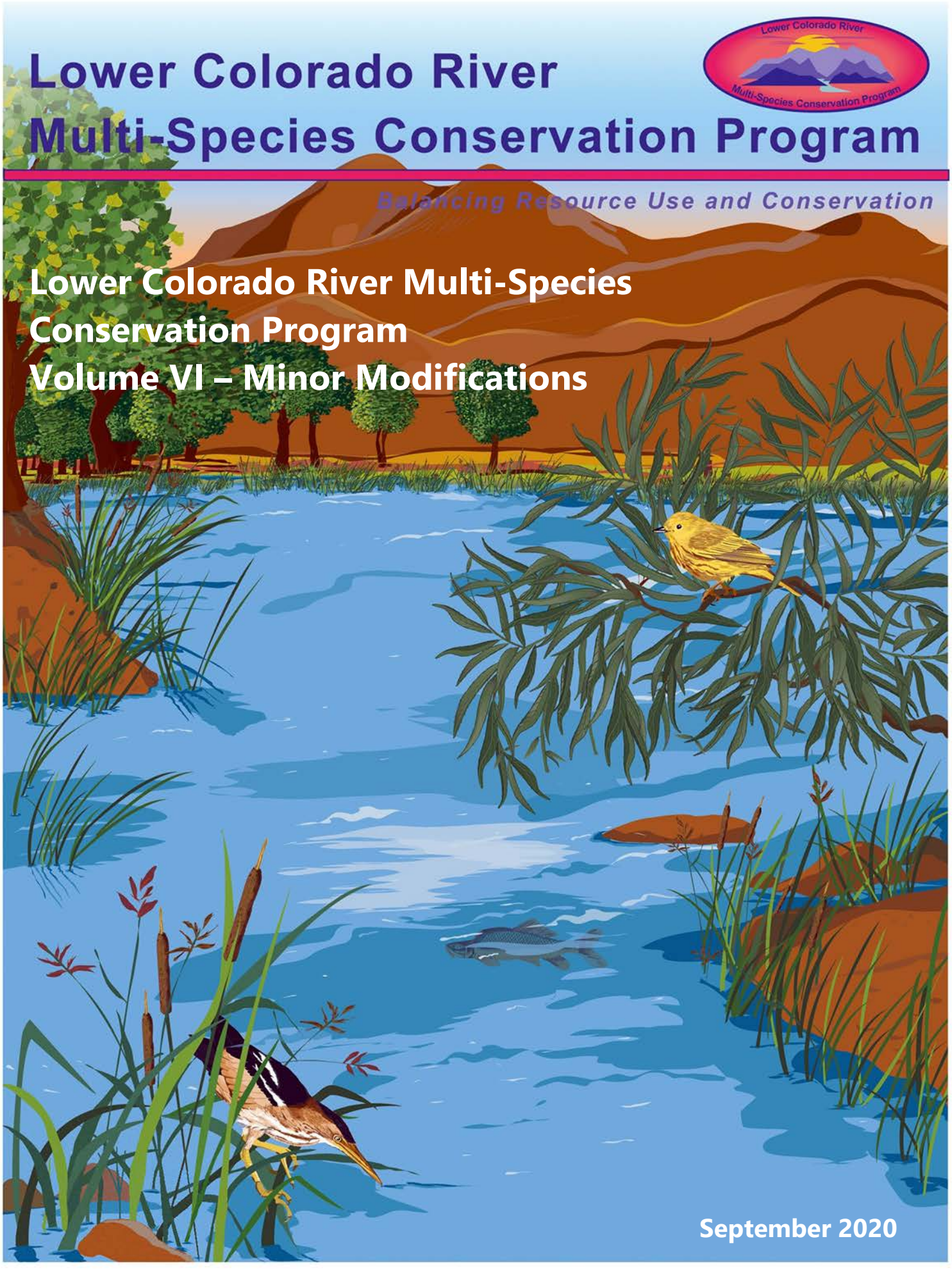
Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation



Lower Colorado River Multi-Species Conservation Program
Volume VI – Minor Modifications

September 2020

Lower Colorado River Multi-Species Conservation Program Steering Committee Members

Federal Participant Group

Bureau of Reclamation
U.S. Fish and Wildlife Service
National Park Service
Bureau of Land Management
Bureau of Indian Affairs
Western Area Power Administration

Arizona Participant Group

Arizona Department of Water Resources
Arizona Electric Power Cooperative, Inc.
Arizona Game and Fish Department
Arizona Power Authority
Central Arizona Water Conservation District
Cibola Valley Irrigation and Drainage District
City of Bullhead City
City of Lake Havasu City
City of Mesa
City of Somerton
City of Yuma
Electrical District No. 3, Pinal County, Arizona
Golden Shores Water Conservation District
Mohave County Water Authority
Mohave Valley Irrigation and Drainage District
Mohave Water Conservation District
North Gila Valley Irrigation and Drainage District
Town of Fredonia
Town of Thatcher
Town of Wickenburg
Salt River Project Agricultural Improvement and Power District
Unit "B" Irrigation and Drainage District
Wellton-Mohawk Irrigation and Drainage District
Yuma County Water Users' Association
Yuma Irrigation District
Yuma Mesa Irrigation and Drainage District

Other Interested Parties Participant Group

QuadState Local Governments Authority
Desert Wildlife Unlimited

California Participant Group

California Department of Fish and Wildlife
City of Needles
Coachella Valley Water District
Colorado River Board of California
Bard Water District
Imperial Irrigation District
Los Angeles Department of Water and Power
Palo Verde Irrigation District
San Diego County Water Authority
Southern California Edison Company
Southern California Public Power Authority
The Metropolitan Water District of Southern California

Nevada Participant Group

Colorado River Commission of Nevada
Nevada Department of Wildlife
Southern Nevada Water Authority
Colorado River Commission Power Users
Basic Water Company

Native American Participant Group

Hualapai Tribe
Colorado River Indian Tribes
Chemehuevi Indian Tribe

Conservation Participant Group

Ducks Unlimited
Lower Colorado River RC&D Area, Inc.
The Nature Conservancy

Lower Colorado River
Multi-Species Conservation Program

Lower Colorado River Multi-Species Conservation Program
Volume VI – Minor Modifications

Lower Colorado River
Multi-Species Conservation Program
Bureau of Reclamation
Lower Colorado Basin
Boulder City, Nevada
http://www.lcrmscp.gov

September 2020

Lower Colorado River Multi-Species Conservation Program. 2020. Lower Colorado River Multi-Species Conservation Program, Volume VI – Minor Modifications. Bureau of Reclamation, Boulder City, Nevada.

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Final Minor Modification
Conservation Measure for Razorback Sucker
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 11-002

Steering Committee Motion 11-002, October 27, 2010

The Steering Committee approves Reclamation's recommended changes to conservation measure RASU3 to:

RASU3 – Razorback sucker augmentation program. *The LCR MSCP will provide a level of funding to support implementation of a stocking/ augmentation program for the razorback sucker providing for the stocking of up to 660,000 subadult razorback suckers (at least 300mm in length) into the designated critical habitat for the species in Reaches 3, and in Reaches 4 and 5 of the LCR. The figure of 660,000 fish is not a target number for the LCR but represents an assumption (see RASU1) used to define the extent of funding that would be available, with the understanding that the adaptive management process (see 5.12.2.2) would guide the actual stocking program. The elements of the augmentation program divide the conservation efforts into the three reaches with numbers for fish per year per reach:*

3.1 Implement an experimental augmentation, at a site(s) to be selected in cooperation with USFWS and state game and fish agencies, of 12,000 subadult razorback suckers each year for ten years (120,000 total augmentation,) and conduct intensive follow-up monitoring. When razorback sucker production capacity allows, razorback sucker production will be ramped up, with a target production of 120,000 300-mm subadult fish over a 10-year period (i.e., about 12,000 subadult fish per year). Of the 120,000 subadult fish, 6,000 300-mm fish will be stocked annually above Parker Dam and 6,000 300-mm fish below Parker Dam to facilitate maintenance of current juvenile and adult abundance. The augmentation program will also support maintenance and protection of the genetic diversity of existing populations in Lake Mohave (conservation measure RASU 4).

(Moved by Jon Sjoberg, seconded by Perri Benemelis, and adopted by consensus)

Current Conservation Measure

5.7.6.2 Conservation Measures (LCR MSCP 2004)

RASU3 – Razorback sucker augmentation program. The LCR MSCP will provide a level of funding to support implementation of a stocking /augmentation program for the razorback sucker providing for the stocking of up to 660,000 subadult razorback suckers (at least 300 mm in length) into the designated critical habitat for the species in Reaches 3, and in Reaches 4 and 5 of the LCR. The figure of 660,000 fish is not a target number for the LCR but represents an assumption (see RASU1) used to define the extent of funding that would be available, with the understanding that the adaptive management process (see 5.12.2.2) would guide the actual stocking program. The elements of the augmentation program divide the conservation efforts into the three reaches with numbers for fish per year per reach:

3.1 Implement an experimental augmentation, at a site(s) to be selected in cooperation with USFWS and state game and fish agencies, of 24,000 subadult razorback suckers each year for five years (120,000 total augmentation,) and conduct intensive follow-up monitoring. When razorback sucker production capacity allows, razorback sucker production will be ramped up, with a target production of 120,000 300-mm subadult fish over a 5-year period (i.e., about 24,000 subadult fish per year). Of the 120,000 subadult fish, 6,000 300-mm fish will be stocked annually above Parker Dam and 6,000 300-mm fish below Parker Dam to facilitate maintenance of current juvenile and adult abundance. The augmentation program will also support maintenance and protection of the genetic diversity of existing populations in Lake Mohave (conservation measure RASU 4).

Justification

Approximately 2.5 million razorback suckers have been stocked into the LCR between Parker and Imperial Dams since 1983, including 80,000 since 2000. Subsequent monitoring conducted between January 2006 and April 2008 contacted 2281 fish (Schooley et al., 2008). After analysis of these data, a recommendation to suspend stocking of razorback suckers within the main stem LCR below Palo Verde Diversion Dam has been proposed to US Fish and Wildlife Service and California Department of Fish and Game. Studies will be conducted to further define past stocking success and to evaluate limited stocking within several backwaters that are occasionally connected to the main stem during times of high flow.

Production capabilities have been limited due to several issues not anticipated during LCR MSCP planning, including quagga mussel infestation of the LCR and the detection of largemouth bass virus at several National Fish Hatcheries. Studies are underway to determine management actions to alleviate these conditions.

Once survival studies have been concluded and production issues have been resolved, the experimental stocking call for in Conservation Measure RASU 3.3 will be initiated. Reclamation fish biologists have recommended that the time period for experimental augmentation be increased from 5 years to 10 years to allow identified research to be completed. Total fish stocked will remain unchanged.

Literature Cited

Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

Schooley, J.D., B.R. Kesner, J.R. Campbell, J.M. Barkstedt, and P.C. Marsh. 2008. Survival of razorback sucker in the lower Colorado River, Final Report, January 2006 – April 2008. Arizona State University. 55 p.

Final Minor Modification
Conservation Measure for Bonytail
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 11-003

Steering Committee Motion 11-003, October 27, 2010

The Steering Committee approves Reclamation's recommended changes to conservation measure BONY3 to:

BONY3 – Bonytail augmentation program. *The LCR MSCP will provide a level of funding to support implementation of a stocking/augmentation program for the bonytail providing for the stocking of up to 620,000 subadult bonytail (at least 300mm in length) into the designated critical habitat for the species in Reaches 2–3, and in Reaches 4 and 5 of the LCR. The figure of 620,000 fish is not a target number for the LCR but represents an assumption (see BONY1) used to define the extent of funding that would be available, with the understanding that the adaptive management process (see 5.12.2.2) would guide the actual stocking program. The elements of the augmentation program divide the conservation efforts into the three reaches with numbers for fish per year per reach:*

3.3 When technology permits, implement an experimental augmentation of 4,000 subadult fish annually in the Parker-Imperial river reach (Reaches 4 and 5) for ten consecutive years within the 50-year program (40,000 total augmentation) and conduct intensive follow-up monitoring. These fish are additional to the annual augmentation listed in BONY 3.4.

