

Proposed Tulare Basin Wildlife Management Area

Environmental Assessment, Land Protection Plan, and Conceptual Management Plan

Kern National Wildlife Refuge Complex
Kern, Kings and Tulare Counties, California

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Chapter 1 - Purpose of and Need for Action

1.1 Introduction and Background

California's Central Valley consists of the Sacramento Valley in the north and the San Joaquin Valley in the south. The Tulare Lake Basin is located in the southern San Joaquin Valley (Figure 1). Historically Tulare Lake was the largest fresh water wetland west of the Mississippi River, approximately 500 square miles at peak levels. Annual river flows created an extensive wetland habitat consisting of permanent wetlands, sloughs, ponds, and marshes as well as seasonal wetlands. The entire natural habitat has been lost to agricultural development and source water diversion.

Despite the substantial losses of wetland habitats within the Tulare Basin, the area is recognized in the Central Valley Joint Venture (CVJV) and the *North American Waterfowl Management Plan* (NAWMP) for its international importance in sustaining the life cycle of many migratory waterfowl and shorebirds of North America's Pacific Flyway. This area also provides important habitats for several priority species listed in the U.S. Fish and Wildlife Service, Birds of Conservation Concern 2002, Division of Migratory Bird Management, Arlington, VA.

Development is continuing at a steady pace in California. The San Joaquin Valley Region ranked second in California in growth of new urban land during 1996 to 1998, California Department of Conservation, June 2000. Loss of the area's native habitat may be contributing to the continued decline of the region's migratory waterfowl and shorebird populations, landbirds, Birds of Conservation Concern, and threatened and endangered species. The conversion of California's valuable Central Valley pasture land (grasslands) and wildlife habitat has accelerated, threatening the existence of many San Joaquin Valley wildlife species. Relocation of dairy operations from southern California and application of "biosolids" (residue from municipal sewage) have created a demand for space that competes with habitat needs of wildlife. The survival of existing duck clubs is influenced by these competing financial interests and land uses. These developmental pressures create situations that encourage action to prevent further losses of private wetlands. The owners and managers of most clubs within the project area have indicated that they are in support of protecting the remaining wetlands in the project area.

Many of the remaining private wetlands in the Tulare Basin are owned and primarily managed as organized hunting clubs and have been increasingly isolated by intensive development of surrounding lands. One half of the private hunting clubs within the proposed project area have gone out of existence since figures in a 1988 report by Jones & Stokes Associates were compiled (*Private Wetlands in the Kern-Tulare Basin, California: Their Status, Values, Protection, and Enhancement*). Twenty-five of the fifty clubs, representing approximately 1,300 acres or 38 percent of the managed private wetlands surveyed in 1988, have ceased operation and no longer provide migratory bird habitat. These losses are magnified by the fact that the wetland habitat base in the Tulare Basin is quite small. Many of the hunting clubs have a long and rich historical connection with the surrounding communities. Loss of these organized clubs diminishes the cultural as well as natural landscapes.

The Tulare Basin wetlands could provide wintering habitat and necessary forage for a population of migratory waterfowl in excess of 100,000 annually (2,000 USFWS midwinter inventory). Conservation efforts are necessary to address past wetland losses. The reduced habitat base is inadequate to attract and support the CVJV objective population levels at this time.

The CVJV is a cooperative effort of conservation organizations, federal and state agencies formed to implement the NAWMP, which sets goals for restoring waterfowl populations. The NAWMP provides a broad framework for waterfowl conservation and management based on populations and habitat goals needed to restore and maintain waterfowl populations. The CVJV implementation plan (1990) goals are to: (1) protect 80,000 acres of existing wetlands through fee acquisition or conservation easement; (2) restore 120,000 acres of former wetlands; (3) enhance approximately 300,000 acres of existing wetlands; (4) enhance waterfowl habitat on 443,000 acres of private agricultural land; and (5) secure firm water and power supply for existing State Waterfowl Areas, National Wildlife Refuges, and the Grassland Resource Conservation District and other private lands dedicated to wetland management.

The Tulare Basin region supports the last remnant wetlands and wildlife habitats left in the dramatically altered Tulare Lake watershed, including the few remaining private wetlands in a landscape that once supported millions of migratory birds. The declining network of sloughs and riverine wetlands are unable to support migratory bird populations that have annually visited the area in the recent (1970's) past. The associated upland habitats have also historically supported threatened and endangered species on a year-round basis, including populations of the San Joaquin kit fox, Tipton kangaroo rat, and blunt-nosed leopard lizard.

1.2 Proposed Action

In response to imminent threats to the limited remaining natural resources in the Tulare Basin area, the Service proposes to create a new Wildlife Management Area (WMA). The proposed action consists of establishing a new Wildlife Management Area boundary which will allow the U. S. Fish and Wildlife Service (Service) to purchase conservation easements to preserve the present character of the land or under specific limited conditions fee title interests in real property. Fee acquisition of property would be based upon habitat needs as well as landowner negotiations. The intent of any fee acquisition is that it would be on a limited basis (not to exceed 2,000 acres). Protecting the habitat contained in the new WMA is important to achieve goals for recovery of migratory bird populations in North America's Pacific Flyway. Additionally, by protecting the upland habitats associated with remnant wetlands, upland-dependant listed species can continue to occupy these areas. Protecting the current low intensity land uses and wildlife habitats needed by federal trust wildlife species is a fundamental part of proposed actions. The focus of this proposal is to work with owners of existing managed wetlands to obtain conservation easements which protect these unique habitats in perpetuity while retaining active management and involvement of private landowners. Most of the targeted wetlands and associated uplands are owned and operated by organized hunting clubs.

The proposed easement program for protecting wildlife habitat would assist with the recovery of migratory waterfowl populations, shorebirds, and neotropical migratory birds of the Pacific Flyway and is consistent with the following wildlife conservation plans:

Central Valley Habitat Joint Venture Implementation Plan (1990) and the North American Waterfowl Management Plan (1986).

U.S. Shorebird Conservation Plan's Southern Pacific Coast Regional Shorebird Plan (2000).

California Riparian Habitat Joint Venture's The Riparian Bird Conservation Plan (2000).

USFWS Recovery Plan for Upland Species of the San Joaquin Valley (1998).

Perpetual conservation easements on uplands planted with wildlife compatible crops would be evaluated on a site specific basis. These areas could serve as buffers to the more sensitive habitat areas and enhance the use of wetlands by migratory birds by limiting disturbance levels. The variation in habitat quality and potential for listed species occurrence requires that on site evaluations be performed to determine the benefit to wildlife and the farming community. The residents of and visitors to the Tulare Basin region would benefit from protection and management of wildlife habitats in buffer areas as open space of the Southern San Joaquin Valley becomes increasingly scarce.

1.3 Location and Description of Project Area

The proposed project area is located in northern Kern, Kings, and southern Tulare Counties near Kern and Pixley National Wildlife Refuges (NWR). This area is close to the south edge of the historic Tulare Lake in the southern San Joaquin Valley, California. Two transportation corridors frame the west and east boundaries of the proposed project areas, Interstate 5 and Highway 99 respectively. The proposed WMA follows the low-lying lands from Goose Lake north to a point west of Pixley NWR. Lands near Pixley NWR and the community of Alpaugh form the northern boundary (see Figure 2). Comments received during public scoping resulted in the evaluation of four sites originally inside of the project study area, but excluded from the smaller focus area. After visits to evaluate habitat conditions at each of the sites, two locations were included that are isolated from the remainder of the focus area. The Land Protection Plan (Appendix A) includes a list of properties proposed for inclusion in the WMA, should property owners be willing to participate (see tract map in Appendix A).

