

Work Task G6*: Conceptual Ecological Models

| FY15 Estimate | FY15 Actual Obligations | Cumulative Expenditures Through FY15 | FY16 Approved Estimate | FY17 Proposed Estimate | FY18 Proposed Estimate | FY19 Proposed Estimate |
|---------------|-------------------------|--------------------------------------|------------------------|------------------------|------------------------|------------------------|
| \$0 | \$0 | \$0 | \$40,000 | \$40,000 | \$40,000 | \$40,000 |

* Work task changed from G5 due to previous use of G5 in 2006–08.

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Start Date: FY16

Expected Duration: FY55

Long-Term Goal: Species research and monitoring

Conservation Measures: MRM1, MRM2, MRM3, CLRA1, CLRA2, WIFL1, WIFL2, BONY2, RASU2, WRBA1, WRBA2, WYBA1, WYBA3, DPMO1, CRCR1, CRCR2, YHCR1, YHCR2, LEBI1, BLRA1, BLRA2, YBCU1, YBCU2, ELOW1, GIFL1, GIWO1, VEFL1, BEVI1, YWAR1, SUTA1, FLSU1, MNSW1, MNSW2, CLNB1, CLNB2, PTBB1, PTBB2, CRTO1, CRTO2, CRTO3, LLFR1, LLFR2, and LLFR3

Location: System-wide, Arizona, California, Nevada

Purpose: To assess and organize existing knowledge on each LCR MSCP covered and evaluation species to determine research, monitoring, and habitat requirements for current and future research, monitoring, habitat creation, and fish augmentation projects

Connections with Other Work Tasks (Past and Future): Previous work was done through Work Tasks C3, G3, and G4. Information collected under this work task is currently being used to develop future work tasks and research projects, design monitoring programs and habitat creation projects, and to implement the adaptive management process. Information from this work task will be used under Fish Augmentation (Section B), Species Research (Section C), System Monitoring (Section D), Conservation Area Development and Management (Section E), and Post-Development Monitoring (Section F).

Project Description: To successfully create and manage habitats for LCR MSCP covered species, conceptual ecological models (CEMs) are being developed to better direct research and monitoring efforts as well as management.

CEMs are widely recognized and utilized in natural resource management and structured decisionmaking, as they provide a clear framework for guiding management actions.

CEMs integrate and organize existing knowledge concerning: (1) what is known about an ecological resource, with what certainty, and the sources of this information, (2) critical areas of uncertain or conflicting science that demand resolution to better guide management planning and action, (3) crucial attributes to use while monitoring system conditions and predicting the effects of experiments, management actions, and other potential agents of change, and (4) how the characteristics of the resource are expected to change as a result of altering its shaping/controlling factors, including those resulting from management actions.

Previous Activities: New start in FY16.

FY15 Accomplishments: New start in FY16.

FY16 Activities: CEMs for the following species will be finalized: Arizona Bell's vireo, bonytail, California black rail, Colorado River cotton rat, elf owl, , flannelmouth sucker, Gila woodpecker, gilded flicker, MacNeill's sootywing, southwestern willow flycatcher, Sonoran yellow warbler, summer tanager, vermilion flycatcher, western least bittern, western red bat, western yellow bat, yellow-billed cuckoo, Yuma clapper rail, and Yuma hispid cotton rat.

The species accounts updated in FY14 under Work Task C3 will be finalized and published during FY16. Initial work to incorporate all information from these species accounts into the CEMs will begin in FY16.

Proposed FY17 Activities: Updates to CEMs will be done every 5 years, with literature being gathered annually. Development of CEMs for the five evaluation species will begin in FY17.

Pertinent Reports: All CEMS will be posted on the LCR MSCP Web site in FY16.