(Moved by Wade Noble, seconded by Perri Benemelis, and adopted by consensus)

Current Conservation Measure

5.7.4.2 Conservation Measures (LCR MSCP 2004)

BONY3 – Bonytail augmentation program. The LCR MSCP will provide a level of funding to support implementation of a stocking/augmentation program for the bonytail providing for the stocking of up to 620,000 subadult bonytail (at least 300mm in length) into the designated critical habitat for the species in Reaches 2–3, and in Reaches 4 and 5 of the LCR. The figure of 620,000 fish is not a target number for the LCR but represents an assumption (see BONY1) used to define the extent of funding that would be available, with the understanding that the adaptive management process (see 5.12.2.2) would guide the actual

stocking program. The elements of the augmentation program divide the conservation efforts into the three reaches with numbers for fish per year per reach:

3.3 When technology permits, implement an experimental augmentation of 8,000 subadult fish annually in the Parker-Imperial river reach (Reaches 4 and 5) for five consecutive years within the 50-year program (40,000 total augmentation) and conduct intensive follow-up monitoring. (HCP, pg. 5-42)

Justification

A total of 6425 bonytail were stocked into the LCR between Parker and Imperial Dams in 2006-2007, 1208 in the Parker Strip and 5217 in the river below Palo Verde Diversion Dam. Subsequent monitoring conducted between January 2006 and April 2008 contacted 177 fish (Schooley et al., 2008). After analysis of these data, a recommendation to suspend stocking of bonytail within the main stem LCR below Palo Verde Diversion Dam has been proposed to U.S. Fish and Wildlife Service and California Department of Fish and Game. Studies will be conducted to further define past stocking success and to evaluate limited stocking within several backwaters that are occasionally connected to the main stem during times of high flow.

Production capabilities have been limited due to several issues not anticipated during LCR MSCP planning, including quagga mussel infestation of the LCR and the detection of largemouth bass virus at several National Fish Hatcheries. Studies are underway to determine management actions to alleviate these conditions.

Once survival studies have been concluded and production issues have been resolved, the experimental stocking call for in Conservation Measure BONY 3.3 will be initiated. Reclamation fish biologists have recommended that the time period for experimental augmentation be increased from 5 years to 10 years to allow identified research to be completed. Total fish stocked will remain unchanged.

Literature Cited

Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

Schooley, J.D., B.R. Kesner, J.R. Campbell, J.M. Barkstedt, and P.C. Marsh. 2008. Survival of razorback sucker in the lower Colorado River, Final Report, January 2006 – April 2008. Arizona State University. 55 p.

Final Minor Modification
Conservation Measure for California Black Rail
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 11-004

Steering Committee Motion 11-004, October 27, 2010

The Steering Committee approves Reclamation's recommended changes to conservation measure BLRA1 to:

BLRA1 – Create 130 acres of California black rail habitat. *Of the 512 acres of LCR MSCP-created marsh, 130 acres will be created and managed to provide California black rail habitat near occupied habitat in Reaches 3, 4, 5, 6, and 7. This habitat will be provided by designing and managing at least 130 acres of the 512 acres of created Yuma clapper rail habitat to provide habitat for both species. Habitat will be created in patches as large as possible but will not be created in patches smaller than 5 acres. Additional California black rail habitat may be provided by marsh vegetation that becomes established along margins of the 360 acres that will be created in Reaches 3, 4, 5, 6, and 7. These small patches of habitat provide cover for dispersing rails, thereby facilitating linkages between existing breeding populations and the colonization of created habitats.*

(Moved by Chuck Paradzick, seconded by Perri Benemelis, and adopted by consensus)

Current Conservation Measure

5.7.13.2 Conservation Measures

BLRA1 – Create 130 acres of California black rail habitat. Of the 512 acres of LCR MSCP-created marsh, 130 acres will be created and managed to provide California black rail habitat near occupied habitat in Reaches 5 and 6 (Figure 5-2). This habitat will be provided by designing and managing at least 130 acres of the 512 acres of created Yuma clapper rail habitat to provide habitat for both species. Habitat will be created in patches as large as possible but will not be created in patches smaller than 5 acres. Additional California black rail habitat may be provided by marsh vegetation that becomes established along margins of the 360 acres that will be created in Reaches 5 and 6. These small patches of habitat provide cover for dispersing rails, thereby facilitating linkages between existing breeding populations and the colonization of created habitats. (HCP, pg. 5-57)

Justification

When the LCR MSCP was finalized in 2005 the historic locations for the California black rail were confined to Reaches 5 and 6. Recent monitoring and research data collected by Reclamation and other parties have expanded the known distribution of the California black rail to include Reaches 3 and 4. Expanding the Program's conservation opportunities into Reaches 3 and 4 for the California black rail will benefit the program, the species and encourage migration to the north along the river. The California Endangered Species Act (CESA) 2081 permit issued to LCR MSCP California permittees also lists conservation measures for California black rail habitat creation within Reaches 3–6 (CESA Incidental Take Permit 2081-2005-008-06**)**. Adopting these changes to conservation measure BLRA 1 would make this requirement consistent between the two permits.

Monitoring Results for California Black Rail

The California black rail was listed by the U.S. Fish & Wildlife Service (USFWS) as a migratory nongame bird of special concern in 1995 (U.S. Fish & Wildlife Service 1995). California Department of Fish and Game listed this species as threatened while the Arizona Game and Fish Department has listed it as a species of special concern in Arizona (Arizona Game and Fish Department 2002, California Department of Fish and Game 2006). Since actions covered under the LCR MSCP were expected to affect 103 acres of existing black rail habitat on the lower Colorado River (LCR), two conservation measures were developed and listed in the Habitat Conservation Plan for this species. Conservation Measure BLRA 1, which calls for the creation and management of 130 acres of black rail habitat near occupied habitat within Reaches 5 and 6, was based on the limited data available on black rail distribution prior to 2005.

Prior to the development of a multi-species marsh bird survey protocol in 2006, most detections of California black rail along the LCR occurred during directed surveys that were limited in area and duration or as incidental observations during surveys directed towards monitoring other species, especially Yuma clapper rail surveys conducted since the Yuma Clapper Rail Recovery Plan was written in 1983 (USFWS 1983). With the development of the multi-species marsh bird survey protocol, which utilizes tape recorded calls for several secretive marsh bird species including black rail, at the advent of the LCR MSCP, Reclamation and others have detected black rails outside Reaches 5 and 6 (table 1). Detections of California black rail have ranged from 2–5 annually since 2007.

Table 1.—California black rail detections within LCR MSCP Reaches 1–3 and adjacent areas from 2002 to 2010

Area	Reach	2002	2003	2004	2005	2006	2007	2008	2009	2010
Topock Gorge[1]	3	0	0	0	0		2		5	1
Beal Lake[2]	3	0	0	0	0	0	1	0	0	0
Topock Marsh[2]	3	0	0	0	0	0	0	0	0	1
Lake Mead[3]	1	0	0	0	0	0	0	2	0	0
Virgin River[4]	N/A	3	1	0	0	0	0	0	0	0
Ash Meadows[5]	N/A	0	0	0	0	0	0	1	0	0
Total		**3**	**1**	**0**	**0**	**0**	**3**	**3**	**5**	**2**

[1] Kahl 2010; Kahl 2007; Bureau of Reclamation, unpublished data.
[2] Christopher Nadeau, University of Arizona, personal communication.
[3] Joseph Barnes, National Park Service, personal communication.
[4] Rathbun and Braden 2003; Braden et al. 2005.
[5] Carl Lundblad, USFWS, personal communication.

Literature Cited

Arizona Game and Fish Department. 2002. *Laterallus jamaicensis coturniculus.* Unpublished abstract compiled and edited by the Heritage Management System, Arizona Game and Fish Department, Phoenix, AZ. 5 p.

Braden, G.T., K. Carter, and M.R. Rathbun. 2005. The status of Yuma clapper rail and yellow-billed cuckoo along portions of the Virgin River and Muddy River in Southern Nevada: 2003. San Bernardino County Museum, Redlands, California. 32 p.

California Department of Fish and Game. 2006. State and federally listed endangered and threatened animals of California. California Department of Fish and Game, Sacramento, CA. 12 p.

California Department of Fish and Game. 2005. CESA Incidental Take Permit 2081-2005-008-06. California Department of Fish and Game, Los Alamitos, CA. 72 p.

Kahl, J. 2007. Marsh bird surveys 2007. Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada. 23 p.

Kahl, J. 2010. *In preparation*. Marsh bird surveys 2009. Lower Colorado River Multi-Species Conservation Program. Bureau of Reclamation, Boulder City, Nevada. 23 p.

Rathbun, M.R. and G.T. Braden. 2003. The status of Yuma clapper rail and yellow-billed cuckoo along portions of the Virgin River and Muddy River in Southern Nevada for 2002. San Bernardino County Museum, Redlands, California. 29 p.

U.S. Fish and Wildlife Service. 1983. Yuma Clapper Rail Recovery Plan. U.S. Fish and Wildlife Service, Albuquerque, NM. 51 p.

U.S. Fish and Wildlife Service. 1995. Migratory nongame birds of management concern in the United States: the 1995 list. Office of Migratory Bird Management, Washington, D.C. 25 p.

Final Minor Modification
Conservation Measure for Sticky Buckwheat
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 11-005

Steering Committee Motion 11-005, October 27, 2010

The Steering Committee approves Reclamation's recommended changes to conservation measure STBU1 to:

STBU1 – Provide funding to support sticky buckwheat conservation programs. *The LCR MSCP will provide a total of $10,000 per year until 2030 to an ongoing Conservation Program or other entity approved by the USFWS to implement conservation activities for the threecorner milkvetch and sticky buckwheat.*

(Moved by Jon Sjoberg, seconded by Wade Noble, and adopted by consensus)

Current Conservation Measure

5.7.27.2 Conservation Measures

STBU1 – Provide funding to support existing sticky buckwheat conservation programs. The LCR MSCP will provide $10,000 per year until 2030 to the Clark County MSHCP Rare Plant Workgroup to support implementation of conservation measures for the threecorner milkvetch and sticky buckwheat that are beyond the permit requirements of the Clark County MSHCP. (HCP, pg. 5-72).

Justification

The Clark County Multiple Species Habitat Conservation Plan Rare Plant Workgroup was a group that met quarterly to discuss conservation and research activities to benefit rare plants in Clark County as part of the Clark County MSHCP. The group was comprised of Clark County MSHCP staff, BLM botanists, Fish and Wildlife Service (FWS) botanists, US Forest Service botanists, National Park Service botanists, Nevada Division of Forestry foresters, others. This group has not met in several years and no longer exists. Therefore, having the conservation measures more general will allow an opportunity for other Conservation Programs or other entities approved by the FWS that are implementing threecorner milkvetch and/or sticky buckwheat conservation activities to be eligible to receive funding.

Final Minor Modification
Conservation Measure for Threecorner Milkvetch
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 11-006

Steering Committee Motion 11-006, October 27, 2010

The Steering Committee approves Reclamation's recommended changes to conservation measure THMI1 to:

THMI1 – Provide funding to support threecorner milkvetch conservation programs. *The LCR MSCP will provide a total of $10,000 per year until 2030 to an ongoing Conservation Program or other entity approved by the USFWS to implement conservation activities for the threecorner milkvetch and sticky buckwheat.*

(Moved by Jon Sjoberg, seconded by Wade Noble, and adopted by consensus)

Current Conservation Measure

5.7.27.2 Conservation Measures

THMI1 – Provide funding to support existing threecorner milkvetch conservation programs. The LCR MSCP will provide $10,000 per year until 2030 to the Clark County MSHCP Rare Plant Workgroup to support implementation of conservation measures for the threecorner milkvetch and sticky buckwheat that are beyond the permit requirements of the Clark County MSHCP. (HCP, pg. 5-73).

Justification

The Clark County Multiple Species Habitat Conservation Plan Rare Plant Workgroup was a group that met quarterly to discuss conservation and research activities to benefit rare plants in Clark County as part of the Clark County MSHCP. The group was comprised of Clark County MSHCP staff, BLM botanists, Fish and Wildlife Service (FWS) botanists, US Forest Service botanists, National Park Service botanists, Nevada Division of Forestry foresters, others. This group has not met in several years and no longer exists. Therefore, having the conservation measures more general will allow an opportunity for other Conservation Programs or other entities approved by the FWS that are implementing threecorner milkvetch and/or sticky buckwheat conservation activities to be eligible to receive funding.