The arid habitat and surrounding agricultural fields of western Kern County are typical of the landscape being proposed for inclusion in this habitat conservation project. Originally, the natural runoff from the Kern River, Poso and Deer Creeks, as well as artesian wells fed natural wetlands along the stream channels and south shore of Tulare Lake. Ground water has replaced natural surface water sources for managing wetlands. As the landscape has become increasingly developed, primarily by agriculture and transportation corridors, the open space and wildlife habitats have become fragmented islands scattered across the San Joaquin Valley. Efforts by the California Energy Commission to inventory, map, and survey natural lands in the central valley found that “Only 2.9 percent of the 2,950-square-mile (7,640 sq. km.) Southern San Joaquin Valley floor still remains in “good” or better natural habitat condition (California Energy Commission 1991). Elevations range from 205 to 250 feet.

1.4 Purpose For Proposed Action

The purpose of the proposed action is to: (1) protect key habitats for wetland dependant and sensitive species in support of the NAWMP and its CVJV goals for Tulare Basin; and (2) maintain the long term viability of private wetlands and associated uplands in Tulare Basin. The proposed conservation easement program is designed to benefit the local community by protecting the rural landscape and creating the Tulare Basin WMA to maintain habitat for migratory waterfowl populations, shorebirds, neotropical migratory birds of North America’s Pacific Flyway, and threatened and endangered species. The proposed WMA would represent a contribution by the Service to conserve the rich and varied natural resources of the Tulare Basin for the continuing benefit of the American people through a perpetual conservation easement program.

1.5 Decisions To Be Made

This Environmental Assessment (EA) has been prepared to assist the Service’s planning and decision making regarding whether or not to establish a conservation easement area within the Tulare WMA study area, and given the scope of issues raised by the public, how big the new wildlife management area would be and how many easements would be acquired within its boundary. Two action alternatives were

designed to accomplish Service planning objectives and goals for assisting with the recovery of migratory waterfowl populations, shorebirds, and neotropical migratory birds of North America's Pacific Flyway, and protection of valuable wetlands within the project study area. These alternatives differ with regard to the size of the area to be protected and habitat restoration proposed. If it is determined that a WMA should be established, the decision maker will also have to (1) select an approved conservation project area boundary which best fulfills the purposes for creating the WMA based on the EA and associated documents; and (2) determine whether the alternative selected for implementation would have a significant impact upon the quality of the human environment.

The authorities for this protection effort are the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715-715d, 715e, 715f-715r) and Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754). The Migratory Bird Conservation Act established the Migratory Bird Conservation Commission to approve areas recommended by the Secretary of the Interior for acquisition with Migratory Bird Conservation Funds. The Fish and Wildlife Act authorizes the Service to use funds made available under the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601- 4611) to acquire lands, waters, or interests therein for fish, wildlife, and plant conservation purposes.

1.6 Issues Identified and Selected for Analysis

1.6.1 Public Scoping and Issues Identification

The *Proposed Tulare Basin Wildlife Management Area Planning Update #1* was mailed to more than 350 individuals and organizations with an interest in the Tulare Basin region in June 2002. Landowners within the focus area were also contacted through individual notification letters. On July 11, 2002, the Service hosted two public workshops in Visalia and Bakersfield, California, to present the Service's preliminary proposal and request public comment. Public comment cards were provided to all participants to facilitate public input. The public was notified of the workshop through direct mailing of planning updates and news releases throughout central California.

The Service received comments from landowners, agencies, community organizations, and interested citizens during the public scoping period in July and August 2002. The complete text of public scoping comments can be reviewed in Appendix D. Based on public comments and feedback, the Service identified biological, social, and economic concerns that were considered in preparing the draft *Environmental Assessment and Land Protection Plan for the Tulare Basin Wildlife Management Area*.

The Service determined that there was interest on the part of some private wetland landowners to keep the habitat land acquisition goal small and streamline the planning process to facilitate a prompt implementation of the proposed conservation actions. Several landowners outside the initial study area wanted the opportunity to participate in the Service's conservation easement program and notified the Service of the attributes on their individual properties. Additional properties and restoration opportunities were considered due to public comments as well as for increased resource benefits.

This document provides an evaluation of alternatives and description of the environmental effects of establishing the newly proposed boundary of the Tulare Basin WMA for conserving wetland habitat, associated uplands and their dependent flora and fauna. The Service's initial proposal, Alternative 2, (developed with internal scoping) focuses on permanently protecting 14,000 acres comprised primarily of wetlands and associated upland habitats. Based on public input received during a public scoping period,

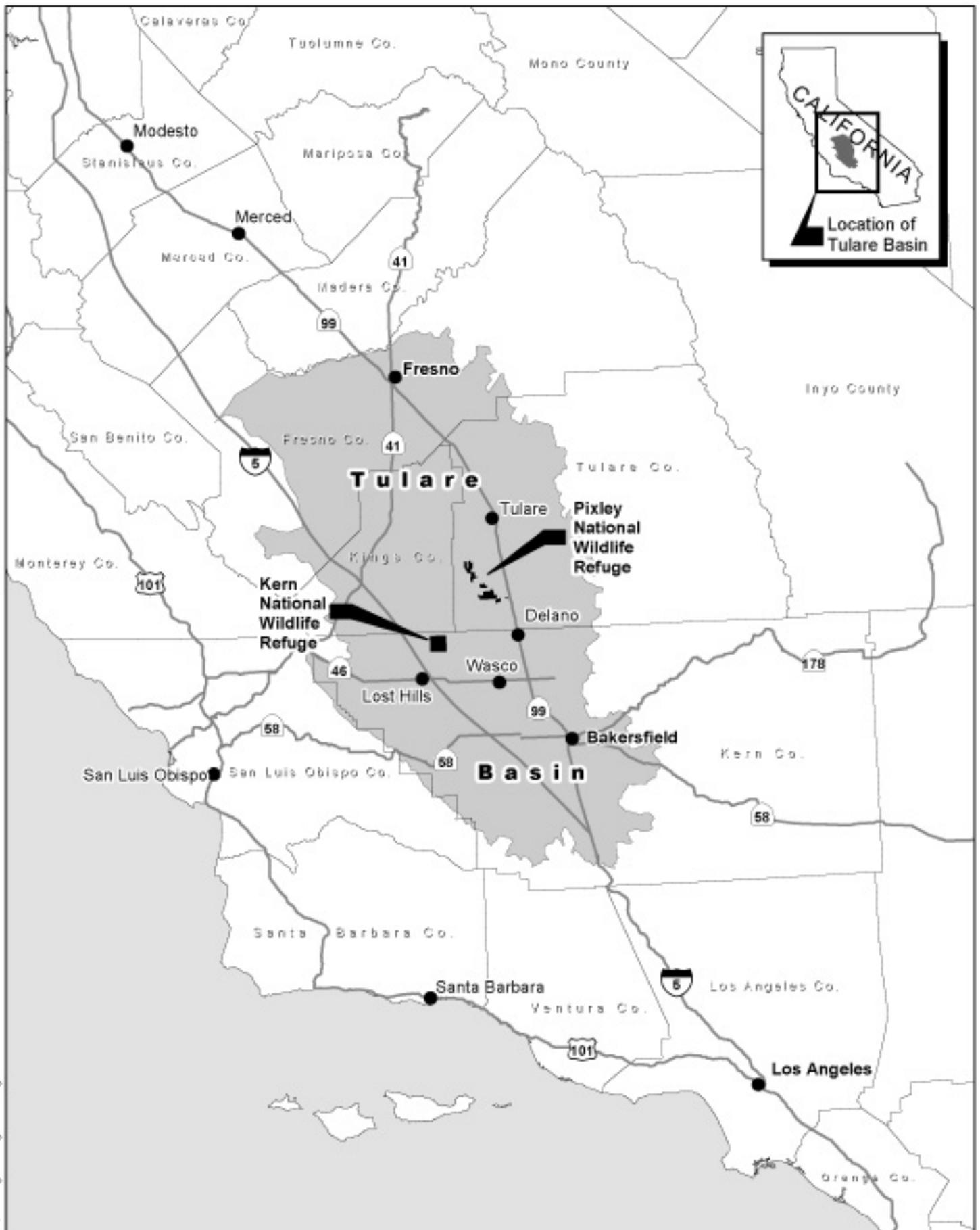


Figure 1. Location Map

Alternative 3 was developed to expand upon Alternative 2, and include 2,000 additional acres that may be purchased in fee. During the scoping process several additional properties outside of the focus area were proposed by adjacent landowners for consideration of inclusion. The perpetuation of a unique local culture associated with private duck clubs and waterfowl hunting is considered worthwhile by many landowners in the project area. Major impact topics assessed for each alternative include: habitat protection; land ownership; potential effects to tax revenues; intensive development and agricultural land conversion; and public use. All action alternatives have received an equal level of analysis.

