

AMENDMENT TO REFUGE HUNTING PLAN FOR WATERFOWL
On 5,500 Acres of Former Commercial Salt Ponds

Don Edwards San Francisco Bay NWR
Alviso and Ravenswood Salt Ponds

October, 2004

I. INTRODUCTION

This Amendment to the Refuge Hunt Plan (Amendment) concerns the waterfowl (duck, goose, and coot) hunting program for the Alviso and Ravenswood Salt Ponds acquired in fee title by the United States Fish and Wildlife Service (Service) from Cargill, Inc. in March 2003. The approximately 5,500 acres of salt ponds are located in Alameda, Santa Clara and San Mateo Counties in the South San Francisco Bay, California (Figure 1). These lands are part of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge).

This acquisition included ponds in the Refuge's Alviso Unit, the Mowry Slough Unit and the Ravenswood Unit (also known as the West Bay Ponds). Specifically, the following ponds were acquired in fee title and are included in this Amendment: Alviso Unit ponds A1, A2W, AB1, A2E, AB2, A3N, A3W, A5, A7, A8N and A8S; Mowry Slough Unit ponds A22 and A23 (eastern portions only); and Ravenswood Unit ponds SF-2, R3, R4, R5 and RS5 (Figure 3). The lands covered in this Amendment are former commercially operated salt ponds surrounded by upland levees that were operated and maintained by Cargill Salt Division. Thin strips of tidal marsh occur along the base of the levees and in the slough channels between some of the levees (Permanente Creek, Stevens Creek, Guadalupe Slough, and Alviso Slough). Areas outside the levees (salt marshes) are generally not part of the purchased lands and are not subject to this Amendment.

The Refuge purchased 5,500 acres of Cargill land in fee title. Approximately 5,000 acres are pond area and approximately 500 acres are upland areas such as pond levees and small pieces of adjacent mudflats and creeks, which are not considered for inclusion in the Amendment.

A Hunt Plan for the previously acquired portions of the Refuge, including salt ponds for which the Service recently acquired salt-making rights, was completed in 1982. This Amendment amends the 1982 plan to include the new fee lands, but does not make additional changes. The existing 1982 Refuge Hunt Plan authorizes waterfowl hunting in many Refuge tidal marshes, tidal sloughs and certain commercial salt ponds in the Refuge's Mowry Slough Unit and Ravenswood Unit.

Existing Hunting on Refuge Lands

Under the existing Hunt Plan, approximately 7,663 acres (25%) of the Refuge (4,380 acres of commercial salt ponds, 2,622 acres of salt marshes and 661 acres of tidal sloughs) are currently available for waterfowl hunting (Figure 1) and 22,337 acres (75%) serve as sanctuary. The area

that is the subject of this Amendment would be in addition to this existing area.

Hunting pressure on existing refuge lands open to hunting has been estimated by refuge staff to include approximately 600 hunter days annually in the Ravenswood Unit (Ponds R1 & R2, Ravenswood Slough and tidal marshes outboard of the levees). This unit has both boat and walk in access. Refuge staff also estimate approximately 1,400 hunter days are annually experienced in the Mowry Slough Unit (Ponds M1, M2, M3, M4, M5, M6 and A19, and the adjacent tidal marshes and sloughs) (Figure 1) all of which are only accessible by boat. The vast majority of this hunting is done in the tidal sloughs and marshes rather than the Mowry Salt Ponds.

Hunters using boats to hunt the Refuge have had a limited number of access points for launching their boats. A boat ramp at Redwood City serves Bair Island, Greco Island and Ravenswood Slough, and is sometimes used by those hunting the east side of the Bay (both on and off Refuge lands) and other areas further south (both on and off Refuge lands), but this can be difficult when the weather is rough. Hunters use the Newark Slough boat ramp to access ponds and marshes on the east side of the Bay and some areas closer to the south end of the Bay. This boat ramp is only usable at high tides. Some hunters have used an informal ramp to Coyote Creek off Dixon Landing Road to access areas south of the Union Pacific Railroad Bridge at Drawbridge. However, recent road construction work has made this informal access point difficult to use. A few hunters have access to launch sites on private land or the South Bay Yacht Club docks into Alviso Slough, which provides the best access point for the adjacent sloughs and marshes. Santa Clara County has recently received funding and clearances to build a boat ramp on Alviso Slough. This ramp is expected to be built within 1 to 2 years: 2005-2006 (personal communication, Dangkhova Vo, Santa Clara County).

