

ENVIRONMENTAL ASSESSMENT

**OPENING WATERFOWL HUNTING AND RECREATIONAL FISHING AT
CULLINAN RANCH UNIT AND DICKSON RANCH UNIT**

SAN PABLO BAY NATIONAL WILDLIFE REFUGE

September 2018

Prepared by
Melisa Amato, Wildlife Refuge Specialist
Don Brubaker, Refuge Manager

San Pablo Bay National Wildlife Refuge
U.S. Fish and Wildlife Service
2100 Sears Point Road
Sonoma, California 95476

Under the Authority of the
Fish and Wildlife Act of 1956
National Wildlife Refuge System Administration Act of 1966
National Wildlife Refuge System Improvement Act of 1997

TABLE OF CONTENTS

	<u>Page</u>
I. Chapter 1 – Purpose of and Need for Action	3
II. Chapter 2 – Alternatives Including the Proposed Action	5
III. Chapter 3 – Affected Environment	6
IV. Chapter 4 – Environmental Consequences	6
V. Chapter 5 – Consultation and Coordination with Others	8
VI. Chapter 6 – Conclusions and Recommendations	8
VII. Chapter 7 – References	9
Appendix A – Maps	10
Appendix B – Revised San Pablo Bay NWR Hunt Plan Amendment Sport Fishing Plan Amendment	Attached Attached
Appendix C – Response to Comments	Attached

Chapter I: PURPOSE OF AND NEED FOR ACTION

Introduction

San Pablo Bay National Wildlife Refuge (Refuge) is located in San Pablo Bay in northern California. The Refuge is composed of ten units, some of which are owned by the State of California but managed by the U.S. Fish and Wildlife Service (Service). The Refuge supports habitat for migratory birds on the Pacific Flyway and endangered species.

The recent tidal restoration of the Dickson Ranch and Cullinan Ranch Units has provided the opportunity for the Refuge to consider expanding two wildlife-dependent recreation activities: waterfowl hunting and sport fishing. The Service proposes to open both the Dickson Ranch and Cullinan Ranch Units to fishing and waterfowl hunting which would increase the acreage of the Refuge open to these recreational activities.

This Environmental Assessment (EA) was prepared to evaluate the effects associated with this proposal and complies with the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (40 CFR 1500-1509) and Department of the Interior (43 CFR part 46) regulations. In 2011, the Service prepared a final Comprehensive Conservation Plan and Environmental Assessment (CCP/EA) for the Refuge. The final CCP/EA is designed to guide the management of this Refuge over a 15-year period. Two of the public uses addressed in the CCP/EA are waterfowl hunting and fishing. As described above, the Service is now proposing to expand both waterfowl hunting and recreational fishing on the Refuge. This EA is tiered from the 2011 CCP/EA and focuses specifically on the proposed opening of the Dickson Ranch and Cullinan Ranch Units to waterfowl hunting and recreational fishing.

Purpose and Need for Action

The purpose and need for action is to provide additional areas for compatible wildlife-dependent waterfowl hunting and sport fishing in an area that has been hunted and fished historically and for which substantial demand exists.

The purpose and need for the proposed action is tied to the management direction adopted in the 2011 CCP. Waterfowl hunting and fishing are components of Refuge management as outlined in the 2011 CCP. The Refuge's hunting and fishing objective, as established in its 2011 CCP, is to expand outreach for the fishing and hunting programs within five years of completing the CCP. The strategies for implementing the hunting and fishing objective (CCP 2011, Chapter 5) are:

- Expand fishing areas to other units of the Refuge, designating specific access points such as Cullinan and including pier fishing at Guadalcanal once this unit is acquired.
- Assess opportunities to conduct a fishing day at Cullinan and at Guadalcanal once this unit is acquired.
- Create and distribute a public fact sheet on fishing.
- Construct boardwalk at Cullinan for pier-fishing access.

- Develop hunt program and revise existing 1986 hunt plan specifically for Refuge in cooperation with the California Department of Fish and Wildlife.
- Organize a hunter clean-up day, and provide an orientation day with Refuge law enforcement to provide hunting regulations and service opportunities.