1.6.2 Issues to be Addressed

Major issues identified by the Service in the planning and public involvement process analyzed in this EA include habitat protection, intensive development, land use change and land ownership. The Service reviewed all of the comments received during the public scoping period in developing this EA. Based on public comments, the following issues were considered in preparing the EA. The issues described below have been addressed within the Alternatives:

Habitat Protection

Providing an incentive to obtain permanent protection for existing wetlands and associated upland habitats was universally supported by landowners and participants at public scoping meetings.

Land Ownership

Landowners wanted to know if private lands located within the planning area or approved WMA boundaries would be subject to additional government regulation and zoning. Property owners also wanted to know if the Service would use condemnation to purchase properties and expressed interest in knowing more about the Service's willing seller policy. The Service like other federal agencies, has the power of eminent domain, which allows the use of condemnation to acquire lands and other interest in land for the public good. This power, however, is seldom used and is not expected to be used in this project. The Service usually acquires land from willing participants and is not often compelled to buy specific habitats within a specific time frame. See Appendix A, the Land Protection Plan for additional details regarding the Service's conservation easement program.

Intensive Development and Land Use Conversion

Concern over land use changes and the intensive development of lands within the project area are fundamental to the conservation measures proposed. Comments received during the scoping meetings reflect public support to protect the limited remaining migratory bird habitat from the impact of additional developments.

Property Taxes

Landowners were interested in knowing what if any changes would occur in property tax rates. Refer to Section 3.3.5 for more information on property taxes.

1.6.3 Issues Not Selected for Detailed Analysis

Because the action proposed by the Service would have little to no impact on the following topics, further analysis in this environmental assessment is not warranted.

Water Supply for Private Wetlands

The Service intends to continue supporting the work of various CVJV partners to identify potential solutions and seek implementation of possible water supply projects. This issue is outside the scope of this proposal because there are a number of interested entities presently working on water cost, availability and water supply issues.

Archeological and Historic Resources

Effects on archeological and historic resources from implementing either of the action alternatives would not be expected to differ significantly from the no action alternative. These resources are currently protected under existing archeological and historical authorities and regulations.

Geologic Hazards, Soil Erosion, and Hydrological Resources

Land acquisition for the proposed WMA is not expected to expose any public infrastructure to geological hazards or unstable geological features. Land acquisition would not result in increased soil erosion, relative to existing and proposed urban and agricultural developments. These determinations have been made based on existing conditions associated with current land uses.

Traffic, Noise Levels, and Air Quality

The proposed WMA is not expected to generate any major additions to the existing levels and patterns of traffic within the project area because lands within the WMA would remain in private ownership and would not be open to public use. In addition, the Service does not anticipate any major increases in noise as a result of land acquisition for the proposed project. No change to air quality is anticipated, because the proposed refuge would not generate any new industrial point of mobile sources of air pollution.

Public Use

Individual landowners asked clarifying questions regarding public access, including hunting and associated liability for public use on private lands within the boundary. They wanted to know if public use is allowed under a Service conservation easement. All access is controlled by the landowner, and no public use is dictated by an easement. The proposed project does not change or affect how public use occurs. Please see section 3.3.6, Appendix A the Land Protection Plan, and Appendix B the Conceptual Management Plan for discussion.

Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. The proposed action to continue existing or similar land uses was evaluated, and no adverse human health or environmental effects were identified for any Indian Tribes, minority, or low-income populations.

Chapter 2 – Alternatives

2.1 Introduction

Chapter 2 describes three alternatives: the No Action Alternative, and two action alternatives that would result in establishment of the Tulare Basin WMA boundary and provide the Service authority to acquire an interest in lands as part of the WMA. Under the no action alternative, a WMA project boundary would not be established and the Service would not pursue the acquisition of conservation easements.

This EA, the new Land Protection Plan (Appendix A), and the Conceptual Management Plan (Appendix B) describe the Service's involvement in general terms because these are decision-making documents for the primary purpose of establishing a new WMA land acquisition boundary and to offer the Service's conservation easement program to landowners whose properties support wildlife habitat of national importance. Under both the action alternatives, private ownership and land use in the study area would not substantially change if the Service initiates a conservation easement program.

2.2 Process Used to Develop the Alternatives

A team of Service resource specialists considered the following elements when they developed the alternatives for this project: (1) verbal comments provided during informal public scoping between 2000 and preparation of this document; (2) issues raised during meetings with various agencies, organizations, elected officials, and individuals during the formal scoping process; (3) waterfowl management goals and objectives of the *North American Waterfowl Management Plan* and Central Valley Joint Venture Program; (4) the mission of the Service to conserve, protect, and where necessary recover the nation's fish, wildlife, and plant resources for the enjoyment of present and future generations; and (5) existing habitat conditions and habitat restoration potential.

The Service also considered a variety of land protection methods in developing the range of alternatives, described in the Land Protection Plan. The Service believes that the acquisition of conservation easements represents the minimum possible interest or rights in lands and waters needed to meet habitat protection objectives. A reasonable range of alternatives for the creation of a new Tulare Basin WMA of approximately 14,000 to 16,000 acres were explored and objectively evaluated. Larger acquisition boundaries were considered too complex and potentially controversial to accomplish in a reasonable amount of time. The anticipated future losses of private wetlands can be prevented by diligent progress on this proposal. Additional habitat losses and delays would result in reductions in habitat carrying capacity and migratory bird populations.

Of primary importance are the few remaining high quality wetlands and native upland habitats in the proposed project area. Both action alternatives would provide the same level of protection for properties where easements are purchased. Native habitats within this area are extremely valuable for the species that depend upon them.

2.3 Alternatives Considered but Eliminated Several land protection proposals were dropped from further consideration during the scoping process because they did not reasonably meet the Service's purpose and stated need for the project, and consequently were not suitable for inclusion in the National Wildlife Refuge System (Refuge System). These proposals included requests from landowners to consider additional properties that were substantially outside the project study area, and therefore did not meet the identified purpose and need of the action.

- Complete fee acquisition of the lands on a willing seller basis, was not considered at this time. Fee acquisition would be largely unnecessary because a proposed easement program would essentially achieve the project's land protection goals. The Service anticipates a low need for fee acquisition within the project study area, however, fee-title may be considered on a limited basis if a willing seller offered high quality habitat adjacent to similar habitats and did not desire to retain their ownership with a conservation easement.
- Acquiring 10,000 acres in habitat corridors of occupied or potential listed species habitat to connect disjunct tracts of protected lands. This action would have added a high complexity to the Service's proposed action.
- Accepting administrative or management responsibility for lands enrolled in either the U.S. Department of Agriculture's Wetland Reserve Program (WRP) or Central Valley Project Improvement Act (CVPIA) Land Retirement Program. It was determined that existing administrative jurisdictions would meet program needs.
- Establishing a smaller WMA project area could exclude some existing high value habitat and require priorities vary in different portions of the Tulare Basin. There is little biological basis for excluding remaining private wetland habitats. Available private wetlands could be crucial to the survival of Pacific Flyway migratory birds.

2.4 Description of Alternatives

2.4.1 Alternative 1 - No Action

The No Action Alternative represents no change from the existing management of lands in the study area. Under this alternative, the Service would not acquire interest in the lands in the study area for the purpose of establishing the Tulare Basin WMA.

