Work Task D1:	**Beal Lake Riparian, Havasu National Wildlife Refuge**
Partners:	U.S. Fish and Wildlife Service Bureau of Reclamation
Point of Contact:	Barbara Raulston, LC-2455 (702) 293-8788
Purpose:	Demonstrate restoration techniques (using areas covered by material from dredging of Beal Lake) with native riparian vegetation to create habitat for willow flycatchers, yellow-billed cuckoos, black rails and other LCR MSCP covered species. Restoration techniques being evaluated include; hydroseeding, broadcast seeding, poles, and potted plants.
Conservation Measure:	Develop techniques in support of all covered species habitat creation requirements.
Long-term Goal:	This site has been engineered to provide facilities to allow a wide range of restoration research tasks to be conduced and monitored. The information obtained from the seeding, planting, and flooding regimes explored on this site will be directly applicable to other restoration projects. The total estimated restoration on the site is approximately 100 acres of cottonwood and willow, 100 acres of mesquite, and 5 acres of marsh.
Location:	In Arizona proximate to Topock Marsh on Havasu National Wildlife Refuge (NWR) located just south of Needles, CA.
Obligation:	$1,232,267 for in-house staff and contract support, prior to and including FY04
FY04 Accomplishment:	Development of the site started in FY01 and will continue through FY06. Tasks completed through FY04 include: (1) procurement and installation of a pump and platform; (2) clearing, leveling and installation of an irrigation system for Phase I; (3) clearing, leveling, and installation of an irrigation system for Phase II; (4) experiments with 55 acres of cottonwood, willow and mesquite in Phase I; and (5) experiments with 48 acres of cottonwood, willow, and mesquite in Phase II.

Project Description: Develop up to three distinct areas adjacent to the lake to evaluate and demonstrate various riparian restoration techniques and their watering requirements. Experimental testing for the establishment of cottonwood, willow and mesquite is underway and is expected to continue through FY09. At that point the site will be re-evaluated and a long term plan determined..

Phase 2 of the project is partially planted with 50 acres of cottonwood, willow and mesquite; the remaining acres will be planted in 2005.

Phase 3 is approximately 80 acres and designs have been completed for the site to be leveled and fitted with irrigation infrastructure in the future. If completed, the site would be planted mostly with mesquite. Areas within all phases that contain saline soils will be planted with either mesquite or salt-tolerant shrubs and/or wetland plants such as bulrush, depending on salinity levels.