United States Department of the Interior
U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:

AESO/SE
22410-2004-F-0161

January 4, 2011

Memorandum

To: Program Manager, Lower Colorado River Multi-Species Conservation Program
Bureau of Reclamation, Boulder City, Nevada (LC-8000)

From: Field Supervisor

Subject: Request for Approval of Minor Modifications to the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan (HCP)

This responds to your memorandum of December 7, 2010, requesting review by the Fish and Wildlife Service (FWS) of five Program Decision Documents (PDD) from the LCR MSCP Steering Committee containing minor modifications to the conservation actions for razorback sucker (RASU3) in PDD 11-002, bonytail (BONY3) in PDD 11-003, BLRA1 in PDD 11-004, sticky buckwheat (STBU1) in PDD 11-005, and threecorner milkvetch (THMI1) in PDD 11-006.

I have reviewed the proposed modifications and believe these minor changes do not alter the amount or intent of the subject conservation measures, and will assist in providing for the delivery of appropriate conservation for these five species. These changes are consistent with the adaptive-management principles upon which the LCR MSCP is founded. I approve these modifications.

Thank you for your continued efforts to ensure that the LCR MSCP functions as a stellar example of a successful HCP; providing benefits to the covered species, increasing the knowledge base for riparian restoration efforts applicable to other programs, and meeting the water and power needs of the partners. We appreciate the close working relationship between you and Ms. Lesley Fitzpatrick of my staff that contributes to the success of the program. If you have any questions concerning this approval, please contact Ms. Fitzpatrick at (602) 242-0210 x 236 or me at x244.

Steven L. Spangle

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES: Marty Tuegel)
Lower Colorado River Coordinator, Fish and Wildlife Service, Phoenix, AZ

W:\Lesley Fitzpatrick\LCR MSCP 2010 Minor Mods.docx: jkey

Final Minor Modification
Conservation Measure for the Western Yellow Bat
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 14-001

Steering Committee Motion 14-002 April 23, 2014

The Steering Committee approves Reclamation's recommended changes to conservation measure WYBA3 to include foraging in cottonwood-willow and mesquite habitats, specifically:

WYBA3 – Of the 7,260 acres of cottonwood-willow and honey mesquite to be created as covered species habitat, at least 765 acres will be designed and created to provide western yellow bat roosting or foraging habitat. *Created roosting or foraging habitat will be designed and managed to support cottonwood-willow types I and II and honey mesquite type III. The LCR MSCP process for selecting sites to establish cottonwood-willow and honey mesquite as habitat for other covered species habitat will, based on the information collected under conservation measure WYBA1, give priority, when consistent with achieving LCR MSCP goals for other covered species, to selecting sites that are occupied by the western yellow bat in Reaches 3–5. As described in Section 5.4.3, created cottonwood-willow and honey mesquite land cover will be designed to establish stands that will support a substantially greater density and diversity of plant species that will provide roosting or foraging habitat and that are likely to support a greater abundance of insect prey species than is currently produces in the affected land cover types.*

(Moved by Perri Benemelis, seconded by Larry Purcell, and adopted by consensus)

Current Conservation Measure

5.7.8.2 Conservation Measures (LCR MSCP 2004)

WYBA3 – Of the 7,260 acres of cottonwood-willow and honey mesquite to be created as covered species habitat, at least 765 acres will be designed and created to provide western yellow bat roosting habitat. Created roosting habitat will be designed and managed to support cottonwood-willow types I and II and honey mesquite type III. The LCR MSCP process for selecting sites to establish cottonwood-willow and honey mesquite as habitat for other covered species habitat will, based on the information collected under conservation measure WYBA1, give priority, when consistent with achieving LCR MSCP goals for other covered species, to selecting sites that are occupied by the western

yellow bat in Reaches 3–5. As described in Section 5.4.3, created cottonwood-willow and honey mesquite land cover will be designed to establish stands that will support a substantially greater density and diversity of plant species that will provide roost trees and that are likely to support a greater abundance of insect prey species than is currently produces in the affected land cover types.

Justification

During the development of the LCR MSCP, the western yellow bat conservation measures were based on the current understanding of the western yellow bat's habitat use along the LCR. Conservation Measure WYBA1 was developed to determine the distribution of the western yellow bat in Reaches 3–5. Recent research and monitoring data suggest that the western yellow bats utilize the cottonwood-willow and mesquite forests primarily for foraging along the LCR, unlike the western red bat which uses the cottonwood-willow and mesquite forests for both roosting and foraging.

The habitat information provided in the species account (below) in 2008 indicates that a wide range of habitat is used for roosting and foraging from Texas to the LCR.

> "Western yellow bats are known to roost in the dead palm frond skirts of fan palms (*Washingtonia* spp.) (Cockrum 1961, Kurta and Lehr 1995, Williams 2001). In Guadalupe Canyon, New Mexico, broadleaf deciduous riparian trees, such as Fremont cottonwood (*Populus fremontii*), sycamore (*Platanus wrightii*), and hackberry (*Celtis reticulate*), were used as roosting sites (Mumford and Zimmerman 1963). In the Big Bend region of Texas, a western yellow bat was found using the giant dagger yucca (*Yucca carnerosana*) as a roosting site, in a similar manner as those using palm trees (Higginbotham et al. 2000). Palm trees may be preferred because dead fronds closely match their fur coloration, although they will utilize any tree that gives them enough cover to be hidden while roosting. In Arizona, they are found at elevations from 168 to 1,830 meters (AGFD 2003). Along the LCR, yellow bats have been recorded at a cottonwood revegetation site at Imperial NWR and a dense palm grove just north of Parker, Arizona (Brown 2006)."

The recent findings and previous work conducted by others documents the western yellow bats as predominantly roosting in fan palm trees, specifically in the dead palm fronds.

Monitoring Results for Western Yellow Bat

The western yellow bat is not Federally listed as threatened or endangered. It is included in a draft list of Arizona Wildlife of Special Concern by the Arizona Game and Fish Department. According to the State of Nevada Comprehensive Wildlife Conservation Strategy, the western yellow bat is a Nevada Species of Conservation Priority. California Department of Fish and Game has proposed it as a species of special concern. The Western Bat Working Group lists the western yellow bat as a species of "Red or High" priority, the highest priority available.

The LCR MSCP initiated a study to identify the distribution and roost habitat requirements that began in 2011. Western yellow bats were captured with mist nets, affixed with a transmitter, and then tracked to their roosting locations. Nine western yellow bats were tracked during the 2011 season. Eleven roost sites were identified, and nine of the roost sites were in Mexican fan palms. Roosting locations were consistently below the live crown within the dead palm frond skirt (Diamond 2011). Roosting trees had a significantly higher percentage of dead crown vegetation than that of adjacent trees (Diamond 2011). In 2012, nineteen western yellow bats were captured and tracked. All roost sites were located in palm trees. Again, western yellow bats were found to not roost in cottonwood-willow habitat, and are using the cottonwood-willow and mesquite forests as foraging grounds. Additionally, western yellow bats appear to be selecting for a specific tree with a large dead palm frond skirt for roosting (Diamond in press). Similarly, Williams' study in 2001 in the Upper Moapa Valley, Clark County Nevada found western yellow bats roosting in palm trees, which accounted for a large portion of the time that the species was detected in riparian woodland habitat.

To better assess seasonal activity of bat species on the LCR and their relationship to environmental variables, 4 permanent detector stations were placed along the LCR (Vizcarra et al. 2010) in Reaches 3–6. The stations were placed in locations where there was a high probability of detecting the target species, such as cottonwood-willow (CW), mesquite (HM), saltcedar (SC), marsh (MA) and saltcedar/screwbean mesquite (SM) land cover and structure (I-IV) types. Bats were detected continuously using an Anabat detector from 2008 through 2012. Table 1 below lists bat detections by year, location and habitat type.

Table 1.—Western yellow bat detections from acoustic monitoring in cottonwood-willow and honey mesquite

Location	Habitat type	2008	2009	2010	2011	2012
Bill Williams River	CW I-IV	X	X	X	X	X
Picacho	CW II and HM	X	X	ND	X	X
Mittry	CW II and HM	X	X	X	X	X
CNWR Island Unit	CWI-IV and HM	X	X	X	X	X

X = present (acoustic and/or capture).
ND = Surveys conducted and WYBA dot detected.

Acoustic bat monitoring and mist netting (capture) of western yellow bats began in 2007 at LCR MSCP conservation areas. The table below shows the western yellow bats were either (or both) contacted using acoustics or through mist netting from 2007 through 2013 at each of the conservation areas. The table also provides the habitat type that each conservation area provides specifically where the species is utilizing the habitat for foraging.

Table 2.—Western yellow bat presence in cottonwood-willow and honey mesquite

Location	Habitat type	2007	2008	2009	2010	2011	2012	2013
Cibola Unit 1[1]	CW I-III and HM	ND	X	X	X	ND[2]	X	X
CVCA (Phase 1, 2 and 3)[1]	CW I-III and HM	X	X	X	X	X	X	X
PVER[1]	CW II-IV and HM	X	X	X	X	X	X	X
Beal Lake Conservation Area[1]	CW I and HM	X	X	X	X	X	X	X

NS = Surveys not conducted.
X = present (acoustic and/or capture).
ND=Surveys conducted and WYBA not detected.
[1] *AGFD and Reclamation Reports; and unpublished data.*
[2] *The data was inconclusive due to high insect noise.*

The current WYBA3 conservation measure does not fully reflect the western yellow bat's use of cottonwood-willow habitats given that they roost primarily in the skirts of palm trees instead of cottonwood-willow as currently defined in the conservation measure. Including foraging to the conservation measure matches more closely to the species roosting and foraging ecology.

Literature Reviewed

Arizona Game and Fish Department. 2003. *Lasiurus xanthinus*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 6 p. http://www.gf.state.az.us/w_c/edits/documents/Lasixant.fi.pdf (Accessed January 6, 2006).

Broderick, S. 2008. Post-development bat monitoring of habitat creation areas along the lower Colorado River – 2007 acoustic surveys. Bureau of Reclamation, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, Nevada.

_____. 2010. Post-Development Bat Monitoring 2008 Acoustic Surveys. Bureau of Reclamation, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, Nevada.

Brown, P. 2006. Lower Colorado River bat monitoring protocol. Draft report submitted to USBR. 30 p.

Bureau of Reclamation. 2007. Species Accounts for the Lower Colorado River Multi-Species Conservation Program. Unpublished report. 345 p.

Cockrum, E.L. 1961. Southern yellow bat in Arizona. Journal of Mammalogy 42:97.

Diamond, J.M. 2011. Distribution and Roost Site Habitat Requirements of Western Yellow (*Lasiurus xanithinus*) and Western Red (*Lasiurus blossevillii*) Bats: 2011 Summary Findings. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 18 p.

Diamond, J.M. *In press*. Distribution and Roost Site Habitat Requirements of Western Yellow (*Lasiurus xanithinus*) and Western Red *(Lasiurus blossevillii*) Bats: 2012 Summary Findings. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 34 p.

Higginbotham, J.L., M.T. Dixon, and L.K. Ammerman. 2000. Yucca provides roost for *Lasiurus xanthinus* (Chiroptera: *Vespertilionidae*) in Texas. The Southwestern Naturalist 45:338–340.

Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

Mixan, R.J., J.M. Diamond, and M. Piorkowski. 2013. Monitoring of LCR MSCP Bat Species as Determined by Acoustic Sampling-Summary Findings 2012. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 20 p.

Mixan, R.J., J.M. Diamond, and L. Piest. 2012. Monitoring of LCR MSCP Bat Species as Determined by Acoustic Sampling-Summary Findings 2011. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 20 p.

Mumford, R.E. and D.A. Zimmerman. 1963. The southern yellow bat in New Mexico. Journal of Mammalogy 44:417–418.

Vizcarra, B., L. Piest, and V. Frary. 2011. Monitoring of Covered and evaluation Bat Species for the Lower Colorado River Multi-Species Conservation Program – 2010 Final Report. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 83 p.

Vizcarra, B. and L. Piest. 2010. Monitoring of Covered and evaluation Bat Species for the Lower Colorado River Multi-Species Conservation Program – 2009 Annual Report. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 39 p.

Vizcarra, B. and L. Piest. 2009. Monitoring of Covered and evaluation Bat Species for the Lower Colorado River Multi-Species Conservation Program – 2008 Annual Report. Arizona Game and Fish Department, report submitted to Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV. 38 p.