The distribution, general location, and extent of land use in the study area and vicinity would continue to be guided by the appropriate County General Plan and zoning codes. The General Plan is the official overall policy statement of the County relating to land use and planning issues and provides a broad outline of future land use patterns. The zoning ordinance regulates land use by dividing the unincorporated areas of the County into districts or zones and specifies the uses that are permitted or prohibited within each district. Under the No Action Alternative, existing land uses in the study area would remain unchanged in the long-term, and protection of the area's wildlife habitat would not likely happen.

2.4.2 Alternative 2 - 14,000 Acre Conservation Easement Project Area

Under Alternative 2, the Service would establish a conservation easement project area (known as an approved Project Boundary) that encompasses the widely scattered private wetland habitats and associated uplands targeted by this proposal. This alternative proposes to protect 14,000 acres of wetland dependant wildlife and native habitats solely through acquisition of perpetual easements on wetlands and associated upland habitats from property owners willing to participate in the conservation easement program. Under this alternative, the Service would seek habitat protection through conservation easements (for specific parcels included see Appendix A, Table 1). With the protection of this habitat, the Service would also be contributing to protection and recovery of migratory waterfowl populations, shorebirds, landbirds and neotropical migratory birds of North America's Pacific Flyway, and federally listed threatened and endangered species. The protected habitats could continue to be used by the species concerned, see 3.2.5 and 3.2.6.

Under Alternative 2, as with the No Action Alternative, all easement properties would remain in private ownership with property taxes and land use largely unchanged. Establishing a WMA conservation easement boundary does not grant the Service jurisdiction or control over lands within the conservation easement project boundary, and it does not automatically make lands within the boundary part of the Refuge System. Lands would not become part of the WMA or the Refuge System unless the Service has purchased an interest in a property from a willing seller.

2.4.3 Alternative 3 - 16,000 Acres Combines Easement and Fee (Preferred Alternative)

Alternative 3 (Preferred Alternative) includes lands identified in Alternative 2 for protection using perpetual conservation easements with the addition of an area, not to exceed 2,000 acres, of potential fee acquisition or optional conservation easements. All 16,000 acres could be protected via conservation easements if willing landowners choose to participate. The lands potentially considered for fee acquisition would exhibit high quality or unique habitat values or key habitat locations that would connect similar areas of high quality habitat. Several landowners adjacent to existing Refuge locations proposed likely properties to meet those needs.

Chapter 3 - Affected Environment

3.1 Introduction

This chapter describes the physical, biological, social, and socioeconomic factors within the Tulare Basin WMA project area which could potentially be affected by implementing the action alternatives and are relevant to the issues described in Chapter 1. The geographic scope of the proposed project is 16,000 acres of private wetland and associated upland habitats targeted for permanent protection. The subject properties are located in discontinuous clusters across approximately 109,000 acres within the southern San Joaquin Valley portions of Kern, Kings, and Tulare Counties. See 3.3.1 for proportions within each county.

Lands within the original study area are primarily intensively managed crop lands interspersed with unique native uplands, seasonal wetlands, and pasture lands that support a diversity of native wildlife and livestock grazing operations. There are isolated vernal pools, riparian wetland channels and other unique remnant features of the natural hydrology of the Tulare basin within the project area. However, this project proposal is focused on the existing managed private wetlands and is not intended to accomplish protection of these minor habitat components. While the boundaries for the proposed project area were developed to exclude properties that have been developed into incompatible crops, chicken ranches, urban infrastructure, and other areas that have lost much or all of their natural resource value, some of these properties may occur within the project area due to ongoing land use changes.

The *U.S. Shorebird Conservation Plan* (Manomet Center for Conservation Sciences 2001) lists mountain plover, snowy plover, and long-billed curlew as “highly imperiled species” the highest of five “conservation categories” due to documented population declines and relatively low population size compared with other shorebird populations. All of the preceding “highly imperiled species” along with several category 4 “species of high concern,” including short-billed dowitcher and western sandpiper would benefit from the habitat protection actions proposed for this project. A Central Valley Shorebird Working Group has formed to draft conservation implementation measures that will be incorporated into a revised Central Valley Joint Venture Implementation Plan that is in preparation. The Shorebird Working Group has identified the Tulare Basin as the first priority for action due to the current and historical significance of the wetland habitats for shorebirds and the immediate need for action relative to other locations within the state and region.

Recent research conducted on radio-tagged pintail and green-wing teal have documented changes in waterfowl distribution as a result of diminished private wetland habitats, reduced water supplies, and changes in agricultural irrigation practices (June 2000, Joe Fleskes, et. al.). The changes in waterfowl distribution are being identified as potentially significant in both the Tulare and Grasslands sub-basins in the southern San Joaquin Valley. Changes in traditional waterfowl use areas can cause serious concerns to private wetlands managers who are motivated by waterfowl harvest and need income from hunters to sustain private operation costs. The loss of private wetlands in the Tulare Basin has been linked to changes in waterfowl distribution in Merced County and the San Joaquin River Delta.

3.2 Physical and Biological Environment

The weather in the area can be characterized as a dry, warm, Mediterranean climate. During the rainy season (October through April), the average rainfall is 6 inches. The average low temperature in the

winter is 38 degrees Fahrenheit. The average high temperatures in the summer are typically just above 100 degrees Fahrenheit.

Based on 1988 and 1990 low altitude color air photos of the project area used by Kern County Planning Department to draft a habitat conservation plan (HCP), the following land cover types are estimated:

- 15 percent - Developed lands
- 15 percent - Moderate Value Wildlife Habitats
- 70 percent - High Value Wildlife Habitats

The majority of the proposed project area is dry upland habitat with wetland units scattered unevenly across the landscape (Figure 2). Approximately 6,000 acres of private wetlands are estimated to exist within the project area. The amount of managed wetland acreage varies annually, due to fluctuations in water availability and cost. Land use conversions since 1990 have increased the amount of developed land within the project area.

3.2.1 Annual Grasslands

Most of the dry upland sites in the proposed project area are dominated by introduced annual grasses. Scattered alkali scrub communities that have been altered in varied degrees are also interspersed in the area. The upland sites are valuable to many migratory birds, such as raptors, mountain plover, long-billed curlew, as well as resident and special status species.

3.2.2 Agricultural Crop Fields

Annual cereal grain crops and perennial legumes can benefit wildlife. Migratory birds make extensive use of grain fields when waste grain and stubble are seasonally available. Irrigation of crop lands creates ephemeral wetland habitats often used by shorebirds, especially killdeer and plover. Conservation easements can be designed to continue profitable farming operations while maintaining or maximizing wildlife habitat values. Wildlife compatible crops include but are not limited to wheat, barley, oats, milo, clover, alfalfa, vetch, rye, safflower, sudan, millet, triticale, and sorghum.

3.2.3 Pasture Lands

Pasture vegetation is a mix of annual and perennial grasses in addition to legumes. The species mixture varies according to soil type and management practices such as, intensity of livestock grazing, irrigation, fertilization, and weed control. Some farms in the study area include irrigated pasture in their crop rotation system. These are frequently included in the category of agricultural lands.

Pasture lands with annual or perennial grassland vegetation support a variety of wildlife species. Given adequate vegetation at the onset of the nesting season, ground-nesting birds, including waterfowl, pheasant, and northern harrier, will nest in pastures. Irrigated pastures provide ephemeral foraging opportunities and roosting sites for many shorebirds, wading birds, waterfowl, and raptors. Dry or nonirrigated pastures that are closely grazed are important habitat for mountain plover, long-billed curlew, and burrowing owls. The dry uplands that these species rely on have become increasingly scarce over their range and are decreasing locally.

3.2.4 Threatened and Endangered Species

Uplands in the study area support populations of the endangered blunt-nosed leopard lizard (*Gambelia [Crotaphytus] sila*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), and Buena Vista Lake shrew (*Sorex ornatus relictus*) along riparian wetlands in the area. The uplands associated with targeted wetland parcels will be protected from intensive land use conversion when willing landowners accept conservation easement payments.

