



United States Department of the Interior
FISH AND WILDLIFE SERVICE

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In Reply Refer To:
CRC-Grassland Bypass Project

OCT 27 2009

Memorandum

To: Shauna McDonald, Resources Management Division
Bureau of Reclamation, South-Central California Area Office
Fresno, California

From: *For* Assistant Field Supervisor, Sacramento Fish and Wildlife Office
Sacramento, California *Mark DeJong*

Subject: Comments on the Final Environmental Impact Statement/Environmental Impact Report for the Continuation of the Grassland Bypass Project from 2010 Through 2019

This memorandum transmits U.S. Fish and Wildlife Service (Service) supplemental review comments and recommendations on the U.S. Bureau of Reclamation's (Reclamation) Final Environmental Impact Statement/Environmental Impact Report (FEIS/FEIR) for the Continuation of the Grassland Bypass Project From 2010 Through 2019 (GBP Extension), dated September 2009. The Service provides these comments and recommendations under authority of, and in accordance with, provisions of the National Environmental Policy Act (NEPA) (40 CFR Part 1500) and the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended (MBTA).

Since the issuance of the FEIS/FEIR, new information has become available on wildlife use and contamination at the San Joaquin River Improvement Project's (SJRIP) drainage reuse area, a component of the Grassland Bypass Project to manage and reduce drainage discharges to the San Joaquin River (HT Harvey and Associates 2009). We received a copy of the report titled, "San Joaquin River Water Quality Improvement Project, 2008 Wildlife Monitoring Report" by HT Harvey and Associates for the San Luis and Delta Mendota Water Authority – Grassland Basin Drainers via e-mail on September 16, 2009.

HT Harvey and Associates has conducted biological monitoring at the SJRIP drainage reuse area for the past 8 years. The most recent data for 2008 were collected on 3,873 acres of the original 4,000-acre SJRIP project site that had been planted with salt-tolerant crops and irrigated with agricultural drainwater (SJRIP Phase I area), and on an additional 1,901 acres acquired that year for future inclusion in the project, that had not yet been planted with salt-tolerant crops or irrigated with agricultural drainwater (SJRIP new area).

In the SJRIP Phase I area 38 avian species were observed between 22 April and 17 June 2008 (Table 1). Avian numbers were highest in late May, when red-winged blackbirds were fledging

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young. The red-winged blackbird was the most numerous avian species observed on the project site. Fifteen species were either observed nesting, or were suspected of nesting, on the site based on observations of courtship behavior or young.

Bird use at the SJRIP new area lands was similar to bird use of the existing project, with a few notable differences (Table 2). Black-necked stilts and American avocets were absent from the newly acquired lands. Species that rely on riparian and marsh habitats such as the black phoebe (*Sayornis nigricans*), marsh wren (*Cistothorus palustris*), and Bullock's oriole (*Icterus bullockii*) were absent from the SJRIP Phase I area, but present within small narrow strips of marsh and riparian habitat present in drains and parallel to ditches within the SJRIP new area lands. Two species listed as "species of concern" by the state of California, the burrowing owl (*Athene cunicularia*) and the loggerhead shrike (*Lanius ludovicianus*), were observed nesting on the SJRIP Phase I area. Loggerhead shrikes, but not burrowing owls, were also present on the SJRIP new area lands. Swainson's hawks (*Buteo swainsoni*), which are listed as threatened by the state of California, were also observed on both areas. One Swainson's hawk nest was observed on the SJRIP Phase I area, and four more were found on the SJRIP new area.

Monitoring of selenium in avian eggs collected from the SJRIP Phase I area has found elevated selenium levels in both recurvirostrids (stilts and avocets) and killdeer. From 2003 to 2006, the annual geometric mean, egg-selenium levels from recurvirostrid eggs have ranged from a low of 15.3 ppm dry weight (dwt) in 2004 to a high of 50.9 ppm (dwt) in 2008. Annual geometric mean, egg-selenium levels from killdeer eggs ranged from a low of 12.5 ppm (dwt) in 2003 to a high of 22.8 ppm (dwt) in 2006 (Table 3). It is notable that the geometric mean, egg-selenium concentration in recurvirostrid eggs collected at the SJRIP Phase I area in 2008 (50.9 ppm) exceeded all geometric mean selenium concentrations in recurvirostrid eggs collected at Kesterson Reservoir from 1983 to 1985 (Ohlendorf and Hothem 1994) as denoted in Tables 3 and 4.