Chapter II: ALTERNATIVES INCLUDING THE PROPOSED ACTION

Three alternatives have been considered for waterfowl hunting and fishing on the Cullinan Ranch and Dickson Ranch Units of the Refuge. The Alternatives are: 1) No Action which maintains the current no hunting or fishing status of the units, 2) Waterfowl Hunting Confined to Certain Areas and Fishing Allowed on all Areas (Proposed Action), and 3) Waterfowl Hunting and Fishing on All Areas of the Units.

Alternative 1:

No Waterfowl Hunting or Fishing in the Cullinan or Dickson Ranch Unit (No Action). Under this alternative, the Service would not open these units to waterfowl hunting and fishing. Approximately 8,000 acres of the Refuge (40%) would continue to be open to waterfowl hunting and fishing. As with the action alternatives, the Refuge would be closed to all other forms of hunting, target shooting, or training of dogs.

Alternative 2:

Waterfowl Hunting Allowed (with no hunting zones) and Fishing Allowed on the Cullinan Ranch and Dickson Ranch Units (Proposed Action). Under this alternative, both units would be open to hunting and fishing. The units would be open for hunting three days a week (Wednesday, Saturday, and Sunday) and they would be open for fishing seven days a week. There would be a 450-foot (150-yard) no hunting zone (retrieval zone) immediately adjacent to the public trails at the Dickson Ranch Unit in addition to a no-hunting zone in the northeastern portion of the unit (Figure 2). Likewise, there would be a 450-foot no hunting zone in Cullinan Ranch Unit immediately adjacent to the public trail and State Route 37 (Figure 3). There would be no restrictions on fishing the entirety of both units. Hunting and fishing would be allowed only from a boat with the exception of fishing along a 1,600 foot stretch of shoreline near the fishing pier on the west side of Cullinan Ranch Unit (Figure 3).

Under Alternative 2, the Service would open an additional 1,726 acres of the refuge to hunting and an additional 2,170 acres to fishing. On both of these units waterfowl hunting and recreational fishing would be conducted as described in the 2011 CCP. Specifically, shotguns may be used for waterfowl hunting. The use of retrieving dogs would be permitted and encouraged in all areas open to waterfowl hunting. Retrieving dogs would be required to be under control at all times and remain in a vehicle or on a leash until they are participating in the hunt. Line and pole rod and reel may be used for fishing; no bow or spear fishing would be allowed. No use of nets other than a dip-net to retrieve a hooked fish would be allowed. A Refuge Special Use Permit would not be required for hunting or fishing in this alternative.

Alternative 3:

Waterfowl Hunting and Fishing Allowed on the Cullinan Ranch and Dickson Ranch Units (without buffer zones). The difference between Alternatives 2 and 3 is that under Alternative 3, all areas of both units would be open to waterfowl hunting with no buffer zones adjacent to trails or roads. No buffer zones would exist adjacent to the trails or Highway 37 for waterfowl hunting (Figures 4 and 5), which would allow us to open a slightly larger acreage of the Refuge to waterfowl hunting than under Alternative 2. Eliminating the buffer zone would allow the Service to open an additional 444 acres of the refuge to waterfowl hunting for a total of 2,170 acres opened to waterfowl hunting on the Dickson Ranch and Cullinan Ranch Units. All other aspects of Alternative 3 are the same as Alternative 2.

Chapter III: AFFECTED ENVIRONMENT

The discussion of the affected environment focuses specifically on the Dickson Ranch and the Cullinan Ranch Units of the Refuge as it relates to opening these areas to hunting and fishing. For information related to the Refuge environment in general please see Chapter 3 of the Final Comprehensive Conservation Plan (CCP) for the San Pablo Bay National Wildlife Refuge (USFWS 2011).

Dickson Ranch Unit of Sears Point

Sears Point is a 2,327-acre parcel located between the Sonoma Baylands Unit and Tolay Creek in Sonoma County. The Dickson Ranch Unit is a 970-acre parcel of Sears Point located south of State Route 37 that is now tidal (Figure 2). Historically, the Dickson Ranch Unit was tidal marsh habitat before being diked and drained in the late 1800s to provide farmland for oat and hay.