The *Recovery Plan for Upland Species of the San Joaquin Valley* (Recovery Plan) (1998) covers 11 species federally-listed as endangered or threatened. Several of these wildlife species, the blunt-nosed leopard lizard, Tipton kangaroo rat, Buena Vista Lake shrew, and San Joaquin kit fox, are found within the proposed Tulare Basin WMA area. Approved recovery plans were previously prepared for blunt-nosed leopard lizard and San Joaquin kit fox in 1985 and 1983 respectively. The Recovery Plan (1998) represents a revision of the earlier recovery plans and identifies portions of this project area as important to the recovery to these species. Implementing one of the action alternatives for this project may benefit some of the listed species, but is not likely to have a significant effect on any of the listed species. Conservation easements do not preclude additional actions that could be taken to recover listed species.

3.2.5 Wintering Migratory Waterfowl

Midwinter migratory waterfowl peak counts for 1975 and 2000 were 236,250 and 119,200, respectively. Annual peak counts during the past 15 years reflect a decline that has followed the reduction in wetland habitat base and available water for wetlands in the Southern San Joaquin Valley. Fifteen species of waterfowl commonly use San Joaquin Valley wetland habitats in winter. Concentrations of five species of waterfowl have been recorded as greater than 50 percent of the wintering waterfowl in California. These five species using Tulare Basin habitats extensively in winter are pintail, gadwall, green-winged teal, cinnamon teal, and northern shoveler. The proposed Tulare Basin WMA area is considered an important part of the central San Joaquin Valley wetlands complex. The Tulare Basin is especially important for early migrant pintail. The loss of early season habitat has and continues to have far reaching effects to migratory waterfowl.

The waterfowl that winter in the Tulare Basin use habitats as a stopover site as they move to or from habitats at more southern locations and as the terminus of migration. Species such as the northern pintail, white-fronted goose, and cinnamon teal, winter in Basin wetlands. Waterfowl also breed in the Tulare Basin, the most common nesting species are mallard, gadwall, and cinnamon teal.

3.2.6 Shorebirds

In winter and spring, the Central Valley supports tens of thousands of shorebirds—more than any other inland site in western North America. In fall, it is the second most important inland site to shorebirds after Great Salt Lake in Utah (Page and Shuford 2000). *The United States Shorebird Conservation Plan* (Manomet Center for Conservation Sciences 2001) states concern over land use changes and further habitat loss which is likely, “especially in the Central Valley.” A Shorebird Working Group, comprised of Central Valley Joint Venture partners, has been organized which is placing highest priority on conservation needs and opportunities of the Tulare Basin.

Species with regionally important populations in the Central Valley are the black-bellied plover (winter, spring), snowy plover (winter), killdeer (winter, summer), mountain plover (winter), black-necked stilt (fall-spring), American avocet (fall-spring), greater yellowlegs (fall, winter), whimbrel (spring), long-billed curlew (fall, winter), western sandpiper (spring), least sandpiper (winter), dunlin (winter), and long-billed dowitcher (fall-spring).

The Central Valley is one of only a few key wintering areas in the world for the mountain plover, which is proposed for Federal listing under the Endangered Species Act. The Central Valley also hosts two other bird species of special concern (species that may be candidates for listing as threatened) in California, the snowy plover and the long-billed curlew (CDFG, 1992). Three shorebirds, American avocet, black-necked stilt, and killdeer remain in Tulare Basin habitats to breed.

At least fifteen waterbird species other than shorebirds and waterfowl use wetland habitats, eight of which breed in the area. The most abundant are great blue heron, common moorhen, and sora.

3.2.7 Other Wildlife Use

Northern harriers, red-tailed hawks, American kestrels, burrowing owls, and tricolored blackbirds are year-round residents. Wintering species include white-tailed kite, Cooper's hawk, Swainson's hawk, prairie falcon, and ferruginous hawk. An occasional bald eagle or peregrine falcon have been observed in the area.

Mammalian residents of the grasslands include the endangered San Joaquin kit fox, black-tailed jack rabbits, cotton tailed rabbits, coyotes, muskrats, raccoon, opossum, striped skunk, and California ground squirrel. Various small rodents are also common residents.

The sloughs, creeks and canals contain western pond turtles, along with fish species such as bullhead and channel catfish, striped bass, threadfin shad, and carp. These species also enter the various marsh areas when they are flooded from surface water sources. Invertebrates, such as freshwater clams, crayfish, and numerous insects also occur in the proposed Tulare Basin WMA. Western spadefoot is a species of concern that could be found in close proximity to wetlands.

3.3 Social and Economic Environment

There are no urban incorporated communities within the proposed WMA boundaries. The following describes the proposed project area;

3.3.1 Kern, Kings, and Tulare Counties

The study area as described in a preliminary project proposal included 353,670 acres in three counties, Kern, Kings, and Tulare. After refining a project area around known existing private wetland habitats, only very small portions of Kings and Tulare counties remained within the proposed project area due to the limited extent of land retaining high quality habitat attributes. The remaining "focus area" is 109,000 acres in close proximity of existing managed wetlands and the adjacent or associated uplands.

The following social and economic data for Kern County fairly represents the entire proposed project area. The 1999 populations estimate for Kern County totaled 648,400 people. The City of Bakersfield, the nearest urban center to the study area and the County seat, had a population of 230,800, in 1999 (<http://factfinder.census.gov/home/en/datanotes/expstf190.htm>).

Employment figures by industry in 1999 for Kern County area are as follows: Service 17.8 percent, Retail trade 16.0 percent, Government 21.6 percent, Agriculture 15.1 percent, Finance 3.4 percent, Construction 5.6 percent, Wholesale trade 4.0 percent, Transportation and Public Utility 4.1 percent, Manufacturing 5.4 percent, and Mineral Extraction 7.1 percent. Future growth and urban area expansion in Kern County, will likely result in both an increase in jobs and job diversity as well as contribute to the urban growth of Bakersfield. The proposed project area is influenced by the relative close proximity to southern California.

3.3.2 Kern, Kings, and Tulare Counties' General Plans and Williamson Act Program

The counties' General Plans, designate lands in the proposed project area as open space with value as pasture land, row crops, and wildlife habitat. In 1967, the Kern County Board of Supervisors approved implementation in Kern County of the *California Land Conservation Act of 1965*, better known as the *Williamson Act*. The program, in place in a majority of California's 58 counties, provides tax reductions for lands under contract in exchange for maintaining land in agricultural uses for a period of 10 years. Under the Act, the state provides payments to the county to cover lost property tax revenues. The agricultural preserve established by Kern County for the Williamson Act program, overlaps with the Service's proposed Tulare Basin WMA.

In fact, the Service's conservation easement program and the Williamson Act agricultural preservation program overlap and complement each other in many counties throughout California. Properties within a WMA easement area remain eligible for the Williamson Act program. Landowners whose property falls within a Service WMA and the Williamson Act program can be compensated by both programs for maintaining their properties in agricultural production while providing benefits to California's wildlife.

3.3.3 Agricultural Production

Kern, Kings, and Tulare counties consistently rank among the state's top agricultural counties, producing in excess of \$6 billion in gross annual income, ranking numbers 4, 12 and 2 respectively, in 2000 (Kings County Ag. Crop Report, 2001). These counties are leading producers of milk, grapes (wine), almonds, chicken, cotton, tomatoes, cattle, eggs, and alfalfa. Livestock grazing occurs on some of the grassland and irrigated pasture land within the WMA area.

3.3.4 Land Ownership

Alternative 2 encompasses approximately 109,000 acres of private property. Alternative 3 includes those tracts within Alternative 2, with the additional potential fee acquisition of no more than 2,000 acres. The Land Protection Plan includes a listing of the individual parcels (Table 1). No new or additional zoning or land-use regulations would be created by the Service within the approved Refuge boundary of the proposed addition or on neighboring lands.

