

Work Task C60: Habitat Manipulation

FY12 Estimate	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$0	\$0	\$0	\$100,000	\$100,000	\$100,000	\$100,000

Contact: Sonja Kokos, (702) 293-8033, skokos@usbr.gov

Start Date: FY13

Expected Duration: FY17

Long-term Goal: Develop cost-effective management techniques and determine timing and extent of management actions necessary for maintaining structural diversity in riparian habitats.

Conservation Measures: MRM2 (WIFL, YBCU, VEFL, YWAR, CRCR, YHCR).

Location: All current and future riparian LCR MSCP Conservation Areas.

Purpose: Identify riparian habitat areas in need of structural diversity enhancement and develop protocols to manage portions of LCR MSCP habitat creation sites. The intent is to use the results of this research to appropriately manage these successional stages of riparian habitat that are required by several covered riparian avian species, and thereby meet established management guidelines.

Connections with Other Work Tasks (past and future): Post-development habitat monitoring data obtained in F2 and F3 will be used.

Project Description: The LCR MSCP riparian habitat creation sites are planted in phases and use a mass-planting technique in order to reduce invasive species competition with native species and provide dense habitat for covered avian species. Over time, the vegetation can sometimes mature at the same successional stage, especially in areas with consistent growing conditions and with low riparian tree species diversity.

In natural systems where periodic flooding is a component of the system, portions of the habitat can be periodically disturbed and “reset” to earlier successional stages and increased structural diversity. Several covered avian species require as habitat early to mid-successional stages of native riparian trees. Over time, some of the LCR MSCP riparian habitat creation sites may grow beyond suitable habitat for some covered species unless management actions are taken.

Without the disturbance events that were once more common in the historic river hydrograph, direct manipulation of portions of these conservation areas may be required. This research project will provide information to perform assessments and provide

protocols to guide the deliberate manipulations of these habitats to enhance structural diversity and produce the appropriate serial stages for covered species.

The objectives of this study are to:

1. Provide a protocol for assessing areas for structural diversity and target areas that may require enhancement to meet management objectives. This will typically result in identifying areas have at least eight years of growth and that comprise more monotypic stands of riparian trees; however, the protocols that are developed may indicate longer or shorter durations based on measures of structural diversity.
2. Provide a protocol to guide cost-effective and appropriate manipulations of identified riparian habitats in order to reset portions of these areas to the earlier successional stages. Protocols that may be established could include, but are not limited to: locations within stands for thinning, numbers or percent of trees per stand to be removed, height at which trees should be cut to encourage stump sprouting, and potential for in-planting in thinned areas to encourage species diversity as well as longer-term structural diversity.
3. Determine the timing and extent of manipulation necessary for maintaining multi-successional riparian habitat at the appropriate scale. Based on the collected data from this research, potential areas and extent of manipulation for future areas may be predicted so that proper timing and budgeting for management can be more controlled and proactive. Funds for actual management action for conservation areas will be provided through each specific conservation area's work plan.

Previous Activities: N/A

FY12 Accomplishments: New start in FY13.

FY13 Activities: A literature review will be completed and preliminary protocol development will begin. Current relevant literature on riparian stand thinning/manipulations will be reviewed to determine the best approaches for achieving the desired habitat structure and determine the measured parameters needed to indicate success. Information from the literature regarding best approaches for assessing habitat diversity in different structure types may also be employed to identify study sites with low structural diversity, and or those with later successional stages of growth.

A plan and protocol to test methods will be drafted following the literature search. Since the Conservation Areas are relatively young and undergoing rapid changes, manipulation of the habitat may be premature at this time. However, development of appropriate tools that are ready for implementation in anticipation that these tools will be needed in the future for maintaining structural diversity at the sites is recommended.

Proposed FY14 Activities: Potential management tools will be identified for further evaluation. Further research will be conducted on the feasibility of implementing habitat management strategies when conditions within created habitat warrant their use.

Pertinent Reports: N/A