The Dickson Ranch Unit was breached to the bay in October 2015 and was added to the refuge in May 2016. Currently, the Dickson Ranch Unit is shallow open water to mudflat depending on the tides. At a negative tide, the unit is predominantly mudflat and at a higher tide the water depth may be up to 5 feet deep in some areas. In general, water depths likely oscillate between 1 and 4 feet deep depending on the tide. Access for waterfowl hunting and fishing on the Dickson Ranch Unit would be through the levee breaches and from a non-motorized boat ramp on this unit. The tidal restoration included construction of a deeper channel that both increases tidal action through the site and facilitates navigation by boat. A non-motorized boat ramp was constructed on this unit to allow access onto the Refuge by canoes, kayaks, and other human-powered watercraft.

Cullinan Ranch Unit

The Cullinan Ranch Unit is a 1,575-acre parcel located in Solano and Napa Counties (Figure 3). South Slough and Dutchman Slough bound this unit from the north, while Highway 37 bounds it from the south. The unit is bound by Guadalcanal Village from the east and the California Department of Fish and Wildlife (CDFW) Pond 1 from the west. Historically, Cullinan Ranch was part of a network of tidal marshes and sloughs along the Napa River. The first permanent dikes were constructed in the early 1900s, and

more were added in the 1940s to prevent flooding and isolate the ranch as reclaimed wetland. Cullinan Ranch was farmed (primarily for oat and hay) into the 1980s. In January 2015 approximately 1,200 acres of the unit was breached to tidal waters. The remaining 375 acres (Cullinan East Unit) are still under construction. Currently, the Cullinan Ranch Unit is open water with varying depths depending on the tides. In general, water depths likely oscillate between 1 and 4 feet deep depending on the tide. The restoration project is designed so that daily tidal circulation will bring in sediment to raise the bottom elevation of the unit to create tidal marsh habitat. However, within 20-30 years, this area could convert to tidal marsh with little open water. In the meantime, approximately 1,100 acres of open water provides habitat for many species of waterfowl and shorebirds.

Waterfowl and Fish Species within these Units:

Although early in the restoration process, this unit already provides habitat for waterfowl species such as the Canada goose, canvasback, green-winged teal, northern pintail, and northern shoveler. Following the levee breaches in 2015, fish species within the Dickson Ranch Unit are likely similar to those found in the San Pablo Bay. The 2011 CCP (pages 38 – 43) describes the fish species that are common in the San Pablo Bay and that are likely to be common in the Dickson Ranch Unit. Fish habitat on the Refuge, including the newly restored Cullinan Ranch and Dickson Ranch Units, supports recreational sport fish such as the bat ray, California halibut, jacksmelt, shiner perch, silver surfperch, and striped bass.

Special Status Species within these Units:

Two wildlife species for which there is habitat within the Refuge are the Ridgway's rail and the salt marsh harvest mouse. Both of these species are residents of pickleweed-dominated salt marsh habitat in the San Pablo Bay. While pickleweed-dominated salt marsh habitat is found along the edges of the San Pablo Bay and sloughs, this type of habitat does not currently exist within either of these units. As noted in the 2011 CCP, the following special status fish species may be found within the Refuge: steelhead, chinook salmon, green sturgeon, and the Delta smelt. However, post-monitoring surveys conducted for restoration project have not detected these species on Refuge units (USFWS 2011).

Chapter IV: ENVIRONMENTAL CONSEQUENCES

The environmental effects of waterfowl hunting and sport fishing are discussed in the Environmental Assessment (EA) that accompanied the Final CCP in 2011 (USFWS 2011). As described in the 2011 EA, environmental effects of waterfowl hunting and sport fishing can range from damage to vegetation from public access, disturbance of waterfowl, and mortality of individual waterfowl and fish. The Service concluded that these effects were relatively limited and did not result in any population level impacts to either waterfowl or fish species. Because the Service previously assessed the environmental effects of hunting and fishing on the Refuge at a population level, the impact assessment of opening the Dickson Ranch and Cullinan Ranch Units focuses on whether any previously undisclosed impacts could occur.

