

APPENDIX H

FISH AND WILDLIFE COORDINATION ACT REPORT

The project area is located in the eastern section of the San Xavier District of the Tohono O'odham Reservation southwest of Tucson in Pima County, Arizona. Please refer to our 1987 FWCA report and the original 1988 environmental assessment for maps and figures of the project area and plan. The proposed project would rehabilitate approximately 1,100 acres within existing farm lands of the District, including agricultural fields, flood control structures, farm roads, farm headquarters, and home sites. Currently, the project area includes approximately 815 acres of farm fields with 250 acres actively cultivated. Following rehabilitation, the net irrigated area would be approximately 908 acres, all of which has been farmed in the past 50 years and leased to the San Xavier Cooperative Association by allottee landowners. Major features of the project include field leveling, farm road widening, underground pipe and center pivot sprinklers installation, construction of an office building, two flood control dikes, and six flood control channels.

Flood waters currently move unimpeded across the entire farm. A 1.3 mile flood control dike would be constructed along the east side of the West Branch of the Santa Cruz River. Approximately 1/8 mile north of the San Xavier Road, flows within the West Branch of the Santa Cruz River would be redirected into the mainstem Santa Cruz River. An Arizona Department of Transportation (ADOT) dike will be extended 500 feet. The ADOT dike is located approximately 2,400 feet south of the existing farm boundary. Six other drainages within the farm would also be modified.

Approximately 908 acres are designated for commercial production of crops, primarily alfalfa, but also may include tepary beans, melons, squash, wheat, corn, pumpkins, pasture mix, oat hay, and Sudan grass.

Irrigation requirements of future farm operations in the District will rely extensively on CAP water. The CAP Link pipeline can deliver up to 16,600 af per year of water to the on-farm distribution system, which is sufficient to meet projected peak-season and annual demand. Existing ground-water wells would provide a supplemental source of water in the event of a CAP delivery outage or shortage.

EXISTING BIOLOGICAL RESOURCES

Vegetation

The San Xavier Reservation is primarily dominated by semidesert grassland and Sonoran desertscrub as described by Brown (1994). Semidesert grassland on the Reservation is characterized by grama grass (*Bouteloua* sp), bush muhly (*Muhlenbergia porteri*), three awn (*Aristida* sp), mesquite (*Prosopis velutina*), catclaw acacia (*Acacia greggii*), foothill paloverde (*Parkinsonia microphylla*), burroweed (*Isocoma tenuisecta*), four wing saltbush (*Atriplex canescens*) and triangle-leaf bursage (*Ambrosia deltoidea*). This biotic community occurs primarily in the southern and western parts of the Reservation.

Sonoran desertscrub on the Reservation is characterized by foothill paloverde, blue paloverde (*P. florida*), saguaro (*Carnegie gigantea*), catclaw acacia, ocotillo (*Fouquieria splendens*), barrel cactus (*Ferocactus wislizenii*), brittlebush (*Encelia farinosa*), triangle-leaf bursage, cholla (*Cylindropuntia* sp), creosotebush (*Larrea tridentata*), saltbush (*Atriplex* sp.), and prickly pear (*Opuntia* sp). This biotic community occurs around the north and west bases of Black Mountain on the alluvial plains of the Reservation. Desert washes throughout the Reservation contain assemblages of xeroriparian plants such as mesquite, blue paloverde, white thorn acacia (*Acacia constricta*), desert hackberry (*Celtis pallida*), wolfberry (*Lycium* sp), and canyon ragweed (*Ambrosia ambrosioides*).

Farmland in the project area is composed of approximately 1,100 acres of active and fallow farm fields surrounded by roads and unlined ditches. Most fields are actively disked to discourage weed growth. Hedgerows (<10 acres) line several farm fields and consist of mesquite, Mexican elder (*Sambucus mexicana*), four-wing saltbush, wolfberry, and graythorn (*Ziziphus obtusifolia*). Vegetation within the immediate project area has largely been removed for agricultural production. Nearly all 815 acres of farmland have been routinely cultivated to reduce weed growth. Approximately 50 acres have revegetated with desertscrub due to lack of recent cultivation.

Wildlife

The San Xavier Reservation lies within the Sierrita Mountain drainage and supports a wide variety of wildlife. Common species expected to occur in or near the project area are coyote (*Canis latrans*), gray fox (*Urocyon cinereogargenteus*), mule deer (*Odocoileus hemionus*), javelina (*Tayassu tajacu*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), rock and ground squirrels (*Spermophilus* spp.), kangaroo rats (*Dipodomys* spp.), pocket mice (*Perognathus* spp.), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), great-horned owl (*Bubo virginianus*), doves (*Zenaida* spp.), curve-billed thrasher (*Toxostoma curvirostre*), Gila woodpecker (*Melanerpes uropygialis*), Gambel's quail (*Callipepla gambelii*), raven (*Corvus corax*), cactus wren (*Campylorhynchus brunneicapillus*), roadrunner (*Geococcyx californianus*), northern mockingbird (*Mimus polyglottus*), black-throated sparrow (*Amphispiza bilineata*), Couch's spadefoot toad (*Scaphiopus couchii*), western whiptail (*Cnemidophorus tigris*), tree lizard (*Urosaurus ornatus*), and rattlesnakes (*Crotalus* spp.). No fish species occur within the project area due to a lack of aquatic habitat. More detailed information regarding wildlife on the Reservation can be found in Cornett and Associates (1985) and AGFD (1983).

