

Desert Managers Group
Mojave River Presentation
Larry LaPré, BLM
January 15, 2004

Outline

Political aspect of Mojave River for the West Mojave Plan HCP

Jurisdictions and CDFG do not agree. CDFG has made three major points:

1. The Plan should be an NCCP – jurisdictions don't want to do this.
2. The jurisdictions should exercise land use controls - jurisdictions don't want to do this.
3. The Plan should include acquisition of lands bordering the river, particularly ranches owned by non-stipulating parties with water rights. Plan participants may not have the means to do this. The Plan is not primarily a land acquisition plan.

Without some contribution from the latter two, CDFG will not issue incidental take permits for eleven species associated with the riparian habitat. Meetings held on these issues resulted in the jurisdictions agreeing that the take permits were not really needed.

Without permits, there is little incentive to conserve or enhance. However, a federal 10(a) incidental take permit is still possible.

Opportunities for enhancement are still possible.

I suggest re-directing the discussion towards productive partnerships.

1. The Mojave Desert RCD wrote a letter on the West Mojave Plan asking to become partners on habitat enhancement issues. Funding from mitigation fees and other sources could be used for tamarisk and Russian olive removal on private, state and federal lands.
2. The Nature Conservancy approached BLM about initiating a Mojave River project.

Other possibilities: Water could be released from Lake Silverwood to restore and enhance the upper reaches. CDFG could complete their overdue enhancement plan. MWA could try to obtain and store or release surplus water. BLM could contribute scattered parcels at the headwaters area.

The West Mojave Plan is not an acquisition plan. Consolidation of desert tortoise habitat may get a jump start from the Army via Fort Irwin expansion mitigation measures. State and federal grants (state bond money or LWCF money) may fund Mojave River and other acquisitions. However, the revenue stream from mitigation fees and agency annual allocations is not sufficient to direct the Plan towards acquisition. The need is for better management; the majority of the conserved lands are already federally owned.

Two major habitats are addressed by the Plan: wet (riparian) on private land and dry (blowsand) on public land.

Wet

The final conservation measures adopted by the local government jurisdictions are still to be resolved. The groundwater level standard is a criterion to be met and is nearly the only instance in the West Mojave Plan where a criterion is used rather than a specific action. (A comparative example is the Western Riverside County HCP, which is entirely a criteria-based plan. Other HCPs are entirely action-based.) If the groundwater criterion is not met, the incidental take permits would be suspended.

Dry

BLM will conserve lands along the river for the Mojave fringe-toed lizard. San Bernardino County will maintain the floodplain in a natural condition, but is unwilling to require acquisition for conservation from agricultural and rural residential landowners. Adaptive management will be the driver for conservation of the Mojave fringe-toed lizard in this area. Information is needed on the extent and location of occupied habitat and on population viability in this area. The river populations may not be essential to conserve the species because other locations may be sufficient. The extent of the Mojave River linkage between core populations, such as at Manix and Razor is not known at present.

West Mojave Plan Mojave River Bioregion Conservation Strategy

The Mojave River is in many ways the most prominent landscape feature of the West Mojave desert. The central and southeastern regions reflect the Pleistocene history of the Mojave River, which flows from the San Bernardino Mountains north to Barstow, then east to Soda Lake and the Mojave National Preserve. In the last Ice Age, extending from 30,000 to 10,000 years ago, the Mojave River discharged to the south into the Mojave Valley, Laviac Lake, Dale Lake, Bristol Lake, and other playas extending nearly to the Colorado River. The now-dry river and playas supported species of invertebrates, fish, amphibians, and pond turtles, and attracted migratory birds dependent on water. Remnant populations of these animals are still present today, and comprise many of the rare species in need of conservation. The ancient river and lakes formed sandy beaches and prevailing winds carried the finer particles to the east, forming hummocks and dunes. These blow-sand areas now support unique species of insects, plants, and reptiles, including the Mojave fringe-toed lizard, whose entire distribution can be traced to the former path of the ancient Mojave River and Amargosa River.