Alternative 1:

No Waterfowl Hunting or Fishing in the Cullinan Ranch or Dickson Ranch Units (No Action). Under this alternative, the Cullinan Ranch and Dickson Ranch Units would remain closed to waterfowl hunting and recreational fishing. Waterfowl hunting and fishing would continue to be open on other units of the Refuge as described in the 2011 CCP/EA. All tidal areas in the Refuge (open bay and channels) would be open to recreational fishing seven days a week, only from a boat, and only up to the high water line. Under Alternative 1, waterfowl hunters and recreational fishermen may access the open waters and navigable sloughs from boat ramp facilities located in Vallejo and on the Petaluma River.

Waterfowl hunting would continue to be managed in accordance with hunting regulations set by the adaptive harvest management process. Recreational fishing limits would continue to be set by the CDFW. The environmental effects of Alternative 1 are those described under Alternative C in the 2011 CCP/EA.

Alternative 2:

Waterfowl Hunting Allowed (with no-hunting zones) and Fishing Allowed on the Cullinan Ranch and Dickson Ranch Units (Proposed Action).

Waterfowl Hunting

As described in the 2011 CCP/EA, the direct impacts related to waterfowl hunting consist of mortality, wounding, and disturbance. Disturbance can be both a direct and indirect impact to waterfowl. Opening the Dickson Ranch and Cullinan Ranch Units to waterfowl hunting would result in both direct and indirect impacts to waterfowl on these units. As on other areas of the Refuge hunting restrictions minimize indirect impacts from disturbance and both direct and indirect impacts to non-target species. First, waterfowl hunting may only be conducted on the Refuge by boat. This restriction reduces disturbance by limiting trespass into sensitive habitats. Hunters would only be allowed to access land and adjacent salt marsh vegetation in order to retrieve downed birds. Second, sanctuary and non-hunt areas are used to minimize disturbance to waterfowl populations and ensure their continued use of the Refuge. Under Alternative 2, approximately 49 percent of the Refuge would consist of sanctuary or non-hunt areas. Third, waterfowl hunting would only be allowed three days a week, which would minimize the duration for which individual birds would be harvested. Finally, waterfowl species are protected on the Refuge by both Federal and State laws and regulations to ensure that harvest rates do not negatively affect populations. To manage the waterfowl populations to support hunting, the Refuge adopts harvest regulations set by the State of California. To ensure that waterfowl populations are sustainable, the California Fish and Game Commission, in consultation with the CDFW, annually review the population censuses to establish season lengths and harvest levels [consistent with federal migratory bird regulations \(50 CFR Part 20\), which are set annually as part of the nationwide Adaptive Harvest Management program.](#)

Opening the Cullinan Ranch and Dickson Units to waterfowl hunting would make an additional nine percent of the Refuge available for hunting. While waterfowl hunting on these units will increase the number of individual animals removed it would not negatively affect waterfowl populations because the CDFW would continue to establish season lengths and harvest levels. As described in the hunting analysis completed for the 2011 CCP, waterfowl hunting is based on a thorough regulatory process that involves numerous sources of waterfowl population and harvest monitoring data. Refuge staff estimated that hunting on the Refuge likely represented a negligible amount of all the waterfowl harvests conducted in California. Opening an additional nine percent of the Refuge to hunting would not change this assessment. Waterfowl hunting would be permitted for three days each week following regulations, season, and bag limits set by the CDFW (See Hunt Plan for complete explanation of hunt program for this alternative).

Sport Fishing

Fishing would be allowed seven days each week in both units. Fishing would only be allowed from a boat except for the Cullinan Ranch Unit where fishing would be allowed from 1,600 feet of shoreline on the west side of the unit along with the newly constructed fishing pier. As described in the 2011 CCP/EA, while fish mortality will occur from this recreational use, the overall harvest levels are set by the CDFW and are low enough that population-level effects on fisheries is not expected. Opening both the Cullinan Ranch and Dickson Ranch Units to fishing would increase access to fishing on the refuge by approximately eleven percent. Additional fish mortality would be expected from opening both of these units. However, because the Service enforces the CDFW fishing regulations, there would not be any population level to fish species.