Threatened and endangered species

We are unaware of the presence of threatened or endangered species in the project area. Based on information provided with your memorandum, your office will submit a Biological Assessment to our office supporting a determination that the proposed action would have no effect on threatened and endangered species.

ENVIRONMENTAL CONSEQUENCES

Approximately 10 acres of previously undisturbed land would be affected by construction of drainage features. Approximately 3.4 acres on the West Branch of the Santa Cruz River would be affected by construction of a 1.3-mile flood control dike. Enlargement of a culvert underneath San Xavier Road would affect approximately 1,100 ft (1.3 acres) along the West Branch of the Santa Cruz River. The 500-ft extension of the ADOT dike would impact an additional 0.2 acre.

Construction of the dike east of the West Bank of the Santa Cruz would result in temporary inundation of an additional 14.0 acres of vegetation. Modification to the ADOT dike would result in reduced flows to approximately 10 acres of mesquite. Some mesquite vegetation would be disturbed in the drainages of Los Reales, Cemetery Wash, Mission Wash, and some of the pandhandle drainages.

Direct impacts of the proposed activity would include clearing of vegetation, movement of soil and rock, noise, and placement of project features. Impacts on wildlife are expected to be minimal though some habitat would be lost and/or fragmented. These impacts would most likely be limited to resident small mammals, reptiles, and birds that may be killed or disturbed during clearing activities. Displaced individuals would likely move to adjacent habitats resulting in increased competition for available resources. The local wildlife community could experience temporary fluctuations in community structure and integrity. These impacts would likely be short lived with local wildlife populations quickly stabilizing and returning to a dynamic steady state. Farmland would eventually be vegetated with various crops that could be utilized by resident wildlife, especially foraging birds such as doves.

DISCUSSION

We are pleased to have the opportunity to evaluate and provide recommendations to mitigate the environmental impacts of this proposed project. While we do not foresee significant adverse environmental effects from rehabilitation of the San Xavier Farm, we suggest that some effort be made to compensate for the vegetation and wildlife habitat that would be lost, particularly mesquite.

We continue to support the recommendations presented in our 1987 FWCA report. That report suggested retention of hedgerows where feasible, replanting of trees and shrubs around the farm perimeter, avoidance of significant native vegetation, salvage of valuable plants, monitoring for sensitive reptiles, planting with mesquite, raptor-proofing powerlines, and minimizing the height of soil cement.

We believe the most important aspect of environmental restoration, particularly for riparian communities such as mesquite, is the attainment and proper utilization of a secure water source

to ensure adequate hydrologic conditions to support the desired biotic communities. Also, we believe that prior to active restoration, assessments should be conducted to ensure that chosen sites would be suitable environments for the establishment, regeneration, and survival of native riparian plants.

In desert ecosystems consideration should be given to local soil conditions, especially the dynamics of water permeability and infiltration. Jackson *et al.* (1991) recommends that restoration efforts in desert landscapes be accomplished by building water catchments, mulching with coarse woody debris, and planting fractions of the area repeatedly until a good rainfall year occurs. This is intended to ensure that plants have an adequate water supply and favorable soil conditions to increase the chance for seedling establishment and plant survival. Supplemental irrigation may be necessary during exceptionally dry periods.

We suggest Reclamation work in concert with the Tohono O'odham Nation to develop a mitigation plan for the proposed action. We request the opportunity to review a draft mitigation plan when completed.

RECOMMENDATIONS

- 1) Implement the recommendations presented in our 1987 FWCA report for the rehabilitation of the San Xavier Farm.
- 2) Pursue a compensatory mitigation plan for unavoidable loss of vegetation and habitat, particularly for mesquite communities.
- 3) Identify and secure a source of water to support mitigation efforts.
- 4) Ensure that mitigation sites would be suitable for establishment and survival of native vegetation.
- 5) Provide supplemental irrigation to mitigation areas as needed.
- 6) Provide us the opportunity to review a draft mitigation plan.

We appreciate the opportunity to provide technical assistance and planning recommendations for proposed rehabilitation of the San Xavier Farm. If we can be of further assistance or you have questions, please contact Mike Martinez (x224).



Steven L. Spangle