The Mojave River has been substantially altered within the past 100 years by two primary human-dependent uses: 1) flood control provided by the Mojave Forks dam, and 2) groundwater extraction within the basin. The effects on wildlife habitat are primarily the reduction in the extent of the riparian woodland and forest along the banks, but also include fragmentation of habitat for the arroyo toad, interruption of ecosystem processes associated with infrequent flooding, and drying of associated wetlands, as at Turner Springs near Victorville. In addition, introduction of non-native species, including fish, bullfrogs, cowbirds, and starlings, has displaced some of the species targeted for protection in the West Mojave Plan.

Despite these changes, the Mojave River remains an outstanding desert stream, supporting abundant wildlife where the groundwater surfaces at the upper and lower narrows and downstream at Camp Cady and Afton Canyon. Endemic species, including the Mojave River vole, the Mojave shoulderband snail, and the Mojave fringe-toed lizard are found along the river. Limited-range species, primarily birds dependent on the riparian habitat are a major wildlife feature. These birds are either limited to desert riparian habitats, disjuncts with a wider overall range, or species at the edge of their distribution. A disjunct population of the San Emigdio blue butterfly is known from the edge of the river near Victorville. The river also serves as a water source for wide-ranging species, including bats, which are abundant in certain locations. Approximately 10,000 bats of several species were detected under the Interstate 15 bridge crossing in Victorville.

The river is used as a flyway stopover for some migratory birds, most notably turkey vultures and Swainson's hawks. These raptors can be seen in the spring and fall using the Regional Park as a night roost.

The Mojave River near Victorville is a West Mojave hotspot, containing over fifteen of the species addressed by the Plan. It is also a center of endemism, being the sole locality for the Mojave River vole and the Mojave shoulderband snail and formerly for the Mojave tui chub.

Existing Conservation Lands

County Parks

The Mojave Narrows Regional Park supports significant riparian habitat which is generally managed for species protection. The Regional Parks District leases the land from the Wildlife Conservation Board (Department of Fish and Game).

Education center

The Lewis Science Center in Apple Valley protects riparian and upland habitat, rock outcrops for the shoulderband snail, and provides an educational facility for the flora and fauna of the West Mojave desert.

Military Lands

The Integrated Natural Resources Management Plans (INRMP) for each military installation provide conservation for many of the covered species in the West Mojave Plan. The Plan will recognize the protection provided for covered species by these base management plans with the understanding that the military mission may change, resulting in changes to the level of conservation provided in the future. Within the Mojave River bioregion, the INRMP for the Marine Corps Logistic Base describes the species affected and the level of conservation provided.

Camp Cady Ecological Reserve

The California Department of Fish and Game owns and operates the Camp Cady Ecological Reserve east of Harvard Road. This site supports mesquite thickets and riparian forest, and protects western pond turtle, summer tanager, yellow-breasted chat, and a variety of birds of prey, especially in winter. Adjacent public and private lands on the west contain blow-sand deposits with the Mojave fringe-toed lizard.

Afton Canyon Area of Critical Environmental Concern

BLM has established an ACEC at Afton Canyon to protect the biological and scenic values of this site. Significant restoration has taken place at Afton Canyon, including removal of salt cedar, fencing to exclude cattle, and relocation of the campgrounds away from the riparian zone. Species protected in the river portion of the ACEC include western pond turtle, yellow-breasted chat, yellow warbler, Lucy's warbler, summer tanager, and vermilion flycatcher. The surrounding lands harbor Mojave fringe-toed lizard, prairie falcon, golden eagle, and bighorn sheep.

Cronese Lakes Area of Critical Environmental Concern

The Cronese Lakes ACEC was established to protect biological and cultural values. The management plan recognizes the presence of the Mojave fringe-toed lizard and the necessity of maintaining the playas, which are used by waterfowl during wet winters. Two plant species addressed by the plan, but not proposed for coverage by incidental take permits, are present. These are the sand linanthus (*Linanthus arenicola*) and the small-flowered androstephium (*Androstephium breviflorum*). Surveys conducted in 2001 concluded that the Cronese Lakes were not suitable breeding habitat for the snowy plover (*Charadrius alexandrinus*).