Special Status Species

Opening these units to waterfowl hunting and recreational fishing is unlikely to impact either the Ridgway's rail or the salt marsh harvest mouse. While the Ridgway rail resides year round in tidally inundated pickleweed dominated salt marsh areas there is currently no suitable habitat for this species within the proposed new hunt areas. Potential disturbance of rails that reside outside of the hunt areas would be minimal because hunting occurs in the fall outside of their breeding season. Recreational fishing would not impact the Ridgway rail because it is a quiet activity that is only allowed from a boat, and along 1,600 feet of shoreline and a designated pier at the Cullinan Ranch Unit.

Similarly, the proposed new hunting and fishing areas do not currently provide suitable habitat for the salt marsh harvest mouse. As salt marsh habitat develops in these units, potential impacts to these species would remain minimal because hunters are not allowed to hunt on foot. Hunters would only be allowed to access land and adjacent salt marsh vegetation in order to retrieve downed birds.

Although both units provide habitat for fish, sampling efforts have not detected any listed fish species (e.g. delta smelt, longfin smelt, salmonids) (FISHBIO 2017). Although increased fish mortality would be expected from opening these units, potential impacts to fish species at a population level would be minimal because the Service enforces the CDFW fishing regulations.

In summary, although this alternative would result in more areas of the Refuge open for waterfowl hunting and fishing than the No Action Alternative (Alternative 1), these recreational uses would continue to be managed as described in the 2011 CCP/EA which emphasizes maintaining sustainable populations.

Alternative 3:

Waterfowl Hunting and Fishing Allowed on all Areas of the Cullinan Ranch and Dickson Ranch Units

The impacts to waterfowl, recreational fisheries and special status species under Alternative 3 would be very similar to those described for Alternative 2. An additional 444 acres of the Refuge would be open to waterfowl hunting because under this alternative we would not maintain any no-hunt zones adjacent to Highway 37 or public trails. This would slightly reduce the sanctuary areas available to waterfowl and would increase the potential for user group conflicts during the hunting season. The public using the trails would be more likely to see hunters and hear gunshots from waterfowl hunting, which may cause the public to feel unsafe or reduce their enjoyment of adjacent trails.

Chapter V: CONSULTATION AND COORDINATION WITH OTHERS

Because of their expertise and/or experience in hunting, hunt programs, hunter/non-hunter conflicts, and/or protection of wildlife and habitat, the following parties were contacted regarding the Refuge's proposal to open waterfowl hunting and fishing in Cullinan and Dickson Ranch Units:

1. California Waterfowl Association
2. California Department of Fish and Wildlife
3. Ducks Unlimited
4. Sacramento National Wildlife Refuge
5. Local waterfowl hunters and anglers

This draft Environmental Assessment ~~will be made was~~ available to the public and interested agencies for review and comment from March 16, 2018 through April 16, 2018. Appendix C contains our responses to comments. We will consider substantive comments we receive prior to preparing the final documents.

Chapter VII: REFERENCES

FISHBIO and HELIX. 2017. Spring Sampling Summary, Sears Point Restoration Area Fish Habitat Surveys. Prepared by Dana Lee (FISHBIO) and Tom Keegan (HELIX). July 11, 2017.

U.S. Fish and Wildlife Service. 1988. Final Supplemental Environmental Impact Statement on Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds.

U.S. Fish and Wildlife Service and California Department of Fish and Game. 2008. Environmental Impact Statement/Environmental Impact Report for Cullinan Ranch Restoration Project, Solano and Napa Counties. Prepared by Ducks Unlimited, Inc., Rancho Cordova, California.

U.S. Fish and Wildlife Service. 2011. Final Comprehensive Conservation Plan and Environmental Assessment for the San Pablo Bay National Wildlife Refuge.

U.S. Fish and Wildlife Service and California Department of Fish and Game. 2012. Sears Point Wetland and Watershed Restoration Project Environmental Impact Report/Environmental Impact Statement. Final. April. Draft prepared with support of ICF Jones & Stokes. Sacramento, California. Final prepared with support of Ducks Unlimited, Inc., Rancho Cordova, California and GAIA Consulting, Inc., Napa, California.

