013 by County**

| Year         | Butte         | Colusa         | Glenn         | Sacramento   | Sutter         | Yolo          | Yuba          | Total          | Total Annual Change |
|--------------|---------------|----------------|---------------|--------------|----------------|---------------|---------------|----------------|---------------------|
| 1992         | 76,300        | 94,800         | 65,800        | 8,900        | 73,100         | 19,000        | 31,700        | 369,600        | --                  |
| 1993         | 79,300        | 112,000        | 74,500        | 10,400       | 81,000         | 21,400        | 31,300        | 409,900        | 40,300              |
| 1994         | 88,000        | 123,000        | 81,000        | 11,500       | 90,000         | 26,700        | 34,000        | 454,200        | 44,300              |
| 1995         | 83,000        | 122,000        | 79,000        | 10,300       | 82,000         | 27,000        | 32,000        | 435,300        | -18,900             |
| 1996         | 97,000        | 136,000        | 87,000        | 8,800        | 86,000         | 21,600        | 34,000        | 470,400        | 35,100              |
| 1997         | 97,000        | 137,000        | 89,000        | 9,400        | 90,000         | 24,000        | 35,000        | 481,400        | 11,000              |
| 1998         | 88,000        | 121,000        | 83,000        | 9,100        | 91,000         | 20,400        | 37,300        | 449,800        | -31,600             |
| 1999         | 102,500       | 135,000        | 88,000        | 9,700        | 104,500        | 30,000        | 39,200        | 508,900        | 59,100              |
| 2000         | 98,000        | 145,000        | 87,500        | 9,000        | 108,000        | 35,500        | 39,000        | 522,000        | 13,100              |
| 2001         | 86,800        | 126,300        | 78,300        | 7,800        | 87,700         | 26,000        | 37,100        | 450,000        | -72,000             |
| 2002         | 100,000       | 138,500        | 87,500        | 8,200        | 101,700        | 31,500        | 36,000        | 503,400        | 53,400              |
| 2003         | 87,800        | 138,000        | 82,500        | 8,100        | 96,900         | 32,300        | 35,400        | 481,000        | -22,400             |
| 2004         | 105,800       | 156,400        | 90,300        | 9,600        | 124,000        | 41,900        | 34,300        | 562,300        | 81,300              |
| 2005         | 96,800        | 145,600        | 87,100        | 7,900        | 101,800        | 29,200        | 33,300        | 501,700        | -60,600             |
| 2006         | 99,100        | 145,900        | 87,500        | 3,700        | 106,600        | 28,900        | 33,200        | 504,900        | 3,200               |
| 2007         | 102,000       | 155,000        | 86,500        | 3,700        | 106,000        | 23,800        | 33,700        | 510,700        | 5,800               |
| 2008         | 96,500        | 152,000        | 84,700        | 2,500        | 97,300         | 27,300        | 35,200        | 497,500        | -13,200             |
| 2009         | 106,400       | 150,400        | 85,700        | 3,120        | 115,300        | 35,900        | 38,000        | 534,820        | 37,320              |
| 2010         | 93,800        | 153,000        | 85,600        | 4,184        | 116,000        | 41,000        | 38,700        | 532,284        | -2,536              |
| 2011         | 111,000       | 154,000        | 88,600        | 3,200        | 123,000        | 41,000        | 39,000        | 561,000        | 28,716              |
| 2012         | 93,000        | 157,000        | 86,000        | 5,899        | 119,000        | 40,461        | 39,400        | 540,760        | -20,240             |
| 2013         | 104,000       | 164,000        | 80,000        | 8,363        | 117,000        | 33,200        | 37,500        | 544,063        | 3,303               |
| 2014         | 78,000        | 115,000        | 63,500        | 8,589        | 98,000         | 39,325        | 37,000        | 439,414        | -109,881            |
| 2015         | 88,000        | 109,000        | 60,800        | NA           | 92,000         | NA            | 33,500        | TBD            | TBD                 |
| <b>Avg.*</b> | <b>94,352</b> | <b>138,126</b> | <b>82,983</b> | <b>7,476</b> | <b>100,691</b> | <b>30,549</b> | <b>35,709</b> | <b>489,886</b> | <b>--</b>           |

Source: U.S. Department of Agriculture 2016; Sacramento County 2014; Yolo County 2014  
 \*Average only calculated through 2014; 2015 acres for Sacramento and Yolo Counties not available at time of signature.

Between 2013 and 2014, rice production in the Sacramento Valley decreased by 20% to the lowest acreage since 1995. Of the 109,881-acre decrease, idling of 23,120 acres was due to transfers under Reclamation's Central Valley Project (CVP) (Reclamation 2014) (Service File Number 08ESMF00-2014-F-0359). Although 2015 estimates are not yet available for Sacramento and Yolo Counties, rice production again decreased further in every other county except Butte. A total of 40,490 acres of rice were idled due to transfers under CVP in 2015, within the parameters set forth in the Programmatic Biological Opinion (Reclamation 2015). Monitoring confirmed that all transfers were conducted in compliance with the Programmatic Biological Opinion.