Previous Hunt Opportunities on the Acquired Lands

The following 3,328 acres of Alviso Ponds had been hunted historically under Cargill's ownership: A1, A2W, AB1, A2E, AB2, A3N, A3W, A5, A7, A8N and A8S. Ponds A22, A23, and the Ravenswood Ponds were not open to hunting under Cargill ownership (Figure 2)

Cargill's hunt program was operated through a system of private leases and subleases. Cargill leased each pond to an individual and that leaseholder generally subleased their pond to other hunters. The leaseholder was responsible for managing the hunt on his pond by controlling access, maintaining blinds, docks for boats, and assuring the earthen levee roads were not damaged by hunters trying to drive on them following rains. Hunters maintained duck blinds within the ponds and accessed the blinds by boat. When the pond depth was deep enough, boats with small motors were used to travel to the blinds. When the ponds were shallow, boats were rowed or even walked to the blinds. The boats were stored at the edges of the ponds at simple wooden docks. The docks were accessed via the salt pond earthen levees by motorized vehicles when the levees were dry enough to drive. Each sublease holder was given the combination to the Cargill locked gates which allowed the hunters to enter the levee road system while keeping all other members of the public out of these private ponds. Most ponds were open to hunting 7 days a week, though a few ponds were open only a few days a week based on the preference of the leaseholder.

In the 2002-2003 hunt season, 175 leaseholders and sublease holders used the 3,328 acres of salt ponds under the Cargill hunt program (Personal communication. Chuck Taylor, Cargill). Some ponds had as many as 30 hunters while others had as few as 5 hunters, with an average of 17.5 hunters per pond. Although no formal surveys were taken, Cargill staff estimate their ponds supported approximately 1,000 hunter days each year.

Urban Context of the Salt Ponds

The salt ponds are in a highly urbanized area with a population of approximately 3.5 million residents immediately surrounding the south bay ponds. An additional 4 million residents in the Bay Area are located in counties immediately to the north and many of these residents likely view some of the salt ponds during their daily commutes to and from work.

Ponds A1 and A2W are completely visible from the Bay Trail in the City of Mountain View Shoreline Park. Pond A1 is also visible from the Palo Alto Charleston Slough Trail and Pond A2W can be seen from the Stevens Creek Trail (Figure 3). Service vehicle access to Pond A1 is along the Bay Trail and Charleston Slough Trail in the Park. Access to Pond A2W is from the Stevens Creek Trail. Under Cargill ownership, hunters holding leases drove these public use trails to access the ponds. These trails are closed to all other motorized public vehicle use. The Bay Trail and Charleston Slough Trail are very popular with outdoor recreationists including walkers, hikers, bicyclist, joggers, nature photographers and birdwatchers. These trails are used by hundreds of visitors each day with heaviest visitation on good weather and weekend days. It is estimated that these trails receive 300,000 visitor days per year for an average of 600 per day (personal communication, City of Mountain staff). The same types of visitors but at a lower rate use the Stevens Creek Trail. Past hunting of waterfowl on these two ponds has been very controversial because some members of the public strongly objected to hunting in general and/or hunting in an area which is visible from a high use public area (personal communication, City of Mountain View staff).