Appendix A – Maps

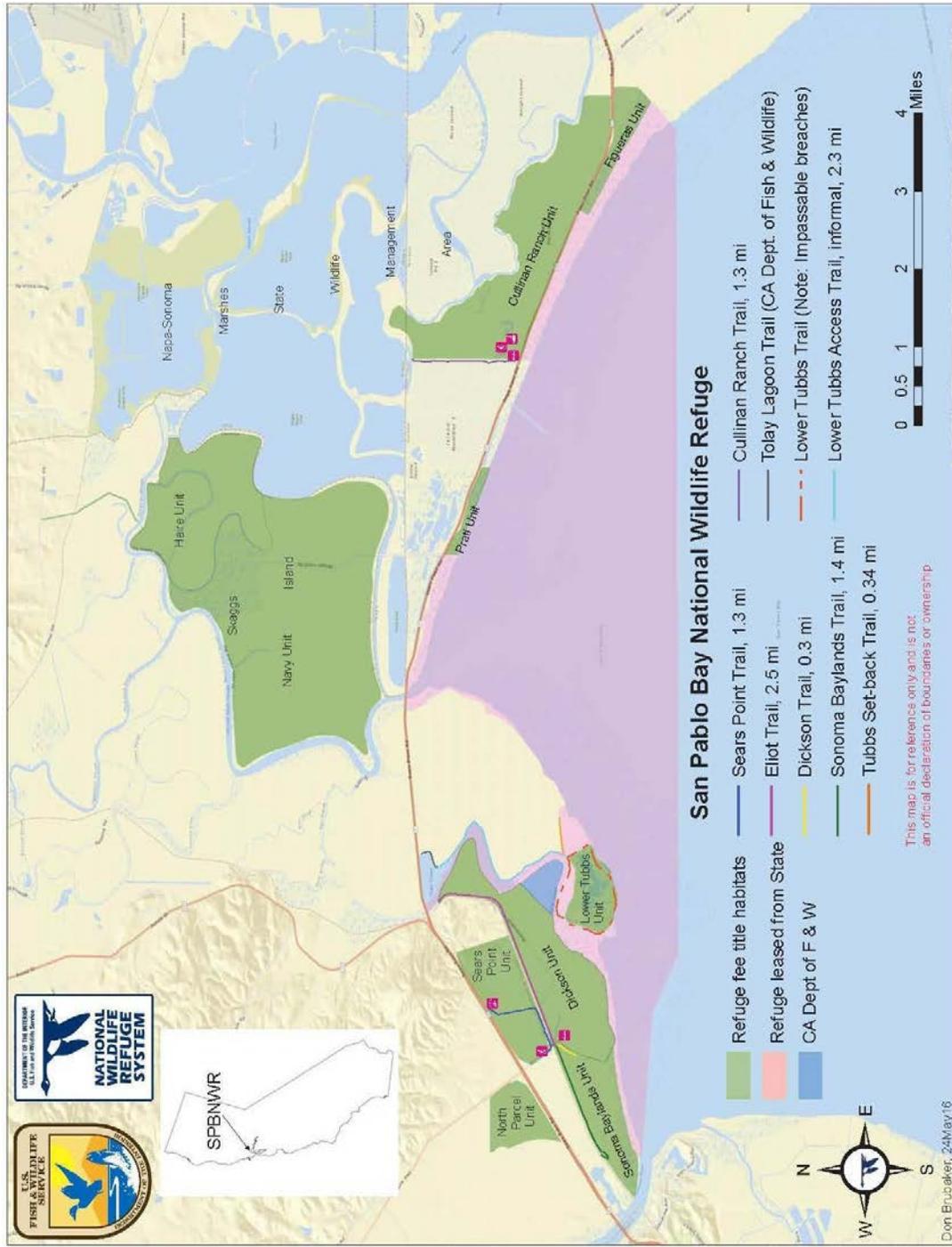


Figure 1. San Pablo Bay National Wildlife Refuge situated on the top end of San Pablo Bay. Opening both Cullinan Ranch Unit and Dickson Ranch Units to waterfowl hunting and recreational sport fishing are being propose. This would increase current waterfowl hunting opportunities by over 1,700 acres, and recreational sport fishing by over 2,100 acres. Hunting and Sport Fishing Environmental Assessment, San Pablo Bay NWR, March 2018.