Williams, J.A. 2001. Community structure and habitat use by bats in the upper Moapa Valley, Clark County, Nevada. Unpublished M.A.S. thesis. University of Nevada, Las Vegas. 55 p.

Final Minor Modification
Conservation Measure for Arizona Bell's Vireo
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 14-002

Steering Committee Motion 14-003, April 23, 2014

The Steering Committee approves Reclamation's recommended changes to conservation measure BEVI1 to include cottonwood-willow I-II habitats, specifically:

BEVI1 – Create 2,983 acres of Arizona Bell's vireo habitat. *Of the 7,260 acres of created cottonwood-willow and honey mesquite, at least 2,983 acres will be designed and created to provide habitat for this species. Patches of created habitat will be designed and managed to support cottonwood-willow types I-IV and honey mesquite type III that provide habitat for this species. The created habitat will be established in patches as large as possible. In addition to the spatial replacement of affected habitat, the quality of created habitat will be substantially greater than affected habitats. Patches of existing cottonwood-willow in the LCR MSCP planning area typically include dense stands of saltcedar that support little vegetative diversity relative to the cottonwood-willow land cover that will be created as habitat. Created habitat will be dominated by native riparian trees (i.e., cottonwood and willow trees), support a tree structure corresponding to structural types I–IV, support a diversity of plant species, and will be created to the greatest extent practicable in patch sizes optimal for supporting the species. The design and management criteria described in the conservation measures for the southwestern willow flycatcher (Section 5.7.2) and yellow-billed cuckoo (Section 5.7.14) will ensure that created cottonwood-willow stands in structural types I-IV will also provide other habitat requirements for this species (e.g., habitat patch size, food requirements). In particular, the management of moist surface soil, slow-moving water, or ponded water conditions and greater diversity of seral stages of cottonwood-willow described in the conservation measures for the southwestern willow flycatcher habitat will also provide these habitat requirements for this species. Created habitat, thus, will approximate the condition of the native habitat of the species that was historically present along the LCR.*

(Moved by Perri Benemelis, seconded by Vikki Dee Bradshaw , and adopted by consensus)

Current Conservation Measure

5.7.19.2 Conservation Measures (LCR MSCP 2004)

BEVI1 – Create 2,983 acres of Arizona Bell's vireo habitat. Of the 7,260 acres of created cottonwood-willow and honey mesquite, at least 2,983 acres will be designed and created to provide habitat for this species. Patches of created habitat will be designed and managed to support cottonwood-willow types III and IV and honey mesquite type III that provide habitat for this species. The created habitat will be established in patches as large as possible. In addition to the spatial replacement of affected habitat, the quality of created habitat will be substantially greater than affected habitats. Patches of existing cottonwood-willow in the LCR MSCP planning area typically include dense stands of saltcedar that support little vegetative diversity relative to the cottonwood-willow land cover that will be created as habitat. Created habitat will be dominated by native riparian trees (i.e., cottonwood and willow trees), support a tree structure corresponding to structural types III–IV, support a diversity of plant species, and will be created to the greatest extent practicable in patch sizes optimal for supporting the species. The design and management criteria described in the conservation measures for the southwestern willow flycatcher (Section 5.7.2) and yellow-billed cuckoo (Section 5.7.14) will ensure that created cottonwood-willow stands in structural types III and IV will also provide other habitat requirements for this species (e.g., habitat patch size, food requirements). In particular, the management of moist surface soil, slow-moving water, or ponded water conditions and greater diversity of seral stages of cottonwood-willow described in the conservation measures for the southwestern willow flycatcher habitat will also provide these habitat requirements for this species. Created habitat, thus, will approximate the condition of the native habitat of the species that was historically present along the LCR.

Justification

When the LCR MSCP was finalized in 2005, Arizona Bell's vireos were known to be present in few locations throughout the lower Colorado River occupying honey mesquite-saltcedar mixed stands outside of the willow habitats within the Bill Williams River National Wildlife Refuge (Rosenberg et al. 1991), Lake Havasu National Wildlife Refuge, Cibola National Wildlife Refuge, Picacho State Park, and on the Fort Mohave Indian Reservation. Conservation Measure BEVI1, which requires the creation and management of 2,983 acres of Arizona Bell's vireo habitat was based on this limited data from the 1990s and other historic data. Surveys conducted over several years under the LCR MSCP through the avian systemwide and conservation areas surveys have documented Arizona Bell's vireos using a wider range of cottonwood-willow land cover types for foraging and nesting than was previously reported.

Monitoring Results for Arizona Bell's Vireo

The subspecies Arizona Bell's vireo (*Vireo bellii arizonae*) was proposed for federal listing in 1981 as endangered because of dramatic population declines. The petition failed because significant populations of the subspecies existed in Arizona and New Mexico. California listed the subspecies as endangered in 1988. Since actions covered under the LCR MSCP were expected to affect 2,983 acres of existing Arizona Bell's vireo habitat on the lower Colorado River, one conservation measure (BEVI1) was developed and listed in the Habitat Conservation Plan for this species.

Systemwide and conservation area surveys for the Arizona Bell's vireo began in 2007 and continued into 2013. These surveys have provided more information regarding the habitat use at the landscape scale for the Arizona Bell's vireo. Habitat association analyses were conducted for Arizona Bell's vireo's where GBBO stated that Bell's vireo's were positively associated with tall riparian tree cover, particularly cottonwood, and the presence of shrub mesquite, but avoided upland habitat patches and patches dominated by low ground cover (GBBO 2009).

LCR MSCP began systemwide surveys in 2007 for six covered riparian obligate species using a double sampling approach. The covered species are the Arizona Bell's vireo, Sonoran yellow warbler, summer tanager, Gila woodpecker, and gilded flicker. The project area for systemwide bird monitoring includes the Colorado River from Separation Point, upstream of Lake Mead, to the Southerly International Boundary with Mexico (GBBO 2011). The riparian habitat along the LCR and tributaries were stratified and delineated to divide the project area into approximately 22 acre (9ha) plots (GBBO 2011) and assigned a habitat type to each plot. Each year 80 randomly selected plots were surveyed for the six covered species. After three years of surveys, GBBO found that the Bell's vireo was the most widespread species, second most common breeder, and highest estimated population size systemwide among the covered species during the 2008-2010 surveys (GBBO 2011). Arizona Bell's vireo continues to be one of the most abundant covered species in subsequent annual surveys utilizing various riparian habitat structure types along the LCR.

Systemwide surveys documented Arizona Bell's vireo in riparian habitat in the following areas: along the Colorado River inflow into Lake Mead; within narrow bands of riparian habitat along Lake Mohave shorelines up to Owl Point; within the surrounding areas of Topock Marsh and riparian habitat along the Colorado River within the Havasu National Wildlife Refuge; riparian habitat along the Colorado River in Topock Gorge down to the riparian edges on the east side of Lake Havasu; throughout the Bill Williams River National Wildlife Refuge about two kilometers from the delta where the riparian forest begins through the

Planet Ranch property; along the Bill Williams River west of Alamo Dam and within Lincoln Ranch; in Parker Valley within the Deer Island area southwest of the ‘Ahakhav Tribal Preserve; along the Colorado River north of Picacho State Park in the Imperial National Wildlife Refuge including areas around Martinez Lake; areas within and around Mittry Lake and along the Colorado River between Imperial and Laguna Dams; and other areas along the LCR. In 2013, surveys were conducted along the Virgin River and Arizona Bell’s vireos were detected in several structural types of cottonwood-willow, mesquite and saltcedar habitats similar to range of habitat they occupy along the Colorado River. The location and presence of the species along the Colorado and Virgin Rivers to date are provided in table 1.

Table 1.—Arizona Bell's vireo presence in cottonwood-willow and mesquite, and salt cedar and mesquite

Location	Habitat type	2007[2]	2008[1]	2009[1]	2010[1]	2011[1]	2012[1]	2013[1]
Virgin River	CW I, SC IV-VI, SH IV-V	NS	NS	NS	NS	NS	NS	X
Colorado River Inflow	CW III-VI	X	NS	ND	NS	NS	NS	NS
Lake Mohave	CW I, III, SC I-IV and SH I-IV	X	X	X	NS	NS	X	X
Needles/Laughlin Area (Davis Dam - Topock Bay)	CW I-III, SC III-V, SH IV-V	X	ND	X	X	X	X	X
Topock Gorge and Lake Havasu	CW I, SC IV-V, SM III	X	ND	X	X	X	ND	X
Bill Williams River NWR	CW I-IV and HM, SH IV	X	X	X	X	X	X	X
Planet Ranch area	CW II, SH IV, SCIII-VI	NS	X	X	X	X	NS	NS
Reid Valley area	CW I,III, and SC II, IV, VI	NS	X	NS	X	X	X	X
Parker Valley	CW I, SC III-VI	ND	NS	X	NS	ND	NS	NS
Imperial NWR and Picacho State Park	CW I, SM III-IV, SC III-V	ND	X	X	ND	X	X	ND
Laguna and Mittry Lake Area	CW I, III, SC II-VI, SH IV	ND	ND	X	X	X	X	X

NS = Surveys not conducted.
X = species present.
ND = Surveys conducted and BEVI not detected.
[1] GBBO 2008–2012 reports and unpublished data.
[2] Bart 2007.

Surveys are conducted annually at the LCR MSCP conservation areas two years following planting. Each year Cibola National Wildlife Refuge Unit 1 Nature Trail and Beal Lake Conservation Area surveys have documented breeding or foraging Arizona Bell's vireo since 2007. The data from these two Conservation Areas show the birds utilize cottonwood-willow and honey mesquite mixed together. These areas are classified at the landscape scale as cottonwood-willow land cover types. Palo Verde Ecological Reserve, and Cibola Valley Conservation Area are planted in blocks of cottonwood-willow, and then blocks of honey mesquite. The honey-mesquite at each of these conservation areas are just reaching the structure type III the species conservation measure requires and is expected that once the two (cottonwood-willow and honey mesquite) types grow together the species will begin utilizing more of the two conservation areas. The location and presence of the species within the conservation areas that have been surveyed are provided in table 2.

Table 2.—Arizona Bell's vireo presence in cottonwood-willow and honey mesquite

Location	Habitat type	2007[2]	2008[1]	2009[1]	2010[1]	2011[1]	2012[1]	2013[1]
Cibola Unit 1	CW I and HM	X	X	X	X	X	X	X
CVCA (Phase 1, 2 and 3)	CW I-III and HM	NS	ND	ND	ND	ND	ND	ND
PVER	CW I-IV and HM	ND	X	ND	X	ND	X	ND
Beal Lake Conservation Area	CW I and HM	X	X	X	X	X	X	X

NS = Surveys not conducted.
X = Species present.
ND = Surveys conducted and BEVI not detected.
[1] *GBBO 2008–2012 reports and unpublished data.*
[2] *Bart 2007.*

Systemwide and conservation area surveys have shown Arizona Bell's vireos are more of a generalist species utilizing habitat in varying structure types during the breeding season for foraging and nesting. Adjusting the conservation measure to include cottonwood-willow I and II for Arizona Bell's vireo is based on data collected over 7 years and is recommended at this time to better reflect the species natural history.

Literature Review

Bart, J. 2007. Lower Colorado River Riparian Bird Surveys. Unpublished Report Submitted to the Bureau of Reclamation, Lower Colorado Region, May 2008.

Great Basin Bird Observatory. 2008a. Lower Colorado River riparian bird surveys, 2007. Unpublished report submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, NV, by the Great Basin Bird Observatory, Reno, NV.

Great Basin Bird Observatory. 2008b. Annual report on the Lower Colorado River riparian bird surveys, 2008. Unpublished report submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, NV, by the Great Basin Bird Observatory, Reno, NV.

Great Basin Bird Observatory. 2009. Annual Report on the Lower Colorado River Riparian Bird Surveys, 2009. Unpublished report submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, NV, by the Great Basin Bird Observatory, Reno, NV.

Great Basin Bird Observatory. 2011. Summary Report on the Lower Colorado River Riparian Bird Surveys, 2008–2010. Unpublished report submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, NV, by the Great Basin Bird Observatory, Reno, NV.

Great Basin Bird Observatory. 2012. Final Report on the Lower Colorado River Bird Surveys, 2011. Unpublished report submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, NV, by the Great Basin Bird Observatory, Reno, NV.

Great Basin Bird Observatory. 2013. Lower Colorado River Riparian Bird Surveys, 2012 Annual Report. Unpublished report submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, NV, by the Great Basin Bird Observatory, Reno, NV.

Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

Final Minor Modification
Conservation Measure for Colorado River Cotton Rat
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 14-003

Steering Committee Motion 14-004, April 23, 2014

The Steering Committee approves Reclamation's recommended changes to conservation measure CRCR2 to include cottonwood-willow and mesquite habitats, specifically:

CRCR2 – Create 125 acres of Colorado River cotton rat habitat. *Of the 512 acres of marsh to be created to create Yuma clapper rail habitat (Section 5.7.1), or the 5, 940 acres of cottonwood-willow and 1,320 acres of honey mesquite III to be created as habitat for covered species, at least 125 acres will be designed to also provide Colorado River cotton rat habitat in Reaches 3 and 4 near occupied habitat (Figure 5-2). Additional habitat may be provided by marsh vegetation that establishes along margins of the 360 acres created backwaters (Section 5.4.3.4).*

(Moved by Perri Benemelis, seconded by Larry Purcell, and adopted by consensus)

Current Conservation Measure

5.7.10.2 Conservation Measures (LCR MSCP 2004)

CRCR2 – Create 125 acres of Colorado River cotton rat habitat. Of the 512 acres of marsh to be created to create Yuma clapper rail habitat (Section 5.7.1), at least 125 acres will be designed to also provide Colorado River cotton rat habitat in Reaches 3 and 4 near occupied habitat (Figure 5-2). Additional habitat may be provided by marsh vegetation that establishes along margins of the 360 acres created backwaters (Section 5.4.3.4).

Justification

When the LCR MSCP was finalized in 2005, the species distribution and habitat requirements for Colorado River cotton rat were based on the current understanding of their habitat use at that time. Recent research studies, and opportunistic and controlled intuitive monitoring data collected by Reclamation and other parties have provided landscape level habitat information necessary to design and manage created habitat for the Colorado River cotton rat. The research and controlled intuitive monitoring conducted systemwide and at

conservation area has recorded the Colorado River cotton rat occupying a mosaic of cottonwood-willow and mesquite land cover types with a substantial vegetative ground cover and suggests that this species is not restricted to marsh habitat. For example, the Palo Verde Ecological Reserve and Cibola National Wildlife Refuge Unit 1 Annual Reports have documented Colorado River cotton rats occupying a mosaic of cottonwood-willow and honey mesquite habitat in California and Arizona for several years.

MONITORING RESULTS FOR COLORADO RIVER COTTON RAT

The Colorado River cotton rat is not a Federally listed threatened or endangered species. The Colorado River cotton rat is a species of special concern in the state of California. Since actions covered under the LCR MSCP were expected to affect 67 acres of Colorado River cotton rat habitat on the lower Colorado River (LCR), two conservation measures were developed and listed in the Habitat Conservation Plan for this species. Conservation Measure CRCR 2, which calls for the creation and management of 125 acres of Colorado River cotton rat habitat within Reaches 3 and 4, was based on the limited data available on the Colorado River cotton rat habitat before 2005.

Both the Colorado River and Yuma hispid cotton rats were historically found in dense marsh habitat. Since implementation of the LCR MSCP, opportunistic monitoring and habitat studies have been conducted to determine the landscape level habitat characteristics for the Colorado River and Yuma hispid cotton rats.

Presence surveys for cotton rats began in 2005 to determine what mammal species were present at pre-LCR MSCP conservation areas. In 2005, the Yuma hispid cotton rats were trapped at Pratt Agricultural site in cottonwood-willow land cover types with vegetative ground cover, such as low growing shrubs and tall grasses. Because Yuma hispid cotton rats were found in cottonwood-willow land cover types at Pratt Agricultural, surveys were conducted in similar habitat at Cibola National Wildlife Refuge Unit 1's Nature Trail, a cottonwood-willow mixed mesquite forest, to determine if the Colorado River cotton rats were utilizing the same type of habitat as the Yuma hispid cotton rat at Pratt Agricultural. Colorado River cotton rats have been documented in cottonwood-willow and honey mesquite habitat every year since 2005 at Cibola National Wildlife Refuge Unit 1's Nature Trail. The species has been found in areas in shrubs and tall grasses with mesquites, cottonwoods, and willows. Also, a population of Colorado River cotton rats has been documented at the Cottonwood Genetics garden located within the Cibola National Wildlife Refuge Unit 1 since 2006. The Cottonwood Genetics garden has tall grasses with cottonwoods. Surveys have been conducted and presence has been confirmed for Colorado River cotton rat at Cibola Valley Conservation Area, Palo Verde Ecological Reserve, Beal Lake Conservation Area, Big Bend Conservation Area, and at

Pintail Slough in Havasu National Wildlife Refuge in land cover types ranging from marsh, cottonwood-willow and honey mesquite. Table 1 below documents locations where Colorado River cotton rats have been found present since 2007.

Table 1.—Colorado River cotton rat presence in marsh, cottonwood-willow and honey mesquite

Location	Habitat type	2007	2008	2009	2010	2011	2012	2013
Cibola Unit 1[1]	CW and HM	X	X	X	X	X	X	X
CVCA (Phase 1, 2 and/or 3)[1]	CW and HM	ND	ND	D	X	X	X	X
PVER (Phase 4 and 5)[1]	CW and HM	NS	NS	NS	X	X	X	X
PVER (acretion bench)[1]	Marsh	NS	X	X	X	X	X	NS
Pintail Slough (Havasu Refuge)[1]	CW and HM	NS	NS	X	X	X	X	X
Beal Lake Conservation Area[1]	CW and HM	ND	ND	ND	X	X	X	ND
Big Bend Conservation Area[1]	Marsh	NS	NS	NS	ND	NS	X	X

NS = Surveys not conducted.
X = present.
ND = Surveys conducted and CRCR not detected.
[1] *Bureau of Reclamation reports, published and unpublished data.*

A study to locate and evaluate the habitat for the Colorado River and Yuma hispid cotton rats began in 2007. Species surveys were conducted from October 2007 through March 2009, in areas consistent with known cotton rat habitat preferences, such as tall grasses, and shrubs within 1–2 m. in height. The study indicates that the structure characteristics of the habitat are a driver as opposed to the vegetation type. The Colorado River cotton rats will use habitat with open canopies of cottonwood-willow (or mesquite) with a thick understory of tall grasses and shrubs, to edges of marsh habitats composed of a variety of plant species that provide the adequate habitat structure.

The designation of marsh habitat by the HCP as the land cover type for the Colorado River cotton rat describes only a portion of the type of habitat this species will utilize. The surveys conducted since 2007 have provided data supporting Colorado River cotton rat's use of cottonwood-willow land cover types in addition to marsh. Therefore, adding cottonwood-willow and mesquite habitat types to the CRCR2 conservation measure will better reflect the species ecology.

The California Endangered Species Act (CESA) 2081 permit issued to the LCR MSCP permittees also lists conservation measures for the Colorado River cotton rat. Of the 240 acres of marsh habitat in California, at least 58 acres shall

support the Colorado River cotton rat (CESA Incidental Take Permit 2081-2005-008-06). The LCR MSCP will continue to manage 58 acres of marsh in California to meet CESA requirements for Colorado River cotton rat.

Literature Review

Cameron, G.N. and S.R. Spencer. 1981. *Sigmodon hispidus*. Mammal. Species No. 158. 9 p.

Dodge, C. 2006. Summary of Preliminary Mammal Trapping Efforts at Cibola National Wildlife Refuge and at the Pratt Agricultural Restoration Site 2004-05, Bureau of Reclamation, prepared for the Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV.

Hill, J. 2011. Small Mammal Colonization at Habitat Creation Areas along the Lower Colorado River: Fiscal Year 2011. Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV.

Lo Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

Neiswenter, S. 2009. Small Mammal Colonization at Habitat Creation Areas along the Lower Colorado River: 2009. Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV.

Neiswenter, S. 2010a. Diagnosis, Distribution, and Habitat Attributes of Two LCR MSCP Covered Species: The Colorado River Cotton Rat (*Sigmodon arizonae plenus*) and the Yuma Hispid Cotton Rat (*Sigmodon hispidus eremicus*). Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV.

Neiswenter, S. 2010b. Small Mammal Colonization at Habitat Creation Areas along the Lower Colorado River: 2010. Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV.

Neiswenter, S. 2011. Modeling Microhabitat and Survival Estimates of *Sigmodon arizonae plenus* along the Lower Colorado River 2010 Report. Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office. Boulder City, NV.

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In reply refer to:
AESO/SE
22410-2004-F-0161

September 16, 2014

Memorandum

To: Program Manager, Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada (LC-8000)

From: Field Supervisor

Subject: Request for Approval of Minor Modifications to the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan (HCP)

This responds to your memorandum of September 2, 2014, requesting review by the Fish and Wildlife Service (FWS) of three Program Decision Documents (PDD) from the LCR MSCP Steering Committee containing minor modifications to the conservation actions for western yellow bat (WYBA3) in PDD 14-001, Arizona Bell's vireo (BEVI1) in PDD 14-002, and Colorado River cotton rat (CRCR2) in PDD 14-003.

I have reviewed the proposed modifications and believe these minor changes do not alter the amount or intent of the subject conservation measures, and will assist in providing for the delivery of appropriate conservation for these three species. These changes are consistent with the adaptive-management principles upon which the LCR MSCP is founded. I approve these modifications.

Thank you for your continued efforts to ensure that the LCR MSCP functions as a stellar example of a successful HCP; providing benefits to the covered species, increasing the knowledge base for riparian restoration efforts applicable to other programs, and meeting the water and power needs of the partners. We appreciate the close working relationship between you and Ms. Lesley Fitzpatrick of my staff that contributes to the success of the program. If you have any questions concerning this approval, please contact Ms. Fitzpatrick at (602) 242-0210 x 236 or me at x244.

Steven L. Spangle

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES: Marty Tuegel)

W:\Lesley Fitzpatrick\LCR MSCP 2014 Minor Mods.docx:cgg

Final Minor Modification
Change to the Funding and Management Agreement
Group Definitions (7.3.2B – 7.3.2E)
Program Decision Document 16-001

Steering Committee Motion 16-003, April 27, 2016

The Steering Committee approves the minor modifications to the Participant Group Definitions in the Funding and Management Agreement, and corresponding by-laws, specifically:

Funding and Management Agreement

7.3.2 B – Members within the Arizona Participant Group must be Permittees that undertake or implement Covered Activities within the state of Arizona, except for Native American tribes who are Permittees.

7.3.2 C – Members within the California Participant Group must be Permittees that undertake or implement Covered Activities within the state of California or the California Department of Fish and Game, except for Native American tribes who are Permittees.

7.3.2 D – Members within the Nevada Participant Group must be Permittees that undertake or implement Covered Activities within the state of Nevada, except for Native American tribes who are Permittees.

7.3.2 E – Members within the Native American Participant Group must be Native American tribes whose lands are located adjacent to, or who divert water from, the LCR, or who are a Permittee that undertakes or implements Covered Activities within the states of Arizona, California, and Nevada.

By-Laws

Duplicated language in By-Laws Section 2.2 B – 2.2 E

(Moved by Doyle Wilson, seconded by Bill Lamb, and adopted by consensus).

Current Funding and Management Agreement and By-Laws

Funding and Management Agreement

7.3.2 B – Members within the Arizona Participant Group must be Permittees that undertake or implement Covered Activities within the state of Arizona.

7.3.2 C – Members within the California Participant Group must be Permittees that undertake or implement Covered Activities within the state of California or the California Department of Fish and Game.

7.3.2 D – Members within the Nevada Participant Group must be Permittees that undertake or implement Covered Activities within the state of Nevada.

7.3.2 E – Members within the Native American Participant Group must be Native American tribes whose lands are located adjacent to, or who divert water from, the LCR.

By-Laws

Duplicated language in By-Laws Section 2.2 B – 2.2 E

Background

- The execution, administration, and operation of extended, renewed, new, or additional contracts for Hydroelectric power from hydroelectric facilities at Hoover Dam are a covered activity under the Habitat Conservation Plan

- All existing Hoover power contracts (for Schedule A, Schedule B and Schedule C contractors) expire on September 30, 2017.

- The new Electric Service Contracts will be with all existing contractors, as well as new "Schedule D" contractors.