3.3.5 Property Tax

Counties collect property taxes on private land within the proposed WMA. The Williamson Act enables counties and cities to designate agricultural preserves and offer preferential taxation to agricultural landowners based on the income-producing value of their property in agricultural use, rather than on its assessed value. In return for the preferential tax rate, the landowner is required to sign a contract with the county agreeing not to develop the land for a minimum 10-year period. Contracts are renewed annually for 10 years unless a party to the contract files for nonrenewal or petitions for cancellation. In 2001, there were approximately 1,719,863 acres (Kern), 1,114,948 acres

(Tulare) and 698,612 acres (Kings) of Williamson Act lands in the three counties (Department of Conservation).

The purchase of conservation easements on private land by the Service would not reduce property tax revenues to the counties, because the lands would remain in private ownership and subject to state or local taxes or assessments. If any land is purchased in fee, the provisions of the Revenue Sharing Act apply and payments in lieu of taxes are made annually. A formula of 0.75 times one percent of the land value is used to generate in lieu of tax payments. In recent years, congressional appropriations have only been adequate to make partial payments (48.5 percent in 2003).

3.3.6 Wildlife Dependent Recreational Uses

The vast majority of lands within the proposed study area are privately owned. The focus of this conservation proposal is to sustain private waterfowl hunting clubs and the habitat that they provide. By acquiring conservation easements on private properties on a willing seller basis, the Service provides funds for the purchase that are available to support continued operation of these private habitats. All of the wetland dependent species found on the private clubs benefit from this proposed project. An additional benefit of this effort is sustaining the unique local culture that the hunting clubs represent. The California Department of Fish and Game (CDFG) has recently acquired some parcels for management as an ecological reserve. Currently landowners do not allow recreational use or access by the general public. These lands would remain closed to the general public, because the Service would not purchase public access rights. Wildlife viewing on these lands is available along the network of county roads that cross the study area.

Chapter 4 - Environmental Consequences

4.1 Alternative 1 - No Action

The No Action Alternative represents no change from the existing management of lands in the study area. Under this alternative, the Service would not acquire interest in the lands in the study area for the purpose of creating the Tulare Basin WMA.

The distribution, general location, and extent of land use in the study area and vicinity would be guided by the appropriate county General Plan and zoning codes. The General Plan is the official overall policy statement of a county relating to land use and planning issues and provides a broad outline of future land use patterns. The zoning ordinance regulates land use by dividing the unincorporated areas of a county into districts or zones and specifies the uses that are permitted or prohibited within each district. Under the No Action Alternative, existing land use patterns in the study area would remain under the authority of the counties.

Long-term protection and restoration of the area's wildlife habitat would not be likely without some type of incentive to the landowner. Fragmentation of the existing natural habitat is likely to continue without landowner incentives. Two major forces are at work in removing suitable wildlife compatible habitats from within the project area they are: (1) increases in operation or maintenance costs for managed wetland habitats, especially water; and (2) increasingly intensive land uses, such as conversion from grass to row crops, orchards, vineyards, poultry farms, sewage disposal sites, and construction of new dairies. The impact of additional private wetland habitat lost from active management, including seasonal flooding, is a decrease in the carrying capacity for Pacific Flyway waterfowl populations. Based on the private wetlands that have been abandoned in the past 12 years, it is anticipated that 2,500 to 5,000 acres of wetlands and the associated uplands would be lost in the next decade under this alternative. There has been 13,461 acres of land committed to biosolids application within Kern County. The location of these disposal sites is in close proximity to the high quality habitat sites that are proposed for protection by this project. In one case, dust from the neighboring stock pile of organic material frequently blows into private wetlands.

Siting of new dairies in San Joaquin Valley counties has become controversial. Three new dairy projects are within immediate proximity of private wetland properties. Concerns over noise, glare from outdoor lighting, and activity levels associated with operation of an intensive agricultural enterprise have been voiced by owners of neighboring wetland habitats. Dozens of additional new dairy project permits are anticipated. Encroachment by dairies increases activity levels which may influence bird behavior, flight patterns, and habitat selection. In addition, new dairies provide an economic inducement for wetland owners to sell properties which are then converted to intensive forage crops, further exacerbating habitat losses in the Tulare Basin.

The substantial decline in private hunting clubs and their managed wetlands is documented in a 1988 report by Jones & Stokes Associates. California Department of Fish and Game biologist H. Leach recorded 123 duck clubs in south Tulare Basin in 1958 (acreage unknown, Goose Lake not included). A similar survey in 1974 reflected a drop of more than 50 percent in club numbers, to 60 (4,982 acres). Information collected in 1988 reflects loss of an additional 10 clubs with 30 percent less acreage (50 clubs, 3502 acres). Since 1988, an additional 25 duck clubs have gone out of existence. The flooded wetland acreage varies annually due to increased water costs.

This alternative would not address the loss or conversion of natural topography to more intensive land uses. Since many of the remnant private wetlands and associated uplands are located on relatively undisturbed sites, they often contain unique natural soil profiles and have the potential to host native plant communities.

4.1.1 Impacts on Habitat Protection

The existing private wetland habitats are expected to decline in size or be further degraded under this alternative. The impacts of no action would influence not only the local area but also have an impact on all the migratory bird species that use the central San Joaquin Valley grasslands. An absence of wintering migratory bird habitat in the southern San Joaquin Valley affects habitat use during the winter in the Central Valley and Sacramento River Delta (see waterfowl distribution in Section 1.1). Many shorebirds, raptors, and mammals exploit the food resources of wetlands during their annual life cycle. If existing habitats are not protected from conversion or development, waterfowl and shorebirds would be forced into other areas and/or concentrate in crowded conditions, which, when combined with poor habitat quality and adverse weather conditions have contributed to the spread of disease.

Botulism and avian cholera are chronic waterfowl disease problems. In some years, deaths attributed to botulism in California have exceeded 250,000 (Hunter et al. 1970). Similarly, avian cholera losses in California during one winter exceeded 70,000 birds (Rosen 1971). According to Friend (1981), the Central Valley, along with three other areas in North America, has developed into an avian cholera enzootic area. More than 33,000 waterfowl killed by disease, were picked up during the 1980 to 1981 winter season on public and private lands in California (USFWS unpublished report). In the absence of high quality fresh water wetlands, birds are likely to select agricultural drain water ponds that suffer various degrees of water quality impairment. As stated in the 1990 Rainbow Report (*A Management Plan For Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley, September 1990, Interagency report of the San Joaquin Valley Drainage Program*) "Effects on populations of wintering migratory birds (waterfowl, shorebirds, and long-legged wading birds, for example) would probably be severe as birds crowded into ever smaller areas of habitat, increase the incidence and impact of avian diseases." Service research scientists documented reproductive failures associated with use of drainage ponds that increase with the elevation of contaminants. Impacts of this sort affect the Pacific Flyway population and reproductive success rate.

The private properties eligible for conservation easements represent the last remaining hope for recovery of migratory bird populations to objective levels set in the CVJV implementation plan for the Tulare Basin. The No Action Alternative would result in lower population levels for migratory waterfowl, shorebirds and terrestrial species that use the associated uplands.

The following is quoted from recent research published in the *Journal of Wildlife Management* entitled "Distribution and Movements of Female Northern Pintails Radiotagged in San Joaquin Valley, California" by J. Fleskes, et. al.

“. . . The greater decline in abundance of pintails wintering in the SJV seems due to a combination of factors, including improved habitat conditions elsewhere, loss of habitat in Tulare Basin, higher disturbance, lower survival, and other factors such as greater impact of drought in the SJV. Improvements that increase the carrying capacity of SJV habitats and winter survival of pintails in the SJV would likely increase SJV pintail populations. Adequate water supplies during early fall are essential to maintain SJV populations. Restoring Tulare Basin habitats is crucial to restoring pintails throughout the SJV, including the Grassland EA during late winter.”

4.1.2 Land Ownership Issue

Land ownership patterns would continue to be influenced by economic forces leading to more intensive uses over time.

4.1.3 Property Taxes

The current property tax conditions would not change.