The Service in 2009 provided comments to the U.S. Environmental Protection Agency on selenium criteria for at the Great Salt Lake, Utah, recommending that geometric mean selenium concentrations in avian eggs be no greater than 5 ppm (dwt) to avoid potential "take" under the MBTA (USFWS 2009). All the annual geometric mean, egg-selenium levels from killdeer and recurvirostrid eggs collected from the SJRIP Phase I area from 2003 to 2008, exceeded this 5 ppm selenium toxicity threshold. Recurvirostrid eggs with the geometric mean selenium concentrations found at the SJRIP Phase I area would be expected to exhibit an increased probability of reduced hatchability and teratogenesis (Skorupa 1998). By comparison, the geometric mean selenium concentration of recurvirostrid eggs from the SJRIP mitigation site (a 50-acre parcel near the SJRIP drainage reuse area in rice cultivation) was 7.5 ppm (dwt). Skorupa and Ohlendorf (1991) reported that normal background means for selenium in avian eggs extended up to about 3 ug/g. So, even the recurvirostrid eggs collected from the mitigation site show some degree of elevated selenium contamination above background levels.

Nine killdeer and six recurvirostrid nests were followed to completion on the SJRIP Phase I area in 2008. Six of the killdeer nests hatched and three were lost to predators. Of the six

recurvirostrid nests located and identified, all were abandoned during incubation. One recurvirostrid egg contained a deformed, 17-day old embryo (missing eyes, malformed lower mandible and limbs).

Results of the Tiered Contaminant Monitoring Program (an environmental commitment of the 2001 Grassland Bypass Project Biological Opinion) included geometric means of 1.90 ppm selenium in vegetation (range 0.37-6.64 ppm dwt) and 3.97 ppm in small mammals (range 1.59-8.89 ppm dwt on a whole body basis) collected from the SJRIP Phase I area. The selenium level detected in two vegetation samples and ten small mammal samples exceeded the threshold of 3 ppm dwt triggering the next level of monitoring in the Tiered Biological Monitoring Program, which is to monitor selenium levels in coyotes in 2009 to assess potential risk to San Joaquin kit fox. HT Harvey is conducting monitoring to meet this environmental commitment; however, data from the Tiered Biological Monitoring Program for 2009 is not yet available.

The contaminant data from the 2008 contaminant monitoring report indicate that concentrations of selenium in several taxa are significantly elevated and could result in harm or take of wildlife. Panoche Drainage District does manage a 50-acre parcel in rice cultivation as a mitigation wetland to compensate for loss of shorebirds due to elevated selenium exposure at the reuse area. However, the monitoring data indicate that a wider array of species is using and potentially being impacted by selenium in the SJRIP drainage reuse area. Consequently, we ask that the mitigation prescriptions be revised accordingly, in consultation with the Service and the California Department of Fish and Game, to avoid and/or minimize the adverse effects to wildlife associated with the management of the SJRIP drainage reuse area. In addition, we ask that the SJRIP Wildlife Monitoring Reports be made available to all interested parties by posting them on the Grassland Bypass Project's website where the other monitoring reports are posted: <http://www.sfei.org/grassland/reports/>.

We appreciate the opportunity to provide comments on the FEIS/FEIR. If you have any questions or comments about this letter, please contact Mr. Mark Littlefield or Ms. Joy Winckel of my staff at (916) 414-6600.

Attachments

cc:

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Table 1. Avian census results at the existing SJRIP Drainage Reuse Area site, Phase I area, 2008 (from HT Harvey and Associates 2009).