- Tribes are becoming Hoover Dam power contractors under Electric Service Contracts with Western Area Power Administration, on the same basis as non-Tribal power contractors. Tribes are one of the specific categories of preference power customers eligible to receive allocations of Hoover "Schedule D" power and to enter into Hoover Electric Service Contracts under the authority of the Hoover Power Allocation Act of 2011 (HPAA), Public Law 112-72.

- The total amount of Hoover Dam energy and capacity available for contracting in the new contracts will not change from the existing contracts (which went into effect on October 1, 1987); however, under HPAA, 5% of the total energy and capacity available was set aside for allocation to new Schedule D contractors, including Tribes.

- All new Schedule D contractors, including Tribes, are required by HPAA, sect. 2(d), to "pay a proportionate share of its State's respective contribution (determined in accordance with each State's applicable funding agreement) to the cost of the Lower Colorado River Multi-Species Conservation Program (as defined in section 9401 of the Omnibus Public Land Management Act of 2009 (Public Law 111-11; 123 Stat. 1327))…"

- Tribal contractors will be billed by and pay their proportionate shares of the LCR MSCP costs to Reclamation.

- Tribal contractors may desire to obtain ESA coverage for their Hoover power contracting activities.

- The existing Section 10 permit provides Schedule D contractors with a mechanism to obtain coverage under the existing Section 10 permit by obtaining Certificates of Inclusion from entities within each state identified in the permit (Metropolitan Water District – California; Colorado River Commission of Nevada – Nevada; Central Arizona Water Conservation District – Arizona).

- Discussions have been ongoing with the Fish and Wildlife Service, the entities within each state that would issue Certificate of Inclusions, and the Tribal contractors to develop a Certificate of Inclusion Agreement that is acceptable to all parties.

- If the Tribal contractors receive a Certificate of Inclusion, they become permittee's to the program and can apply for membership on the Steering Committee. The current language in the FMA requires all permittees that have covered activities within a state to be members of the State Participant Groups. This proposed minor modification would clarify that all permittees, except Native American tribes, would be included in the State Participant Groups and Native American Tribes who are permittees would be added as members of the Native American Participant Group.

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In reply refer to:

AESO/SE
22410-2004-F-0161

February 1, 2017

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REPLY DATE

DATE	INITIALS	CODE
2/10/17		LC-8000
2/16/17	LV	LC-8330

CLASSIFICATION
PROJECT
CONTROL NO.

Memorandum

To: Program Manager, Lower Colorado River Multi-Species Conservation Plan, Bureau of Reclamation, Boulder City, Nevada (LC-8315)

From: Field Supervisor

Subject: Approval of Minor Modification to the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan

This memorandum responds to your December 8, 2016, request for the U.S. Fish and Wildlife Service (Service) to approve a minor modification to the Bureau of Reclamation's (Reclamation) Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan. On April 27, 2016, the LCR MSCP Steering Committee approved minor modification to be implemented to the Funding and Management Agreement and the By-Laws in accordance with Section 4.1 of the Implementation Agreement. The purpose of these minor modifications is to allow Native American Tribes (Tribes) to be included as Permittees in the Native American Participant Group, rather than as Permittees participating under the respective State participant groups.

Program Decision Document 16-001 summarizes the minor modification. Under the authority of the Hoover Power Allocation Act of 2011 (HPAA), Public Law 112-72, Tribes can become Hoover Dam power contractors under Electrical Service Contracts with Western Area Power Administration (Schedule D contractors). All new Schedule D contractors, including Tribes, are required by HPAA, sect. 2(d), to pay a share to the LCR MSCP (as defined in section 9401 of the Omnibus Public Land Management Act of 2009 (Public Law 111-11; 123 Stat. 1327). Additionally, Tribes are given the option to receive a certificate of inclusion under the LCR MSCP, which solidifies their Section 10 coverage under the program. This minor modification to the LCR MSCP allows consistency with Section 7.3.2 E of the Funding and Management Agreement, and Section 2.2 E of the By-Laws, which outlines that members of the Native American Participant Group are tribes who own lands on or adjacent to, or who divert water from the Lower Colorado River, and will now include those tribes that are Permittees to undertake or implement Covered Activities within the states of Arizona, California, and Nevada. Sections that will be modified are as follows: Funding and Management Agreement Sections 7.3.2 B; 7.3.2 C; 7.3.2.D; and By-Laws Sections 2.2 B; 2.2 C; 2.2 D; 2.2 E. The Service approves these minor modifications to the Funding and Management Agreement and By-Laws of the LCR MSCP Habitat Conservation Plan.

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Final Minor Modifications
Implementation Agreement Recitals and Purposes (2C – 2E) and Definitions (3.12 and 3.23), Funding and Management Agreement Definitions (3.15) Program Decision Document 18-001

Steering Committee Motion 18-002, April 25, 2018

The Steering Committee approves the minor modifications to the Implementation Agreement, Funding and Management Agreement, and Table 1-2 LCR MSCP Biological Assessment and Habitat Conservation Plan, specifically:

Implementation Agreement

2. RECITALS AND PURPOSES

C. The planning area provides habitat for Covered Species which are listed as endangered or threatened under the ESA as of the Effective Date and as added by amendment to the section 10(a)(1)(B) permit and Biological Opinion. A list of Covered Species is provided in Table 1-2 of the HCP and BA, as amended or modified:

D. The planning area also provides habitat for certain Covered Species which are not listed as endangered or threatened under the ESA as of the Effective Date. A list of these species is provided in Table 1-2 of the HCP and BA, as amended or modified:

E. The planning area also provides habitat for species (LCR MSCP evaluation species) that are not listed as endangered or threatened under the ESA as of the Effective Date, and for which coverage under the section 10(a)(1)(B) permit is not sought at this time. A list of evaluation species is provided in Table 1-2 of the HCP and BA, as amended or modified:

3. DEFINITIONS

12. **"Covered Species"** means those species provided for under sections 2(C) and 2(D) of this Agreement.

23. **"Listed Species"** means those Covered Species that are listed by the Service as endangered or threatened on the Effective Date and as added by amendment to the section 10(a)(1)(B) permit and Biological Opinion issued for the LCR MSCP. These species are listed in Table 1-2 of the HCP and BA, as amended or modified.

Funding and Management Agreement

3. DEFINITIONS

15. **"Covered Species"** means those species listed in sections 2(C) and 2(D) of the IA.

LCR MSCP Biological Assessment and Habitat Conservation Plan Table 1-2

See Attachment

(Moved by Chris Harris, seconded by Wade Noble, and adopted by consensus)

Background

- The Implementation Agreement (IA) and the Funding and Management Agreement (FMA) were made effective on April 4, 2005, the Effective Date of the original section 10(a)(1)(B) incidental take permit issued by the U.S. Fish and Wildlife Service for the LCR MSCP.

- Species that are covered by the incidental take permit are defined in Section 3.12 of the IA and 3.15 of the FMA as Covered Species. Covered Species are defined as those twenty-six species listed in Sections 2(C) and 2(D) of the IA, as of the Effective Date. Section 2(E) of the IA lists the evaluation species that were not listed under the ESA as of the Effective Date.

- Section 10.4 of the IA provides for the addition of Covered Species to the program if they become listed.

- A change to the IA and FMA is needed each time a species is added to the list of Covered Species. In addition, if a species status changes from unlisted to threatened or endangered, the list should also be changed.

- Table 1-2 of the Habitat Conservation Plan (HCP) and Biological Assessment (BA) lists the proposed Covered and Evaluation Species under the LCR MSCP and their federal status. If the federal status of a species changes or new species are added to the program, this table also becomes out of date.

Proposed Minor Modifications

- The proposed minor modifications to the IA and FMA would change the language in the agreements to reference Table 1-2 of the HCP and BA, as amended or modified, in place of listing each species.

- The proposed minor modification to Table 1-2 of the HCP and BA would update the table to reflect current species status.

Attachment

HCP and BA Table 1-2. Proposed Covered and Evaluation Species under the LCR MSCP BA/HCP and their Status – Amended/Modified April 25, 2018

Common and Scientific Name	Federal Status[1]	Arizona Status[2]	California Status[3]	Nevada Status[4]	Selection Criteria[5]
Threatened and Endangered Species					
Yuma clapper rail *Rallus longirostris yumanensis*	FE	ASC[10]	CT[10]/FP	NE[17]	1
Southwestern willow flycatcher *Empidonax traillii extimus*	FE	ASC	CE	NE[17]	1
Desert tortoise (Mojave population) *Gopherus agassizii*	FT	ASC	CT	NT	1
Bonytail *Gila elegans*	FE	ASC	CE	NE	1
Humpback chub *Gila cypha*	FE	ASC	–	–	1
Yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT[6]	ASC	CE	NS[18]	1
Northern Mexican gartersnake *Thamnophis eques megalops*	FT[7]	ASC	-	-	N/A
Razorback sucker *Xyrauchen texanus*	FE	ASC	CE/FP	NE	1
Other Covered Species					
Western red bat *Lasiurus blossevillii*	–	ASC	CSC[14]	NS[18]	2
Western yellow bat *Lasiurus xanthinus*	–	ASC	CSC[14]	–	2
Colorado River cotton rat *Sigmodon arizonae plenus*	–	–	CSC	–	2
Yuma hispid cotton rat *Sigmodon hispidus eremicus*	–	–	CSC	–	2
Western least bittern *Ixobrychus exilis hesperis*	–	ASC[11]	CSC[11]	–	2
California black rail *Laterallus jamaicensis coturniculus*	–	ASC	CT/FP	–	1

Common and Scientific Name	Federal Status[1]	Arizona Status[2]	California Status[3]	Nevada Status[4]	Selection Criteria[5]
Elf owl *Micrathene whitneyi*	–	–	CE	-[19]	1
Gilded flicker *Colaptes chrysoides*	–	–	CE	–	1
Gila woodpecker *Melanerpes uropygialis*	–	–	CE	–	1
Vermilion flycatcher *Pyrocephalus rubinus*	–	–	CSC	–	2
Arizona Bell's vireo *Vireo bellii arizonae*	–	–	CE	–	1
Sonoran yellow warbler *Dendroica petechia sonorana*	–	–	CSC[15]	–	2
Summer tanager *Piranga rubra*	–	–	CSC	–	2
Flat-tailed horned lizard *Phrynosoma mcalli*	–	ASC	CSC	–	2
Relict leopard frog *Rana onca*	_[8]	ASC	–	NP	1
Flannelmouth sucker *Catostomus latipinnis*	–	-[12]	–	–	2
MacNeill's sootywing skipper *Pholisora gracielae*	–	–	–	–	2
Sticky buckwheat *Eriogonum viscidulum*	–	–	–	NEP	1
Threecorner milkvetch *Astragalus geyeri* var. *triquetrus*	–	–	–	NEP	1
Evaluation Species					
California leaf-nosed bat *Macrotus californicus*	–	ASC	CSC	NS[18]	N/A
Pale Townsend's big-eared bat *Corynorhinus townsendii pallescens*	–	–	CSC[16]	NS[16/18]	N/A
Colorado River toad *Bufo alvarius*	–	–	CSC	–	N/A
Desert pocket mouse[9] *Chaetodipus penicillatus sobrinus*	–	–	–	–	2

Common and Scientific Name	Federal Status[1]	Arizona Status[2]	California Status[3]	Nevada Status[4]	Selection Criteria[5]
Lowland leopard frog *Rana yavapaiensis*	–	ASC[13]	CSC[13]	–	N/A

[1] Federal Status
- FE = Listed as endangered under the Federal Endangered Species Act ESA.
- FT = Listed as threatened under ESA.
- FC = Candidate for listing under ESA.

[2] Arizona Status
- ASC = Arizona wildlife of special concern.

[3] California Status
- CE = Listed as endangered under the California Endangered Species Act (CESA).
- CT = Listed as threatened under CESA.
- FP = Fully protected under the California Fish and Game Code.
- CSC = California species of special concern.

[4] Nevada Status
- NE = Nevada endangered
- NT = Nevada threatened.
- NS = Nevada Sensitive.
- NEP = Nevada critically endangered plant.
- NP = Nevada protected.

[5] Selection Criteria
1. Species that are listed or that are proposed or candidates for listing under the ESA or species that are protected under Arizona, California, or Nevada law that could be affected by covered activities and would require take authorization;
2. Species that could become listed during the term of the LCR MSCP under the ESA or species that could become protected under Arizona, California, or Nevada law that could be affected by covered activities and could require future take authorization. Factors considered to determine potential for future listing during the term of the LCR MSCP are:
   - ongoing or likely future destruction, modification, or curtailment of a species' habitat or range of sufficient magnitude that could warrant future listing;
   - the inadequacy of existing regulatory mechanisms to protect a species from ongoing decline of sufficient magnitude that could warrant future listing; or
   - other natural or artificial factors that may affect a species' continued existence.