### **Effects of the Action**

Refer to pages 28-31 of the Programmatic Biological Opinion. Maximum following as a result of the 2016 transfers will be approximately 12.4% (60,693/489,886) of the average annual rice acreage grown in the Sacramento Valley from 1992 to 2014.

### **Conclusion**

After reviewing the current status of the snake, environmental baseline for the action area, effects of the proposed project, cumulative effects, and proposed conservation measures, it is the Service's biological opinion that the 2016 water transfers as proposed, are not likely to jeopardize the continued existence of the snake.

The proposed project will likely result in the loss of an unknown number of snakes as a result of increased mortality from temporal loss of habitat, increased competition for resources, reduced reproductive rates, and increased mortality from predation. We expect that crop idling and shifting will temporarily remove suitable snake habitat and may also reduce reproduction, recruitment, and survival of the snakes and these effects will extend beyond the project time frame.

However, Reclamation is implementing a comprehensive conservation strategy that is based on recent research that focuses on maintaining suitable habitat conditions in priority areas throughout the action area. Water will be maintained in areas most important to snakes and water will not be transferred in habitat priority conservation areas (e.g., Natomas). In addition, Reclamation will identify where idling has occurred, collect and verify habitat conditions, synthesize species data, and implement adaptive management measures to assure effective implementation of the conservation measures.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by FWS regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking

is in compliance with this Incidental Take Statement. This incidental take statement does not authorize any incidental take of listed species resulting from related actions that are not part of or controllable by Reclamation, long-term water transfer water sellers, or long-term water transfer water purchasers, and that are not included in the project description of this biological opinion.

The measures described below are non-discretionary, and must be implemented by Reclamation so that they become binding conditions of any agreement, contract, grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. Reclamation has a continuing duty to regulate the activity covered by this incidental take statement. If Reclamation (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to any agreement, contract, permit, or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Reclamation must report the progress of the action and its impact on the snake to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

### **Amount or Extent of Take for 2016**

The Service anticipates incidental take of snakes will occur. The Service is unable to quantify an exact number of snakes that will be taken as a result of the proposed action because it is impossible to know how many individuals may be present in the action area. Since take is expected to result from effects to habitat, the quantification of habitat affected becomes a direct surrogate for the species that will be taken. Snakes are secretive and sensitive to human activities and individual snakes are difficult to detect unless they are observed, undisturbed, at a distance. Adverse effects to snakes are additionally difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, or additional environmental disturbances. In instances in which the total number of individuals anticipated to be taken cannot be determined, the Service may use the amount of habitat impacted as a surrogate. Since the take of individuals anticipated will result from the acreage of cropland idled by the proposed action, the quantification of habitat lost as a result of the proposed action serves as a direct surrogate for the snakes that will be lost.

Based on our analysis presented in the *Environmental Baseline* and *Effects of the Proposed Action* sections, which describe how the majority of the action area, both under current and proposed land management, is considered to be snake habitat, we anticipate that snakes are likely to be exposed to adverse effects from the proposed rice field fallowing and crop shifting. The incidental take is expected to be in the form of harm as displaced snakes may be taken by predators or may die or suffer reproductive failure if they cannot successfully relocate and utilize suitable habitat on or adjacent to a field fallowed as a result of implementation of this water transfer program in 2016 in and around the 60,693 acres of rice fields that are idled or have alternative crops.

The proposed fallowing or crop shifting on up to 60,693 acres of rice fields in 2016 will result in the loss of an undetermined number of individual snakes through increased mortality levels of adults and juveniles due to decreased prey availability and/or reduced reproduction by snakes, and mortality of snakes that may move out of areas subject to crop idling and shifting due to predation.

### **Effect of the Take**

In the accompanying biological opinion appending to the Programmatic Biological Opinion, the Service has determined that the level of anticipated take is not likely to result in jeopardy to the

snake because the conservation measures, as proposed by Reclamation, will minimize the effects of the proposed project by providing assurances that transfers will not occur in high priority snake habitat, and in other areas where high quality snake habitat exists and snakes are known to occur, sellers will be required to maintain habitat features (ditches, drains, canals, etc.) in a condition that can be used by snakes, thus providing habitat across the action area. In addition, Reclamation has proposed an adaptive approach to the water transfer program so that information collected through monitoring and research will be reviewed annually with the wildlife agencies and giant garter snake scientists. This approach will enable Reclamation to make adjustments to snake conservation measures prior to finalizing each annual transfer program.