Species	April 22	May 06	May 13	May 27	June 03	June 17
Great blue heron	3	2	1			
Great egret	1		2	26	13	21
Snowy egret	3	6	2	17	9	11
Cattle egret			13	33	17	
Black-crowned night heron					2	
White-faced ibis				62	117	54
Mallard		2			2	
Northern harrier		1	2	2	1	2
Swainson's hawk		1	2	2		1
Red-tailed hawk	1	2	1	1	2	3
American kestrel	1	2	1	1	1	1
American coot		2				
* Killdeer	15	14	19	22	23	19
* Black-necked stilt	3	4	10	17	9	7
* American avocet	2	2				
Greater yellowlegs		2				
Whimbrel	62	13				
Long-billed curlew	6			8	121	77
* Mourning dove	21	22	15	17	6	8
* Barn owl	1	1	3	3	3	3
* Burrowing owl	5	11	9	8	8	9
* Western kingbird	17	22	24	25	29	28
* Loggerhead shrike	2	3	4	4	2	1
Common raven	2	11	7	39	61	44
* Horned lark	14	22	13	9	5	1
Northern rough-winged swallow	4	2	8	5	1	
Barn swallow	9	7	7	14	12	14
Cliff swallow	13	15	17	11	6	
American pipit	31					
Savannah sparrow	41	14	3			
* Song sparrow	4	5	5	6	4	3
* Red-winged blackbird	311	324	374	451	221	195
Tricolored blackbird		78				
* Western meadowlark	12	24	19	22	14	4
* Brewer's blackbird	21	18	33	34	36	19
* Brown-headed cowbird	10	17	19	15	24	22
* House finch	52	21	27	21	16	8
House sparrow	14	15	21	13	7	
Total	681	685	661	888	772	555

*Species for which evidence of nesting was observed this year.

Table 2. Avian census results at the SJRIP new area, 2008 (from HT Harvey and Associates 2009).

Species	April 22	May 06	May 13	May 27	June 03	June 17
Great blue heron	3	1	3	2		2
Great egret	4	25	1	1	3	7
Snowy egret	7	31	16	4		2
Cattle egret		56				
Black-crowned night heron	7	14	16	12	15	8
White-faced ibis	32	184	54	117		
Mallard		2	2		2	
* Northern harrier	1	2	1	2	2	2
* Swainson's hawk	4	5	4	5	7	7
Red-tailed hawk	1	1	1	1	1	
American kestrel	1		1	1	1	
Killdeer	4	3	6	6	7	8
Whimbrel	71	8				
Long-billed curlew					31	119
* Mourning dove	17	19	26	22	16	14
Great-horned owl		1	1	1	1	1
* Black phoebe	2	2	2	2	2	2
* Western kingbird	11	14	14	21	19	17
* Loggerhead shrike	9	11	13	20	14	14
Common raven	4	62	34	5	2	3
* Homed lark	7	9	10	8	6	6
Northern rough-winged swallow	6	4	7	2		1
Barn swallow	4	2	5	2	1	2
Cliff swallow		6	11	4		
* Marsh wren	3	5	6	5	6	4
American pipit	6	1				
Yellow warbler	2	1	1			
Savannah sparrow	39	29	5			
* Song sparrow	14	19	21	26	20	15
* Blue grosbeak	2	2	1	1	2	2
* Red-winged blackbird	261	308	341	394	381	372
Tricolored blackbird	238	29	14	71		26
* Western meadowlark	4	9	11	6	13	8
* Yellow-headed blackbird	10	8	12	15	14	10
* Brewer's blackbird	24	28	34	32	34	14
* Brown-headed cowbird	6	19	14	11	18	9
* Bullock's oriole	3	5	4	2	2	5
* House finch	31	42	44	41	48	29
House sparrow	11	7	9	12	7	
Total	849	974	745	854	675	709

*Species for which evidence of nesting was observed this year

Table 3. Geometric Mean Egg-selenium concentrations (ppm dwt) from Panoche Drainage District's SJRIP Drainage Reuse Area, 2003-2008 (data from HT Harvey and Associates 2009).

Species	2003	2004	2005	2006	2007	2008
Killdeer	12.5	13.1	15.9	22.8	17.1	12.6
Recurvirostrids	39.0	15.3	35.3	23.0	19.2	50.9
Red-Winged Blackbirds	5.9	6.0	N/A	8.8	8.1	6.8

Table 4. Geometric Mean Egg-selenium concentrations (ppm dwt) from Kesterson Reservoir, 1983-1985 (data from Ohlendorf and Hothem. 1995).

Species	1983	1984	1985
Killdeer	N/A	33.1	46.4
Recurvirostrids	16.1	20.9	34.6
Red-Winged Blackbirds	N/A	6.0	N/A