4.1.4 Intensive Development and Land Use Conversion

Irrigated farmland lost ground to large new urban increases as the California Department of Conservation's Farmland Mapping and Monitoring program (FMMP) conducted its 1998 biennial land use inventory. The San Joaquin Valley Region ranked second in the growth of new urban land during the 1996 to 1998 period. Converting wildlife compatible crops to orchards, dairies, poultry farms, and vineyards is occurring at an alarming pace in the region. Expanding the California Department of Corrections Delano State Prison, less than 10 miles east of the proposed project boundary, will increase the local population and increase development of the surrounding area. Agricultural crop acreage reports do not reflect the farm land lost due to land use changes because they are masked by the annual variation in farmed acreage due to water supply (Kern Co. agricultural commissioner, pers. comm. with Jack Marks). The number of acres farmed each year in the southern San Joaquin Valley is directly tied to available irrigation water supplies and variations in the quantity of water diversions in the Sacramento River Delta. A substantial amount of annual cropland is left idle each year due to changing economic conditions.

It is anticipated that as nearby communities grow the pressure for subdivisions or suburban encroachment would increase within the proposed project area. The area has large numbers of small parcels that could be developed for residential purposes. Several rural "ranchette" type residential land uses occur on small parcels within the area currently. The remote nature of the properties of interest to the Service and existing habitats would provide the only protection from future land use changes.

4.1.5 Wildlife Dependant Recreation

Waterfowl hunting is the primary use of the private properties that are targeted for protection by this project. It is anticipated that this alternative would result in the gradual decline or elimination of traditional hunting clubs. Loss of the private wetland properties can be demonstrated to be a direct loss of wildlife habitat and also leads to a loss of public support or understanding of the needs of wildlife populations. The current landowners do not provide access to the general public on lands that are subject to this conservation project. The access is not expected to change in the future.

4.2 Alternative 2 - 14,000-acre Project - Easements Only

Under Alternative 2, the Service would identify a conservation easement project area of approximately 109,000 acres within which the Service would seek to permanently protect approximately 14,000 acres of habitat. The goal of this alternative is to seek habitat protection through the purchase of conservation easements. With the protection of these natural wetlands and associated upland habitats, the Service would be contributing to protection and recovery of migratory waterfowl populations, shorebirds, and neotropical migratory birds of North America's Pacific Flyway, and federally listed threatened and endangered species by attempting to meet minimum habitat requirements to support stable populations.

The two predominant land uses of these 14,000 acres of wetlands and associated upland habitats are recreational hunting by organized duck clubs, and livestock grazing. Many of the existing clubs have

long and rich historical connections with the surrounding communities. Under this alternative it is expected that land use on existing high quality habitats within the project area would remain unchanged. The local economy, rural lifestyle and open space would be maintained in this area due to the Service acquiring perpetual conservation easements.

With this alternative, affects of fragmentation are likely to continue to occur, such as the loss of connectivity of biological processes. The isolation of native habitats can disrupt the interacting functional components of the larger system. Riparian habitats connecting these parcels are not proposed to be protected nor managed for maximum wildlife benefits. Past losses of habitat in locations that could be reconnected will not be addressed by habitat restoration.

4.2.1 Impacts on Habitat Protection

Creating the Tulare Basin WMA and securing conservation land use on 14,000 acres could make a contribution to the habitat protection and management goals of CVJV and NAWMP (see goals described on page 3). The Tulare Basin WMA would also contribute to protection of seasonally important shorebird habitat, see discussion in 3.2.6. Securing the future land use of private wetlands and associated uplands would help to reverse the long term decline in migratory bird populations that has occurred in the basin. The native topography and undeveloped lands represented by parcels within the proposed project area are very scarce natural resources (less than 3 percent of the surface area) in the San Joaquin Valley. This alternative would attempt to arrest further declines in the available habitat base. Securing perpetual conservation easements on approximately 14,000 acres of wetland habitat and associated uplands would prevent additional effects to the migratory bird populations that depend on these scarce resources. All of the existing private wetlands within the study area could be protected within this alternative. The risk of future wetland habitat losses is best demonstrated by the recurring losses that have been observed over the recent past. Several properties have ceased to be managed as wetlands in the past three years. Twenty-five wetland properties have gone fallow or have been converted to other uses since 1988.

Future conditions under this alternative would allow waterfowl populations in the Tulare Basin and Pacific Flyway migrants to rely on much the same habitat base that supports existing populations. Increases in local and regional migratory bird populations as a result of this alternative are not likely. This alternative would be a holding action to stop the rapid decline in natural resources. The future conditions described are based on the assumption that maintenance and management provided by private landowners would continue. The projected effect of this alternative is small, yet incrementally positive to all wetland dependant species. The effect of providing permanent protection to the targeted private lands is interconnected with other variables such as changes in water availability, management of public lands, and annual variation in climatic conditions that make separate analysis speculative.

4.2.2 Land Ownership

The fee ownership of land does not change when a conservation easement is created. Land remains private property with restrictions on future uses of the property. If this alternative is implemented, the Service would work with willing sellers to protect existing wetlands and associated upland habitats.

4.2.3 Property Taxes

Property taxes would not be directly affected by this alternative. Lands protected by conservation easements remain in private ownership and continue to generate property tax revenue.

4.2.4 Intensive Development and Land Use Conversion

Land use changes would be prevented on approximately 14,000 acres of existing wildlife habitat. Surrounding lands may continue to experience more intensive development over time. Fragmentation of wildlife habitat and increased levels of disturbance may become a concern.

4.2.5 Wildlife Dependent Recreation

Public access to the private properties would not change under this alternative because private landowners would continue to limit access as they desire. Implementing this alternative would contribute to the continuation of private hunting clubs and the local culture they reflect. The commitment and stewardship that private wetland operators demonstrate is recognized by neighbors and residents in the local community.

4.3 Alternative 3 -16,000-acre Project, Including 2,000 acres of Potential Fee Acquisition (Preferred Alternative)

Alternative 3 includes lands identified in Alternative 2 for conservation easements only, with the addition of up to 2,000 acres of potential fee acquisition. Including these lands within the conservation easement program would increase protection to isolated wetlands and migratory bird habitat and create a foundation for future restoration activities.

The CVJV and the NAWMP, set goals for restoring waterfowl populations, see description in 1.3. Implementing this alternative with a goal of protecting 16,000 acres would make a measurable contribution to the habitat protection and management goals of CVJV and NAWMP. In the Tulare Basin this could mean preventing further migratory bird population declines within the basin and possibly increasing the percentage of the Pacific Flyway waterfowl population that winters in the basin from 5 percent to 8 percent. An increased level of management concern and monitoring of shorebird populations has occurred in the past decade. Within the Central Valley, the Tulare Basin WMA would contribute to protection of remaining limited shorebird habitat. Insufficient population data makes future population projections difficult. However, it appears that all available wetland habitats that contain preferred shallow water habitats would be used to the advantage of migrating shorebirds. Public comments indicate that the proposed protection measures would be very popular with local landowners and implementation could occur rapidly, subject to adequate funding.

4.3.1 Impacts on Habitat Protection

Securing perpetual protection on approximately 16,000 acres (including 2,000 acres potential fee acquisition) of wetland habitat and associated uplands would make measurable contributions toward the CVJV and NAWCA goals and partially offset past habitat losses. As described in Section 4.3 above, this alternative would stabilize declining migratory bird populations locally, and with implementation of the restoration components, could result in modest increases in migratory bird populations wintering in the Tulare Basin. A stable base of wintering waterfowl habitat in the area would reduce the dangers of disease outbreaks associated with large concentrations of birds on minimally adequate habitat or wetlands impaired by water quality contamination. Native uplands and undeveloped areas are often associated with wetlands in one ownership. Many resident species of wildlife, including threatened and endangered species use these upland habitats.

Preliminary discussions with Service biologists have highlighted the positive benefits of providing permanent protection to properties that, in most cases, have both upland and wetland habitat types present. In the absence of perpetual protection for the proposed project area, it is anticipated that more intensive development and economic development would occur, eliminating most wildlife benefits.