Ponds AB1, A2E, AB2, A3N, and A3W are located on the Bay side of the NASA/Ames facilities at Moffett Field (Figure 3). These government facilities are quite large and have many employees and visitors. Despite the proximity to the NASA/Ames facilities, their area immediately adjacent to the salt ponds is open space and receives little public use. However, there is a strong local desire to extend the Bay Trail along the salt pond levees adjacent to Moffett in the near future. Ponds AB1 and A2E are bordered on one side by the Stevens Creek Trail (Figure 3). Pond A3W is visible from a short section of the Sunnyvale Treatment Plant public trail system (Figure 3). The Sunnyvale trail system has similar user groups to the Bay Trail and Charleston Slough Trail but receives fewer visitations than those trails. Authorized vehicle access to these ponds is along the Stevens Creek trail off Crittenden Lane (Figure 4) on the north and through the Sunnyvale Treatment Plant pond at Carl Road (Figure 5) and recreational trail on the south. Like the access to Ponds A1 and A2W, under Cargill ownership, hunters holding leases or subleases drove on the public use trails to access these ponds but the trails were closed to motorized vehicle use by the general public. Hunting of these ponds has been less controversial because they are viewed by fewer members of the non hunting public but hunter vehicle access through the treatment plant and trail system has not been popular (personal communication. City of Mountain View staff and City of Sunnyvale staff).

Ponds A5, A7 and A8N are, for the most part, not visible from public recreational trails. A portion of Pond A5 is visible from a short portion of one of the lesser used trails on the Sunnyvale Trail System. These ponds are accessible from Gold Street in Alviso through an easement on undeveloped property owned by Legacy, Inc. (Figure 6). The Refuge is not aware of public controversy related to hunting of these particular ponds.

Pond A22 is bordered on one side by a computer company business development (Lam Research). It is also visible from the Refuge's Warm Springs trail off Cushing Parkway in Fremont (Figure 3). This trail is used primarily by workers in the business development on work week days. Pond A23 is not visible by the public except passing trains using the Union Pacific tracks (Amtrak and Altamont Commuter Express trains). These ponds were not hunted in the past because waterfowl habitat was limited due to high salinity and low water levels.

Pond SF-2 is immediately adjacent to Highway 84, the congested highway approach to the Dumbarton Bridge, which is the southern most bridge crossing in the San Francisco Bay. A portion of Pond R-3 is adjacent to a computer company business development (Sun Micro Systems) and Bayfront Expressway, a congested feeder road between Highway 84 and Highway 101 (Figure 3). Ponds R4, R5, RS5 are adjacent to the Bayfront Expressway and visible from the Menlo Park Bayfront Park (Figure 2). Bayfront Park is used by walkers, joggers, and bicyclist and to a lesser extent, birdwatchers and photographers. It is less developed and receives less use than the recreational areas adjacent to the ponds in Palo Alto, Mountain View and Sunnyvale. These Ravenswood ponds have not been hunted in the past.

Anticipated Management of the Ponds During the Initial Stewardship Period

Under the Initial Stewardship Plan (ISP) (FWS 2004), the Refuge is changing the operation of the ponds from Cargill's past management. The ISP is covered in more detail in the ISP Environmental Impact Statement/Report at <www.southbayrestoration.org>. The ISP salinity reduction operations will continue during the development and implementation of the South Bay Salt Pond Restoration Plan (Plan), a long-term restoration plan for the salt ponds. Operations under the ISP are anticipated to last for 5 to 50 years, depending on the pond. Implementation of the Plan is expected to begin in 2008 and will continue in phases for 20 to 50 years. Once the Plan is completed, selected ponds will be converted to tidal marsh and all public use including waterfowl hunting would be reconsidered. Under the ISP, decisions on hunting were deferred until this Amendment could be developed. No hunting has been allowed during the development of the Amendment.

This Amendment opens 2,622 acres of salt ponds to waterfowl hunting by members of the public who obtain a Refuge Special Use Permit. The ponds would be open 3 days a week, with use of hunting blinds and dogs and both electric and non motorized boats.