Other Actions

Critical Habitat

The FWS designated critical habitat for the arroyo toad (*Bufo californicus*) at the upper reaches of the Mojave River near the Mojave Forks dam and in a stretch of the river in Victorville, including Mojave Narrows Regional Park. This designation has been withdrawn by court order, and a new critical habitat designation is pending. The Victorville reach has historical records of occurrence of the arroyo toad, but biological surveys within the past ten years have failed to detect this species. The upper reach on both sides of the Mojave Forks dam is known to currently support arroyo toads. The Id Fire and subsequent debris flows in 2003 and 2004 damaged a great deal of occupied arroyo toad habitat in the upper tributaries.

Manix Area of Critical Environmental Concern

The California Desert Conservation Area Plan established an ACEC near Manix siding in order to protect paleontological resources. No management plan for this ACEC was ever prepared. Although not established to protect biological resources, the Manix ACEC may support Mojave fringe-toed lizards, and the ACEC plan (when written) could be amended to incorporate conservation for this species. The primary conservation measure would be designation of routes of travel away from the blowsand habitat.

Biological Opinion for Flood Control Maintenance

The San Bernardino County Flood Control District conducts annual maintenance activities in four “critical reaches” of the Mojave River - Spring Valley Lakes, Victorville, Silver Lakes and Barstow. Vegetation clearing in these areas and occasional maintenance of other areas in the river is conducted in accordance with an existing Biological Opinion. This BO addressed the least Bell’s vireo, southwestern willow flycatcher, and arroyo toad. Measures are incorporated into the Maintenance Plan to remove exotic vegetation, assist in preventing off-highway vehicles from entering Mojave Narrows Regional Park, operate cowbird traps, and fund restoration efforts by the BLM at Afton Canyon.

Summit Valley Habitat Conservation Plan

The City of Hesperia is directing the preparation of a separate Habitat Conservation Plan for lands including the Mojave River just below the Mojave Forks dam. This HCP will address the arroyo toad, least Bell’s vireo, and southwestern willow flycatcher. Nearly all of the occupied arroyo toad habitat within the West Mojave Plan area is included in the Summit Valley HCP.

Wild and Scenic River Evaluation

Pursuant to a lawsuit settlement agreement, the BLM has made a Wild and Scenic River eligibility determination for the Mojave River. This determination stated that 2.9 miles of the river within the Afton Canyon ACEC are eligible, and the recommended classification is “recreational”.

Conservation Plan for the Mojave River

Mitigation Fee

Compensation will be required for habitat disturbance in the form of a mitigation fee. The fee amount will be calculated based on the average value of private lands to be acquired for the implementation of the West Mojave Plan. Within the Habitat Conservation Area (including Conservation Areas established for specific species or areas), the fee amount will be calculated based on the cost to acquire five acres for each acre disturbed (a 5:1 fee amount ratio). Outside of the HCA, the fee amount ratio will be 1:1 for designated natural habitat, and 0.5:1 for disturbed areas. This applies to both public (BLM) lands and private lands regulated by local jurisdictions. Construction of single-family dwellings on legal lots are exempt outside Habitat Conservation Areas.

Proposed Conservation Areas

Two unique habitats within the Mojave River bioregion are in need of conservation: the riparian forest within the floodplain, and the blowsand habitat adjacent to the river near Hinkley and downstream between Barstow and Camp Cady.

Riparian forest

Existing wetland and riparian habitat laws and regulations are sufficient to provide conservation of the riparian vegetation. However, the water supply to the river is not assured. The West Mojave Plan proposes to establish a criterion for coverage of the riparian species. This is maintenance of groundwater levels in accordance with the adjudication of water rights in the basin. In order to achieve this groundwater standard, it may be necessary to purchase farmland with associated water rights from non-stipulating parties to the judgment. The California Department of Fish and Game is currently pursuing an acquisition of one of the ranches along the river south of Helendale. It is also possible that underground storage of water obtained from the California Aqueduct in surplus years will contribute to the maintenance of groundwater levels. The California Department of Fish and Game is utilizing fees collected from water users throughout the basin to prepare a plan to maintain the riparian habitat in the river. Until that plan is complete, a specific list of actions necessary to achieve the groundwater levels (the criterion) will not be known.