[6] Listed as threatened on July 7, 2014.

[7] Listed as threatened on October 2, 2014. Added to the LCRMSCP by amendment March 5, 2018.

[8] Changed from FC to no designation October 6, 2016.

[9] Changed to an Evaluation Species in the Final Biological Opinion.

[10] Yuma Ridgeway rail (*Rallus obsoletus yumanensis*).

[11] Least bittern (*lsobrychus exillis*).

[12] Changed from ASC to no designation

[13] Lowland leopard frog (*Lithobates yavapaiensis*).

[14] Changed from no designation to CSC

[15] Sonoran yellow warbler (*Setophaga petechial sonorana*).

[16] Townsend's big-eared bat (*Corynorhinus townsendii*).

[17] Changed from no designation to NE.

[18] Changed from no designation to NS.

[19] Changed from NP to no designation.

N/A = Not applicable.

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In Reply Refer to:
AESO/SE
AESO/SE/22410-2004-F-0161

July 16, 2018

Memorandum

To: Program Manager, Lower Colorado River Multi-Species Conservation Plan, Bureau of Reclamation, Boulder City, Nevada (Attn: John Swett)

From: Acting Field Supervisor, Arizona Ecological Service Field Office

Subject: Approval of Minor Modification to Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan: Implementation Agreement and Funding and Management Agreement

This memorandum responds to your request dated July 5, and received by this office July 6, 2018, for U.S. Fish and Wildlife Service to approve a minor modification to the Bureau of Reclamation's Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan. On April 27, 2018, the LCR MSCP Steering Committee approved, by consensus, minor modification to be implemented to the Funding and Management Agreement and the By-Laws in accordance with Section 4.1 of the Implementation Agreement. The purpose of these minor modifications is to change language in agreements to reference Table 1-2 of the Habitat Conservation Plan (HCP) and Biological Assessment as amended and modified, in place of listing each species. The proposed minor modifications in Table 1-2 of the HCP and Biological Assessment are to reference species listed in the Biological Opinion and section 10(a)1(B) permit and allow an updated list of covered species to be in place in the Funding and Management Agreement and Implementation Agreement Program Decision Document 18-001 that summarizes the minor modification. We approve the minor modifications outlined in Program Decision Document 18-001.

The LCR MSCP has accomplished significant conservation benefits in the ten years since it was signed in 2005, and we recently amended the HCP and reinitiated consultation to include an additional species under the program. We look forward to our continuing involvement with this important program.

If there are other questions, or we may assist in any way, please contact Jessica Gwinn, or me at 602/242-0210.

BRENDA SMITH Digitally signed by BRENDA SMITH Date: 2018.07.13 12:52:42 -07'00'

Laurel Barnhill

cc (electronic):
Chief, Nongame Branch, Arizona Game and Fish Department, Phoenix, AZ
Marty Tuegel, Environmental Review Supervisor, Ecological Services, Fish and Wildlife Service, Albuquerque, NM

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Final Minor Modification
Conservation Measure for the Razorback Sucker
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 20-001

Steering Committee Motion 20-002, April 22, 2020

The Steering Committee approves Reclamation's recommended changes to conservation measure RASU5 to conserve and protect the razorback sucker genetic diversity in Lake Mohave, specifically:

RASU5 – Support ongoing razorback sucker conservation efforts at Lake Mohave. *Provide support to protect and conserve the genetic diversity of the existing Lake Mohave razorback sucker population with the goal of maintaining this population as a genetic refuge for the species.*

(Moved by Jon Sjoberg, seconded by Wade Noble, and adopted by consensus)

Current Conservation Measure

5.7.6.2 Conservation Measures (LCR MSCP 2004)

RASU5 – Support ongoing razorback sucker conservation efforts at Lake Mohave. Provide support to maintain the current Lake Mohave Program (Native Fish Work Group) goal of maintaining a population of 50,000 adult razorback sucker in Lake Mohave as a genetic refuge.

Justification

Historically widespread and abundant in the Colorado River and its tributaries, the razorback sucker experienced a considerable, range-wide decline in the second half of the twentieth century. The population in Lake Mohave followed this trend, and abundance estimates that had ranged from 60,000–75,000 in the 1980s had declined to fewer than 15,000 by the mid-1990s (Marsh et al. 2003). Impacts of nonnative fishes and habitat alteration associated with regional water development were identified as key factors affecting razorback sucker populations, and despite recovery efforts that began in 1976, the species was listed as endangered in 1991 (USFWS 1991).

The Native Fish Work Group (NFWG) is a multi-agency, ad-hoc team that was brought together by mutual consent in the late 1980s for the single purpose of replacing the aging, senescent population of adult razorback suckers in Lake Mohave. The group formed in response to the observed decline of the species in

the lake and developed a novel conservation strategy (the Lake Mohave Program) with three basic components: (1) harvest wild-born larvae from the lake each year, (2) rear these fish in protective custody, and (3) repatriate individuals to the reservoir at a size that would reduce predation. It was believed that this strategy would provide the best opportunity for replacing the population in both quantity and quality by conserving the genetic diversity of the extant adult population through collection and eventual repatriation of their offspring. The NFWG's original program goal was to produce and stock 5,000–10,000 juvenile razorback suckers each year for a minimum of five years to establish a population of 50,000 adults in Lake Mohave.

Repatriation of wild-born razorback suckers to Lake Mohave was met with limited success. Post-stocking survival of these individuals remained low and population estimates declined to fewer than 3,000 individuals in Lake Mohave by 2001 (Marsh et al. 2003). Despite annual augmentation of this population and the development of improved monitoring techniques during the first 15 years of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), little change has been observed in annual population estimates. Based on data collected in 2018–2019, the Lake Mohave repatriate population was estimated at 3,649 individuals. This estimate suggests that ongoing augmentation has been successful in conserving this population; however, poor post-stocking survival of repatriated fish has not led to an expanding population. The NFWG's original goal of establishing a population of 50,000 adult razorback suckers in Lake Mohave has yet to be realized, and 15 years of research and monitoring completed by the LCR MSCP suggests that it may not be realistic under current conditions.

The primary purpose of this conservation measure, protecting and conserving the genetic diversity of the existing population as a genetic refuge for the species, may however be met through ongoing activities. Wild-born razorback sucker larvae will continue to be collected from Lake Mohave each year. Collections will occur at all know spawning locations and will occur throughout the entire spawning season to provide the best opportunity for including the extant genetic diversity in each year's collections. Captured larvae will be reared in protective custody at program partner hatcheries until reaching an appropriate size for repatriation to the lake. Genetic analyses of larvae and repatriated adults collected during the first 15 years of program implementation have verified that this strategy has effectively conserved the historic genetic diversity that was present in the lake in the 1990s, and has provided evidence of increased gene diversity over the last 21 years (Dowling et al. 2017). Genetic monitoring of larvae and captured adults will continue for the life of the program, and the adaptive management process will use the best science available to address any issues and/or implement any changes in management (e.g., stocking fewer but larger repatriates to improve post-stocking survival) for the express purpose of conserving the genetic diversity of this population.

Literature Cited

Dowling, T.E., P.C. Marsh, and T.F. Turner. 2017. Razorback Sucker Genetic Diversity Assessment: 2017 Annual Report. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by Wayne State University under agreement No. R14AC00004. 31 p.

Marsh, P.C., C.A. Pacey, and B.R. Kesner. 2003. Decline of the Razorback Sucker in Lake Mohave, Colorado River, Arizona and Nevada. Transactions of the American Fisheries Society 132: 1251–1256.

Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

USFWS. 1991. Endangered and threatened wildlife and plants; the razorback sucker (*Xyrauchen texanus*) determined to be an endangered species; final rule. Federal Register 56:54957–54967.

Final Minor Modification
Conservation Measure for the Yuma Clapper Rail
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 20-002

Steering Committee Motion 20-003, April 22, 2020

The Steering Committee approves Reclamation's recommended changes to conservation measure CLRA1 to revise Yuma Clapper rail water depths, specifically:

CLRA1 – Create and manage 512 acres of marsh to provide Yuma clapper rail habitat. *This created habitat will also provide habitat for the western least bittern and the California black rail (see conservation measures LEBI1 and BLRA1). Habitat will be created in patches as large as possible but will not be created in patches smaller than 5 acres. Smaller patches are likely to support isolated nesting pairs and be within the range of habitat patch sizes used by the species for foraging and dispersal. Larger patches would be expected to support multiple nesting pairs. Additional Yuma clapper rail habitat may be provided by marsh vegetation that becomes established along margins of the 360 acres of backwaters that will be created in Reaches 3–6. These small patches of habitat would provide cover for dispersing rails, thereby facilitating linkages between existing breeding populations and the colonization of created habitats.*

Yuma clapper rail habitat will be created and maintained as described in Section 5.4.3.3. Marshes created to provide Yuma clapper rail habitat will be designed and managed to provide an integrated mosaic of wetland vegetation types, water depths, and open water areas. Within this mosaic of marsh conditions, Yuma clapper rail habitat will generally be provided by patches of bulrush and cattails interspersed with small patches of open water with water levels maintained at depths appropriate for this species. Created marsh habitat will generally be managed to provide for gradual fluctuations in water level during Yuma clapper rail breeding season (March – June).

(Approved by Dale Turner, seconded by Vineetha Kartha, and adopted by consensus)

Current Conservation Measure

5.7.1.2 Conservation Measures (LCR MSCP 2004)

CLRA1 – Create and manage 512 acres of marsh to provide Yuma clapper rail habitat (Figure 5-2). This created habitat will also provide habitat for the western least bittern and the California black rail (see conservation measures LEBI1 and BLRA1). Habitat will be created in patches as large as possible but will not be created in patches smaller than 5 acres. Smaller patches are likely to support isolated nesting pairs and be within the range of habitat patch sizes used by the species for foraging and dispersal. Larger patches would be expected to support multiple nesting pairs. Additional Yuma clapper rail habitat may be provided by marsh vegetation that becomes established along margins of the 360 acres of backwaters that will be created in Reaches 3–6. These small patches of habitat would provide cover for dispersing rails, thereby facilitating linkages between existing breeding populations and the colonization of created habitats.

Yuma clapper rail habitat will be created and maintained as described in Section 5.4.3.3. Marshes created to provide Yuma clapper rail habitat will be designed and managed to provide an integrated mosaic of wetland vegetation types, water depths, and open water areas. Within this mosaic of marsh conditions, Yuma clapper rail habitat will generally be provided by patches of bulrush and cattails interspersed with small patches of open water with water levels maintained at depths appropriate for this species (no more than 12 inches).

Justification

According to the Habitat Conservation Plan, the marsh habitat created by the LCR MSCP must maintain water levels at appropriate depths for this species, which is defined as no more than 12 inches. The LCR MSCP has interpreted this as water levels at created marsh habitat will be maintained between 0 and 12 inches at all times.

There is strong evidence from the LCR and the scientific literature that Yuma clapper rails can tolerate fluctuating water levels with water depths greater than 12 inches (Dodge and Rudd 2017, Edelman 1989, Nadeau et al 2011). The 12-inch limit reduces the LCR MSCP's ability to fluctuate marsh levels to encourage a mixture of cattail and rush species and manage salt levels. Removal of the specific water depth will not change the intent of the conservation measure, to create and manage appropriate habitat for the species, using the best available information. It should increase management flexibility and habitat quality.

Literature Cited

Dodge, C. and N. Rudd. 2017. Marsh Bird Water Depth Analysis, 2016 Progress Report. Annual report prepared by the Lower Colorado Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada.

Edleman, W.R. 1989. Biology of the Yuma Clapper Rail in the Southwestern U.S. and Northwestern Mexico, Final Report, July 1989. U.S. Fish and Wildlife Service Contract 4-AA-30-02060.

Nadeau, C.P., C.J. Conway, M.A. Conway, and M. Ogonowski. 2011. Restoration of Managed Marsh Units to Benefit California Black Rails and Other Marsh Birds: An Adaptive Management Approach, Final Report. Wildlife Research Report #2011-01, U.S. Geological Survey Arizona Cooperative Fish and Wildlife Research Unit, Tucson, Arizona, USA.