### **Reasonable and Prudent Measures**

All necessary and appropriate measures to avoid or minimize effects on the snake resulting from implementation of this project have been incorporated into the proposed conservation measures in the Programmatic Biological Opinion. Therefore, the Service believes the following Reasonable and Prudent Measure is necessary and appropriate to minimize incidental take of these species:

1. All conservation measures, as described in the Programmatic Biological Opinion, shall be fully implemented and adhered to. Further, this Reasonable and Prudent Measure shall be supplemented by the Terms and Conditions below.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, Reclamation must ensure compliance with the following terms and conditions, which implement the Reasonable and Prudent Measure described above. These terms and conditions are nondiscretionary.

1. For lands where cropland idling or crop shifting will occur, Reclamation shall condition the contracts between them and potential water sellers to include the conservation measures contained in the project description and the terms and conditions including access by Reclamation and Service personnel to said lands to validate their implementation.
2. [The supplement to the conservation measures required by Term and Condition #2 in the Programmatic Biological Opinion has been submitted by Reclamation. The Service will evaluate the success of the proposed study and its results in subsequent years.]
3. Reclamation shall submit a compliance report to the Service's Sacramento Fish and Wildlife Office sixty (60) calendar days following water transfer contract execution. This report shall detail (i) acreage and location of seller's parcels affected by crop idling/crop substitution and maps of where the cropland idling or cropland shifting occurred; (ii) confirmation that, where appropriate, water levels are being maintained in ditches around affected fields; (iii) occurrences of incidental take of any snakes including an updated occurrence map based on the most recent data available; (iv) an explanation of failure to meet such measures, if any; (v) an explanation of failure to meet such measures, if any; and (vi) other pertinent information. GIS shape files of the parcels that were followed will be in projected coordinate system NAD 1983 Zone 10 N.
4. At the end of transfer year 2016, Reclamation will submit to the Service a monitoring report that contains the following: (i) maps and GIS shape files of all cropland idling or cropland shifting actions that occurred within the range of potential transfer activities

affected under this program; (ii) results of current scientific research and monitoring pertinent to water transfer actions; (iii) a discussion of conservation measure effectiveness; (iv) maps and GIS shape files indicating where rice was grown; (v) results of annual snake monitoring; (vi) snake detections; (vii) a cumulative history of the location and extent of crop idling/crop shifting; and (viii) report on water districts/ sellers participation in voluntary best management practices. GIS shape files of the parcels that were fallowed will be in projected coordinate system NAD 1983 Zone 10 N. The report will be submitted to the Service no later than January 31, 2017. Reclamation and the Service will establish an annual meeting no later than February 28, 2017, to discuss the contents and findings of the annual report and develop additional conservation measures if necessary.

### Reporting Requirements

For water transfers in year 2017 Reclamation will prepare a description of the proposed action for 2017 (sellers/buyers, conservation measures, etc.), provide a detailed monitoring report for the 2016 actions, and submit this information to the Service no later than January 31, 2017. By February 28, 2017, the Service will review the description of the proposed action and monitoring report and meet with Reclamation regarding the proposed action. The annual monitoring report will include detailed information in the action area (narrative and GIS spatial analysis) on implementation of the conservation measures, land idling/fallowing, hydrologic conditions, presence/absence/not found surveys for the snake, recent reports prepared on the snake, and any other information that is relevant to snake impacts and conservation.

### CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. Reclamation should assist the Service in implementing recovery actions identified in the upcoming recovery plan for the snake.
2. Reclamation should work with the Service, DWR, and water contractors to investigate the long-term response of snake individuals and local populations to annual fluctuations in habitat from fallowing rice fields.
3. Reclamation should support the research goals of the Giant Garter Snake Monitoring and Research Strategy for the Sacramento Valley proposed in the Programmatic Biological Opinion.
4. Reclamation should work with the Service to create and restore additional stable perennial wetland habitat for snakes in the Sacramento Valley so that they are less vulnerable to market-driven fluctuations in rice production. The CVPLA (b)(1) other and CVPCP conservation grant programs would be appropriate for such work.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

### REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the water transfers for 2016. As provided in 50 CFR §402.16, reinitiation of formal consultation is required and shall be requested by the federal agency or by the Service where discretionary federal agency involvement or control over the action has been retained or is authorized by law and: (a) if the amount or extent of taking specified in the incidental take statement is exceeded; (b) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Ken Sanchez at the letterhead address or (916) 414-6671.

cc:

California Department of Fish and Wildlife, Paul Forsberg, Sacramento, CA  
National Marine Fisheries Service, Bruce Oppenheim, Sacramento, CA  
California Department of Water Resources, Tom Filler, Sacramento, CA  
Bureau of Reclamation, Russ Grimes, Brad Hubbard, Dan Cordova, Sacramento, CA

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#### **In Litt.**

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