Groundwater Criterion

In order to maintain the riparian habitat for the covered species within the Mojave River bioregion, groundwater must be maintained at the following levels:

Zone	Well Number	Maximum Depth Below Ground
Victorville/Alto	H1-1	Seven feet
Victorville/Alto	H1-2	Seven feet
Lower Narrows/Transition	H2-1	Ten feet
Harvard/Eastern Baja Riparian Forest Habitat	H3-1	Seven feet
Harvard/Eastern Baja Surface Water Habitat	H3-2	1705 msl (Plus one foot)

These water levels are derived from the judgment in the water adjudication for the Mojave River Basin. They can be viewed as minimum groundwater levels necessary to support riparian growth, hence must be maintained at all seasons, especially during the warm-weather growing season. The Mojave Water Agency was required to install new monitoring wells to determine subsurface flow at each subarea boundary, and after ten years to provide a report and methodology for determining subsurface flows in the future. The judgment was based on the estimated historical average subsurface flows across subarea boundaries.

Thirty species of plants and animals were specifically referenced in the judgment and were assumed to benefit from the adjudication.

Blowsand habitat

The dunes, sand fields, and hummocks at the edges of the river wash form habitat for the Mojave fringe-toed lizard. Although this habitat may have once been a continuous deposit from Helendale to Camp Cady, it now exists in fragmented patches. Many private lands along the river edge are devoted to agriculture, and the public ownership of the river bed and banks is patchy. Suitable conservation areas for blowsand habitat will be determined by further research and adaptive management. Using public lands as a base, additional surveys can determine the most appropriate lands for conservation and establishment of core populations along the river. The river itself would provide a linkage between the conserved occupied habitats. Areas near Hinkley, Yermo, and Afton Canyon are suggested as the locations for study of establishment of conservation areas for the Mojave fringe-toed lizard. As an initial indication of where conservation areas might be located, specified public lands along the river banks are designated as ACECs. The Mojave Road, which follows the Mojave River east from the Manix ACEC through Afton Canyon and into the Rasor Ranch Open Area, would remain open to vehicle travel.

Mojave River Bioregion

Covered species

Plants

Mojave tarplant (*Hemizonia mohavensis*) **Extirpated in this bioregion**

Reptiles

Desert tortoise (*Gopherus agassizii*)

San Diego horned lizard (*Phrynosoma coronatum blainvillei*)

Southwestern pond turtle (*Clemmys marmorata pallida*)

Mojave fringe-toed lizard (*Uma scoparia*)

Birds

Brown-crested flycatcher (*Myiarchus tyrannulus*)

Burrowing owl (*Athene cunicularia*)

Ferruginous hawk (*Buteo regalis*)

Least Bell's vireo (*Vireo bellii pusillus*)

LeConte's thrasher (*Toxostoma lecontei*)

Long-eared owl (*Asio otus*)

Southwestern willow flycatcher (*Empidonax traillii extimus*)

Summer tanager (*Piranga rubra*)

Vermilion flycatcher (*Pyrocephalus rubinus*)

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

Yellow-breasted chat (*Icteria virens*)

Yellow warbler (*Dendroica petechia brewsteri*)

Mammals

Mojave River vole (*Microtus californicus mohavensis*) **Endemic**

Mohave ground squirrel (*Spermophilus mohavensis*)

Bats (several species, most not subjects of incidental take permits)

Species dropped from Incidental Take Permit Coverage

Mojave Tui Chub (*Gila bicolor mohavensis*) **Endemic**

Bald eagle (*Haliaeetus leucocephalus*)

Red-legged frog (*Rana aurora*) **Extirpated in this bioregion**

Arroyo toad (*Bufo californicus*)