Final Minor Modification
Conservation Measure for the Western Least Bittern
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 20-003

Steering Committee Motion 20-004, April 22, 2020

The Steering Committee approves Reclamation's recommended changes to conservation measure LEBI1 to revise western least bittern water depths, specifically:

LEBI1 – Create 512 acres of western least bittern habitat. *Create and manage 512 acres of marsh to provide western least bittern habitat. This created habitat will also be habitat for the Yuma clapper rail (conservation measure CLRA1). Habitat will be created in patches as large as possible. Smaller patches are likely within the range of habitat patch sizes used by the species for foraging and dispersal, and larger patches may be used for breeding. Western least bittern habitat will be created and maintained as described in Section 5.4.3.3. Marshes created to provide western least bittern habitat will be designed and managed to provide an integrated mosaic of wetland vegetation types, water depths, and open water areas. Priority will be given, when consistent with achieving LCR MSCP goals for other covered species, to establishing habitat near occupied habitat. The largest numbers of western least bitterns in the LCR MSCP planning area are located at Topock Marsh and marshes near Imperial Dam, but they are present in suitable marshes throughout the LCR MSCP planning area. Within this mosaic of marsh conditions, western least bittern habitat will generally be provided by patches of bulrush and cattails interspersed with small patches of open water with water levels maintained at depths appropriate for this species. Created marsh habitat will generally be managed to provide for gradual fluctuations in water level during Western least bittern breeding season (March – June).*

(Moved by Jessica Neuwerth, seconded by Dee Bradshaw, and adopted by consensus)

Current Conservation Measure

5.7.12.2 Conservation Measures (LCR MSCP 2004)

LEBI1 – Create 512 acres of western least bittern habitat. Create and manage 512 acres of marsh to provide western least bittern habitat (Figure 5-2). This created habitat will also be habitat for the Yuma clapper rail (conservation measure CLRA1). Habitat will be created in patches as large as possible. Smaller patches are likely within the range of habitat patch sizes used by the species for

foraging and dispersal, and larger patches may be used for breeding. Western least bittern habitat will be created and maintained as described in Section 5.4.3.3. Marshes created to provide western least bittern habitat will be designed and managed to provide an integrated mosaic of wetland vegetation types, water depths, and open water areas. Priority will be given, when consistent with achieving LCR MSCP goals for other covered species, to establishing habitat near occupied habitat. The largest numbers of western least bitterns in the LCR MSCP planning area are located at Topock Marsh and marshes near Imperial Dam, but they are present in suitable marshes throughout the LCR MSCP planning area. Within this mosaic of marsh conditions, western least bittern habitat will generally be provided by patches of bulrush and cattails interspersed with small patches of open water that maintain water depths no greater than 12 inches.

Justification

According to the Habitat Conservation Plan, the marsh habitat created by the LCR MSCP must maintain water levels at appropriate depths for this species, which is defined as no more than 12 inches. The LCR MSCP has interpreted this as water levels at created marsh habitat will be maintained between 0 and 12 inches at all times. Scientific literature has described habitat for this species with the highest abundance as having depths closer to 24 inches (Jobin et al. 2009). There has also been no significant difference found in water depths between areas with and without least bittern detections and areas with detections had depths up to 30 inches (Moore et al. 2009, Poole 2009). The 12-inch limit reduces the LCR MSCP's ability to fluctuate marsh levels to encourage a mixture of cattail and rush species and manage salt levels. Removal of the specific water depth will not change the intent of the conservation measure, to create and manage appropriate habitat for the species, using the best available information. It should increase management flexibility and habitat quality.

Literature Cited

Jobin, B., L. Robillard, and C. Latendresse. 2009. Response of a Least Bittern (*Ixobrychus exilis*) population to interannual water level fluctuations. *Waterbirds 32*(1):73–80.

Lower Colorado River Multi-Species Conservation Program (LCR MSCP). 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.

Moore, S., J.R. Nawrot, and J.P. Severson. 2009. Wetland-scale habitat determinants influencing Least Bittern use of created wetlands. *Waterbirds 32*(1):16–24.

Poole, A.F., P.E. Lowther, J.P. Gibbs, F.A. Reid, and S.M. Melvin. 2009. Least bittern (*Ixobrychus exilis*), version 2.0 *in* A.F. Poole (editor). The Birds of North America. Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bna.17

Final Minor Modification
Conservation Measure for the California Black Rail
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 20-004

Steering Committee Motion 20-005, April 22, 2020

The Steering Committee approves Reclamation's recommended changes to conservation measure BLRA1 to revise California black rail water depths, specifically:

BLRA1 – Create 130 acres of California black rail habitat. *Of the 512 acres of LCR MSCP-created marsh, 130 acres will be created and managed to provide California black rail habitat near occupied habitat in Reaches 3, 4, 5, 6, and 7. This habitat will be provided by designing and managing at least 139 acres of the 512 acres of created Yuma clapper rail habitat to provide habitat for both species. Habitat will be created in patches as large as possible but will not be created in patches smaller than 5 acres. Additional California black rail habitat may be provided by marsh vegetation that becomes established along margins of the 360 acres that will be created of backwaters that will be created in Reaches 3, 4, 5, 6, and 7. These small patches of habitat provided cover for dispersing rails, thereby facilitating linkages between existing breeding populations and the colonization of created habitats.*

Design of created habitat will be directed toward establishing moist-soil marshes that support a predominance of three-square bulrush with suitable water depths to support the species. Habitat will be designed and managed to provide an integrated mosaic of patches of cattail, bulrush, and mudflat, interspersed with small patches of open water with varying water depths. Created marsh habitat will generally be managed to provide for gradual fluctuations in water level during California black rail breeding season (March – July).

(Moved by Sara Price, seconded by Vineetha Kartha, and adopted by consensus)

Current Conservation Measure

5.7.13.2 Conservation Measures (LCR MSCP 2004)
(Amended October 27, 2010, Minor Modification PDD-11-004)

BLRA1 – Create 130 acres of California black rail habitat. Of the 512 acres of LCR MSCP – created marsh, 130 acres will be created and managed to provide California black rail habitat near occupied habitat in Reaches 3, 4, 5, 6, and 7. This habitat will be provided by designing and managing at least 139 acres of the

512 acres of created Yuma clapper rail habitat to provide habitat for both species. Habitat will be created in patches as large as possible but will not be created in patches smaller than 5 acres. Additional California black rail habitat may be provided by marsh vegetation that becomes established along margins of the 360 acres that will be created of backwaters that will be created in Reaches 3, 4, 5, 6, and 7. These small patches of habitat provided cover for dispersing rails, thereby facilitating linkages between existing breeding populations and the colonization of created habitats.

Design of created habitat will be directed toward establishing moist-soil marshes that support a predominance of three-square bulrush with suitable water depths to replicate conditions present at Mittry Lake and the Bill Williams Delta that support the species. Habitat will be designed and managed to provide an integrated mosaic of patches of cattail, bulrush, and mudflat, interspersed with small patches of open water with varying water depths.

Justification

According to the Habitat Conservation Plan, the marsh habitat created by the LCR MSCP for California black rail must maintain water levels at appropriate depths for this species, which is defined as no more than 1 inch. The LCR MSCP has interpreted this as water levels at created marsh habitat will be maintained between 0 and 1 inch during breeding season. The LCR MSCP currently manages marsh water levels to be as stable as possible during the California black rail breeding season in order to maintain areas at 1-inch depths.

The information that was used to originally inform the LCR MSCP HCP came from known habitat locations near Mittry Lake, Arizona (Flores and Eddleman 1995; Repking and Ohmart 1977). Water levels in this area remain very stable throughout the year. This demonstrates that this species can use areas with stable water levels, but it does not necessarily demonstrate that stable water levels are a habitat requirement of the species. The largest populations of the California black rail are found in the San Francisco Bay area and in the foothills of the Sierra Nevada in Yuba County, CA. More recent research in these areas has shown that the California black rail can adapt to spatially fluctuating water levels during the breeding season (Tsao et al 2009, Tsao et al 2015).

The published research shows that California black rails use shallow water of roughly an inch or less in depth. However, the birds utilize habitats where water depths vary daily by moving into shallower areas as water levels change. Optimal habitats created for California black rails should have gently sloping landscapes that allow them to move into areas of suitable depth as water levels vary (Richmond 2010).

The 1-inch limit reduces the LCR MSCP's ability to fluctuate marsh levels to encourage a mixture of cattail and rush species and manage salt levels. Removal of the specific water depth will not change the intent of the conservation measure, to create and manage appropriate habitat for the species, using the best available information. It should increase management flexibility and habitat quality.

Literature Cited

Dodge, C. 2019. California Black Rail Documented Use of Water Depths, 2019. Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada.

Eddleman, W.R. 1989. Biology of the Yuma Clapper Rail in the Southwestern U.S. and Northwestern Mexico, Final Report. U.S. Fish and Wildlife Service Contract 4-AA-30-02060. July 1989.

Repking, C.F. and R.D. Ohmart. 1977. Distribution and density of black rail populations along the lower Colorado River. The Condor 79(4):486–489.

Richmond, O.M.W. 2010. Inferring Ecological Relationships from Occupancy Patterns for California Black Rails in the Sierra Nevada foothills. Doctoral dissertation. University of California, Berkeley.

Tsao, D.C., J.Y. Takekawa, I. Woo, J.L. Yee, and J.G. Evens. 2009. Home range, habitat selection, and movements of California black rails at tidal marshes at San Francisco Bay, California. The Condor 111(4):599–610.

Tsao, D.C., R.E. Melcer, Jr., and M. Bradbury. 2015. Distribution and habitat associations of California black rail (*Laterallus jamaicensis cortuniculus*) in the Sacramento–San Joaquin Delta. San Francisco Estuary and Watershed Science 13(4).

United States Department of the Interior

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In Reply Refer to:
AESO/SE
AESO/SE/22410-2004-F-0161

May 21, 2020

Memorandum

To: Program Manager, Lower Colorado River Multi-Species Conservation Plan, Bureau of Reclamation, Boulder City, Nevada (Attn: John Swett)

From: Field Supervisor, Arizona Ecological Service Field Office

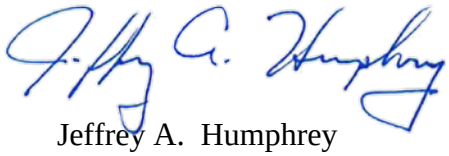
Subject: Approval of Minor Modification to Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan: Minor Modifications to RASU5, CLRA1, LEBI1, and BLRA1

This memorandum responds to your request received by this office May 7, 2020, for U.S. Fish and Wildlife Service (Service) to approve minor modification to the Bureau of Reclamation's (Reclamation) Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Habitat Conservation Plan. On April 22, 2020, the LCR MSCP Steering Committee approved, by consensus, minor modification to be implemented to the Conservation Measures; RASU5 (20001), CLRA1 (20-002), LEBI1 (20-003), and BLRA1 (20-004). The purpose of the minor modifications is to change language in the conservation measures to clarify the goal of each conservation measure and to reflect new information in line with the adaptive management framework of the program. The minor modification of RASU5 (20-001) reflects the apparatus that will be used to fulfill genetic management of the Lake Mohave population of razorback sucker. The minor modifications to CLRA1 (20-002), LEBI1 (20-003) and BLRA1 (20-004) reflect new information regarding marsh water depth management that is needed to maintain healthy vegetation and appropriate water quality that will benefit the Yuma clapper rail (Yuma Ridgway's rail, *Rallus longirostris yumanensis*), western least bittern (*Ixobrychus exilis*), and California black rail (*Laterallus jamaicensis coturniculus*). Section 4.1 of the LCR MSCP Implementation Agreement allows for minor modifications that are of a minor or technical nature

to be made to the Habitat Conservation Plan without amending the Section 10 permit. We approve the minor modifications outlined in the Program Decision Document 20-001, 20-002, 20-003, and 20-004.

The LCR MSCP has accomplished significant conservation benefits in the fifteen years since it was signed in 2005. We look forward to our continuing involvement with this important program.

If there are other questions, or we may assist in any way, please contact Jessica Gwinn, or me 602/242-0210.



Jeffrey A. Humphrey

cc: Chief, Nongame Branch, Arizona Game and Fish Department, Phoenix, AZ, Marty Tuegel, Environmental Review Supervisor, Ecological Services, Fish and Wildlife Services, Albuquerque, NM.