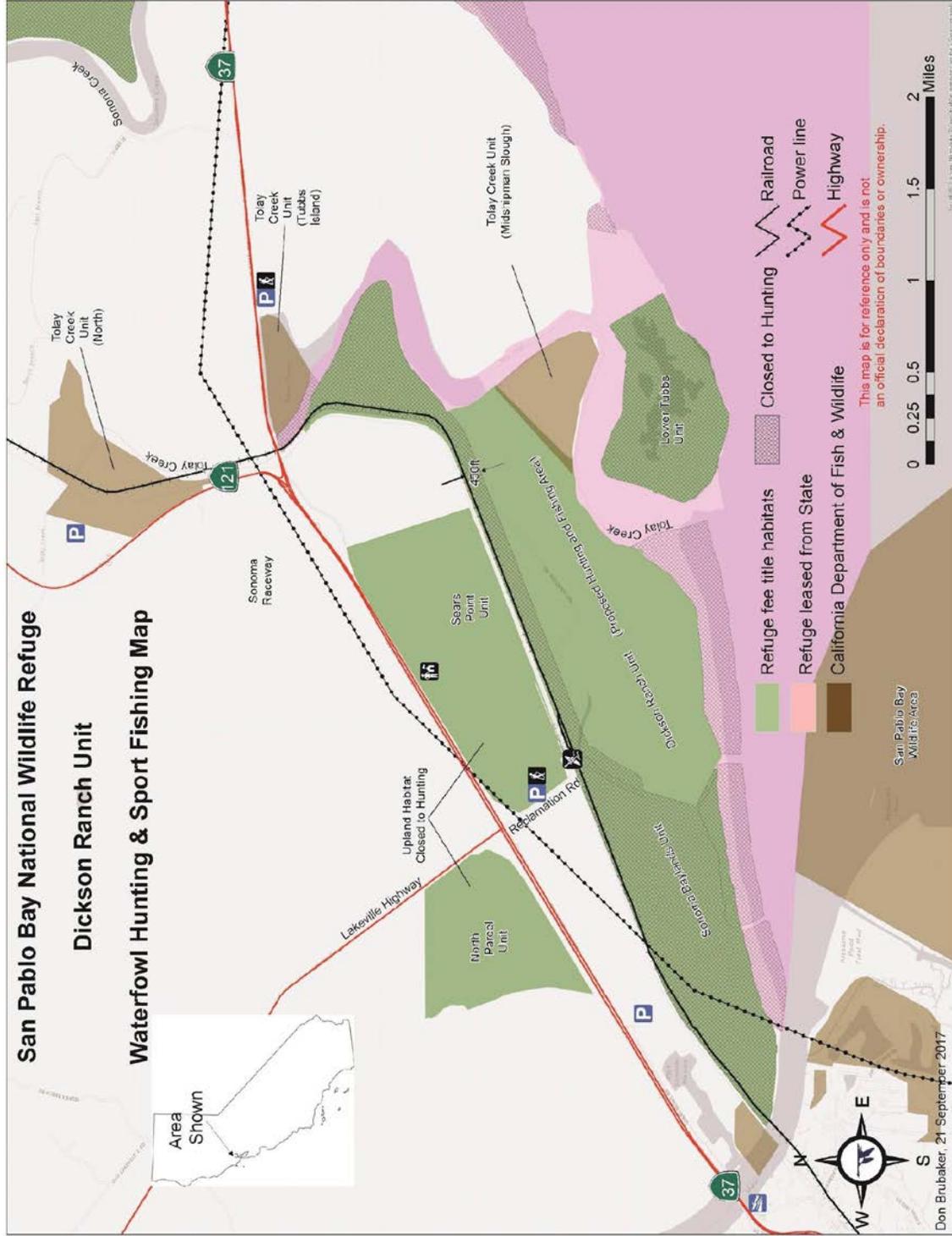


Figure 2. Portion of Dickson Ranch Unit of San Pablo Bay NWR proposed for opening to waterfowl hunting and sport fishing. Shaded areas closed to hunting, and subsequently close to fishing, are areas of salt marsh habitat that or future habitat. Hunting and Sport Fishing Environmental Assessment, San Pablo Bay NWR, March 2018.

