Work Task C28: Nest Predation Effects on Riparian Bird Species

FY07 Estimates	FY07 Actual	Cumulative Accomplishment Through FY07	FY08 Approved Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate
$0	$0	$0	$0	$145,000	$25,000	$0

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Start Date: FY09

Expected Duration: FY10

Long-term Goal: To determine the effects of nest predation on susceptible bird species, such as the southwestern willow flycatcher, yellow warbler, and Arizona Bell's vireo, and develop potential management actions to lessen these effects.

Conservation Measures: MRM1, MRM2.

Location: LCR SWFL life history study sites (D2), including Topock Marsh AZ, Mesquite NV, and areas where larger populations of open cup nesters currently exist, such as Bill Williams River NWR, AZ.

Purpose: Predation rates for open cup nesting passerines is one of the main reasons for nest failure (SWCA 2003-2007). The purpose of this study is to verify identity of nest predators of open cup passerines (such as the SWFL, BEVI, and YWAR), determine habitat and nest microclimate variables that are related to nest predation, and determine how nest microclimate influences nest predation in order to develop tools for managing restoration areas that would deter predators and create nest sites necessary for maintaining productive LCR MSCP covered bird populations.

Connections with Other Work Tasks (past and future): The first year of this work task will be completed under G3.

Project Description: This study will gather information pertaining to relative nest predation pressures and predator communities by determining identity of nest predators at real and artificial nests, determining interaction between patch size, surrounding landscape matrix, and potential for nest predation, linking female behavior and nest microclimate with nest predation, and evaluating the potential for nest predation to be offset if nest microclimate can be manipulated to reduce predation pressure. Nest predator communities will be assessed by documenting predator visits to real nests of species such as the SWFL, BEVI, and YWAR by utilizing nest cameras. In addition, artificial nests with cameras will be placed at sites differing in size and landscape characteristics. An additional set of artificial nests with plasticine (clay eggs) and quail eggs, but without cameras, will be used to determine whether relative nest predation rate differs among areas that differ in size and broader habitat context. Utilizing both real and

artificial nests will not only be able to economically cover more areas, but will also test the validity of utilizing artifical nest technique. Nest cameras will record both nest predation events as well as female behavior associated with nesting (such as time incubating, time off nest). Nest microclimate will be measured utilizing temperature/humidity data loggers once the nests have been vacated. Three habitat types will be compared for predator pressure.

Previous Activities: New start in FY08 under G3.

FY07 Accomplishments: None.

FY08 Activities: See G3.

Proposed FY09 Activities: Video cameras will be installed at natural and artificial nests to determine predator composition of nests of LCR open cup nesting passerines. Cameras will be camouflaged to reduce visual impact, and will utilize infrared to detect night predators. Artificial nests will contain plasticine eggs to retain distinctive tooth or beak marks that allow identity of potential nest predators. Nests will be monitored in several areas of the three habitat types. Microclimate will be measured at each nest utilizing temperature/humidity data loggers directly below the nest once it has been vacated, either due to predation, abandonment, or successful fledging. Cameras will also be utilized to determine female behavior at nest. A final report will be due in March of 2010.

Pertinent Reports: Study plan is available upon request.