4.3.2 Land Ownership

This alternative would retain private ownership of approximately 14,000 acres of land protected by conservation easements. Up to 2,000 acres of fee acquisition could be added to the Kern National Wildlife Refuge Complex.

4.3.3 Property Taxes

This alternative would have the same negligible effect as alternative 2 on the 14,000 acres of land protected through perpetual conservation easements. The lands remaining in private ownership would continue to be subject to local taxes. Any lands purchased in fee (not to exceed 2,000 acres) would result in Service payments in lieu of taxes as provided by the revenue sharing act. The formula for in lieu of tax payments according to the refuge revenue act is 0.75 times 1 percent of the assessed property value. In recent years, Congressional appropriations have provided approximately half of the calculated amount of payments in lieu of taxes.

4.3.4 Intensive Development and Land Use Conversion

Implementation of this alternative would prevent the intensive development of up to 16,000 acres. This amount of habitat protection would provide measurable progress toward meeting CVJV goals for the Tulare Basin. These permanently protected lands could provide the minimum wetland habitat necessary to meet wintering waterfowl populations' needs.

4.3.5 Wildlife Dependent Recreation

The control of private access on private lands with conservation easements would not change. Private landowners would continue to limit access as they desire. Implementation of this alternative will contribute to the continuation of private hunting clubs and the local culture they reflect. The commitment and stewardship that private wetland operators demonstrate is recognized by neighbors and residents in the local community.

Any land purchased in fee would be managed as part of the Kern NWR and contribute to wildlife dependent recreation by reducing the isolation and fragmentation of existing habitats that is likely to occur as properties in "key" locations are developed for economic necessity.

4.4 Cumulative Impacts

The action alternatives proposed for this project are planned within the context of other conservation efforts underway by various CVJV partners. While substantial amounts of work have been accomplished in other parts of California since the 1990 CVJV Implementation Plan was written, very limited achievements have occurred in the Tulare Basin. Restoration projects have been initiated by the U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS). The CDFG has contracts to support management on selected private properties. Both of these efforts are directly affected by the limitations of water supply and cost. Ducks Unlimited and California Waterfowl Association have assisted individual hunting clubs in making improvements to their water management facilities and moist soil management capabilities. These investments in private wetland habitat would be secured in perpetuity by implementing this proposal.

It is anticipated that the growing human population in California will result in continuing pressure on the few remaining natural landscapes within the central San Joaquin Valley, including the Tulare Basin. Concerted effort to protect existing wetlands and associated upland habitats is necessary to prevent the abandonment or conversion of the limited private lands providing migratory bird wintering areas. The proposed project is expected to result in modest benefits to wildlife. This action in concert

with the many other efforts, however, referred to above by CVJV partners, may be able to protect sufficient wildlife habitat to perpetuate resident and migratory wildlife population for the foreseeable future.

Table 1. Summary of Impacts By Alternative

Impact Topics	Alternative 1 No Action	Alternative 2 14,000 Acres	Alternative 3 16,000 Acres
Habitat Protection	Minimal protection through existing zoning. Continued decline in extent and continuity of available habitat will result in measurable declines in migratory bird populations.	14,000 acres of habitat protected for the benefit of migratory birds and listed species. Decline in wetland habitat base will be arrested, to support stable waterfowl populations.	16,000 acres of habitat protected for benefit of migratory birds and listed species. Protection of connected lands facilitates restoration of habitat and potential for increased migratory bird populations.
Property Taxes	No change	No change due to conservation easements	No change on properties covered with conservation easements. In lieu of taxes paid on lands purchased in fee.
Land Ownership	No change	No change in fee ownership.	Small addition, not to exceed 2,000 acres of fee acquisition possible.
Wildlife Dependent Recreation	Anticipated habitat losses associated with lost hunting opportunities and reduction in local support for private duck clubs.	Conservation easements used to perpetuate private hunting clubs and wetland habitats they manage. Existing habitats continue to support migratory bird populations at current levels, thus maintaining existing wildlife dependent recreation opportunities.	Same benefits as Alternative 2 with potential to secure up to 2,000 acres of "key" habitat locations to avoid fragmentation.
Land Use Change	Continue to experience habitat losses and declining migratory bird populations.	14,000 acres of habitat protected from changes in land use resulting in stable habitat base.	16,000 acres of habitat protected from changes in land use resulting in stable habitat base.

Chapter 5 - Coordination, Consultation, and Compliance

5.1 Agency Coordination

The proposed creation of the Tulare Basin Wildlife Management Area has been discussed with landowners, conservation organizations; federal, state, and county governments; tribal representatives, and other local agencies, interested groups, and individuals. The Service has developed a strategic view of this proposal by incorporating the work of CVJV partners and integrating planning done by The Nature Conservancy, Ducks Unlimited, and various public agencies into this proposal.

The Service has invited and continues to encourage public participation through the public involvement program consisting of public notices, meetings with potential affected landowners, government agencies, and private organizations.

The EA will be available for a minimum 30-day public review and comment period from the date of release.

5.2 Environmental Review and Consultation

5.2.1 National Environmental Policy Act

As a federal agency, the Service must comply with provisions of the National Environmental Policy Act of 1969 (NEPA). An environmental analysis is required under NEPA to evaluate reasonable alternatives that will meet the stated objectives, and to assess the significance of possible environmental, social, and economic impacts to the human environment. The environmental assessment serves as the basis for determining whether implementation of the proposal would constitute a major federal action significantly affecting the quality of the human environment. The environmental assessment facilitates involvement of government agencies and the public in the decision making process.

5.2.2 National Historic Preservation Act

The Service has considered the potential effects of establishing the acquisition boundary for the Tulare Basin WMA on cultural resources of the area. Effects on archeological and historic resources from implementing the action alternative would not be expected to differ significantly from the “No Action” Alternative. A copy of the EA has been provided to the California State Historic Preservation Officer for review and comment. The Service will be required to complete additional compliance under the National Historic Preservation Act and other cultural resource preservation laws for any future restoration and management actions if the proposed WMA is established.

5.2.3 Endangered Species Act

The Service’s Division of Refuge Planning initiated an informal Intra-Service Section 7 Consultation, under the requirements of the Endangered Species Act for the proposed creation of the Tulare Basin WMA. It is anticipated that the Service’s Endangered Species Division will find that the proposed project (Alternative 3 the preferred alternative) is not likely to adversely affect federally listed species or critical habitat. The Service will be required to complete additional consultation under Section 7 of the Endangered Species Act for any restoration or management program that would be developed subsequent to creation of the WMA.

5.2.4 Other Federal Laws, Regulations, and Executive Orders

In undertaking the proposal, the Service would comply with the following federal laws, executive orders, and legislative acts: Floodplain Management (Executive Order 11988); Intergovernmental Review of Federal Programs (Executive Order 12372); Protection of Historical, Archaeological, and Scientific Properties (Executive Order 11593); Protection of Wetlands (Executive Order 11990); Management and General Public Use of the National Wildlife Refuge System (Executive Order 12996); Departmental Policy on Environmental Justice (Executive Order 12898); Hazardous Substances Determinations (Secretarial Order 3127); Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, as amended; Refuge Recreation Act, as amended; Refuge System Administration Act, as amended; and the National Wildlife Refuge Improvement Act.

5.2.5 Distribution and Availability

Copies, on compact computer disk, of this environmental assessment and land protection plan have been sent to federal and state legislative delegations, agencies, county and city governments, affected landowners, private groups, and other interested individuals (see Appendix C for distribution list). Copies of the draft and final documents will also be available at local libraries in and near the study area and will be made available to anyone who may wish to review them.

Additional copies of this document are available from the U.S. Fish and Wildlife Service, Kern National Wildlife Refuge, P. O. Box 670, Delano, California 93216 (telephone 661 725-2767); and the U.S. Fish and Wildlife Service, Division of Refuge Planning, 911 N.E. 11th Avenue, Portland, Oregon 97232-4181 (telephone 503-231-2231). This document is also available on our website at: <http://pacific.fws.gov/planning> please use "Tulare Basin" in the subject.

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