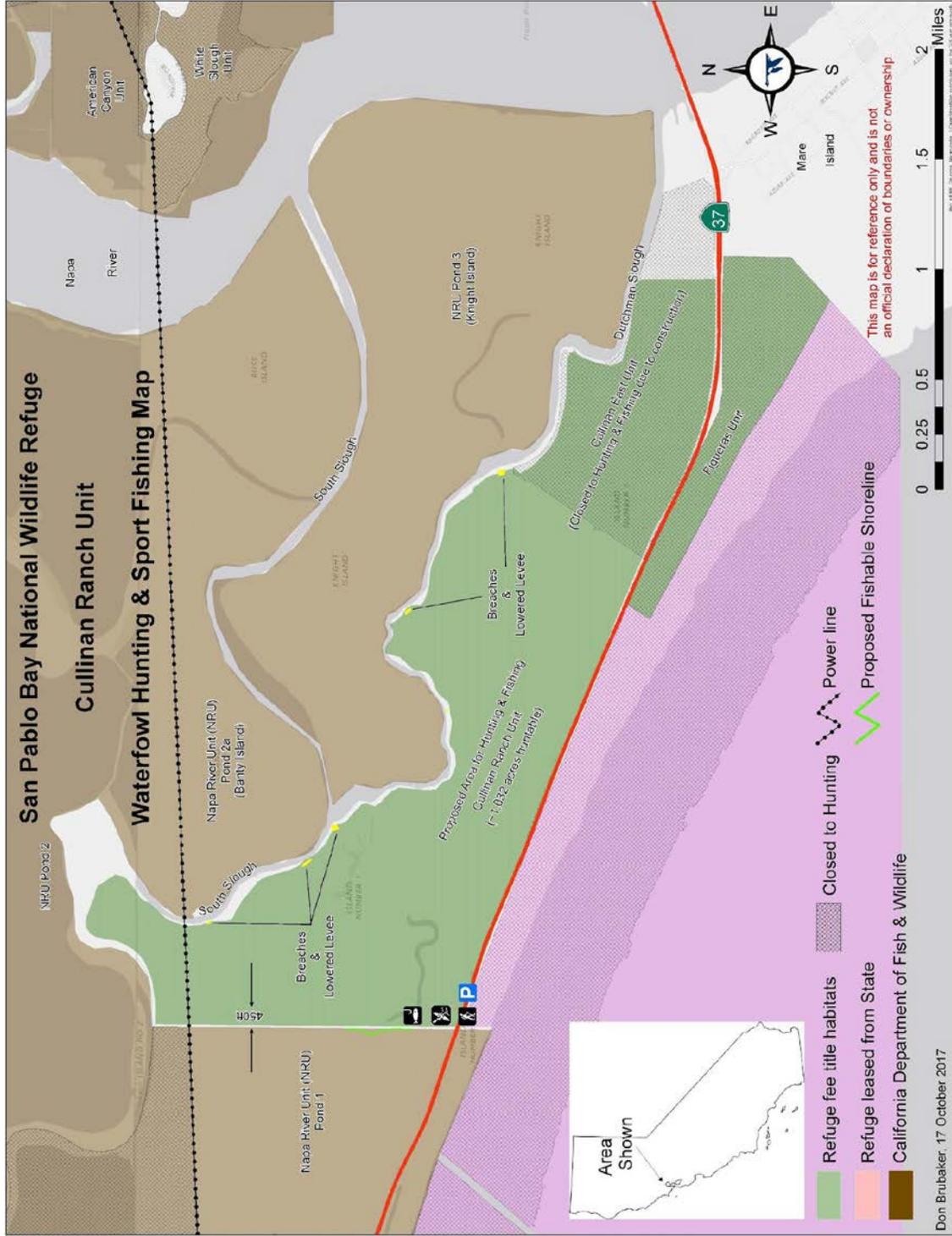


Figure 5. Alternative 3 would have no 450 foot 'no hunt zone' along the trails and State Route 37 on the Cullinan Ranch Unit. This would not be the preferred alternative as conflicts with other refuge users may arise along with complaints from concerned motorists. Shaded areas closed to hunting, and subsequently close to fishing, unless otherwise noted, are areas of salt marsh habitat that or future habitat. Hunting and Sport Fishing Environmental Assessment, San Pablo Bay NWR, March 2018.