Under Cargill management, public access to these commercial salt ponds was limited to the following: the Stevens Creek Trail (Figure 4) was open to the public along the west side levees of Ponds AB1 and A2E and specific ponds were open to waterfowl hunting by leaseholders and sublease holders only. Under the refuge's ISP, the Stevens Creek Trail along the west side of Ponds A2E and AB1 will remain open, and docent-led tours will be given throughout the year but

not on days open to hunting for sections where hunting is allowed. At the present time, these tours are done off the Refuge at a location overlooking the Ravenswood Ponds which would not be open to hunting under this plan amendment. Since over 2,000 acres of the recently purchased salt ponds would not be open to hunting and hunting is restricted to 3 days a week, the salt pond tours would have adequate locations and time to continue during the hunt season if the tours were expanded in the future. Outside of access along the Stevens Creek Trail and the docent-led tours, the ISP ponds are closed to the public. As the Plan is developed, conversion of selected ponds to tidal marsh and increasing public use would be considered. All public use including hunting would be reconsidered at this time. When the Refuge's Comprehensive Conservation Plan is completed, the Hunt Plan could also be amended.

Under commercial salt production, the Alviso Ponds had a 6-year average depth in the winter between 0.6 feet and 3.7 feet (Table 1). The Ravenswood Ponds had a 6-year average depth in the winter between 0.7 feet and 1.7 feet. The salinity range for the Alviso Ponds was between 11 parts per thousand (ppt) and 110 ppt. The Ravenswood Ponds had a salinity range between 35 ppt and 340 ppt (Table 1). The ponds nearest the intake structures (i.e., the water control structures that allowed water to enter the pond system from the Bay) had the lowest salinity (A1 ranged from 11 ppt to 42 ppt) while the ponds furthest from the intake structures had the highest salinity (A8N ranged from 31 ppt to 110 ppt). Ponds A22 and 23 were frequently dry and therefore, pond depth and salinity were not always recorded. The Ravenswood Ponds were far from a major intake and close to a plant site, and the resulting salinities were on average much higher than the Alviso Ponds.

Under the ISP, instead of Ponds A1 through A8N (Figure 1) being a continuous, connected line of ponds with Bay water entering A1 and continuing through A8N and beyond, the ponds will be broken into smaller units. Ponds A3N and A8N will be seasonal ponds with water depth dependent on rainfall. Ponds A1 and A2W will continue to be connected to each other but will be separated from the rest of the system with the intake in A1 and outlet to the Bay in A2W. These ponds will be managed with salinities similar to Bay waters as was the case under Cargill's management. They should continue to have high numbers of waterfowl.

Ponds AB1, A2E, AB2 and A3W (Figure 1) will continue to be connected to each other but will be separated from the rest of the system. There will be an intake from the Bay at Pond AB1 with an outlet to Guadalupe Slough at Pond A3W. These ponds will be operated at lower salinities than under Cargill's management. Because they will have lower salinities similar to the historic operation of Ponds A1 and A2W which historically received much higher use by waterfowl, Ponds AB1, A2E, AB2 and A3W are predicted to support higher numbers of waterfowl than under Cargill's management.

Ponds A5 and A7 will continue to be connected to each other but will be separated from the rest of the system. There will be an intake of water from Guadalupe Slough at A5 with an outlet to Alviso Slough at A7. Because they will have lower salinities, they are expected to receive more use by waterfowl and perhaps other birds than under Cargill's management.

Mowry Unit Ponds A22 and A23 will continue to be operated by Cargill for approximately six years while the extremely high salinities are lowered. Ravenswood Ponds SF-2, R3, R4, R5 and

RS5 will also continue to be operated by Cargill for up to 5 years while they lower the salinity of the ponds. Salinity levels will continue to decrease throughout this 5 year period.

In the ISP period, Cargill is obligated to operate and maintain the ISP ponds until the salinity of the ponds is lowered to meet the Regional Water Control Board's discharge standards (44 ppt) after which management responsibility is turned over to the Refuge (Phase Out Agreement 2003). Management of Ponds A1 – A17 (Figure 1) were turned over to the Refuge in 2004. Ponds A19-21 (Figure 1) are expected to be turned over to the Refuge in 2005 or 2006. Under the ISP, these three ponds will be restored to tidal action but hunting will continue to be prohibited per this Amendment. Management of Ponds A22-23, SF2, R3-S5 will be turned over to the Refuge in approximately 7 years at which time the long-term restoration plan will be complete.

II. CONFORMANCE WITH STATUTORY AUTHORITIES

Establishing and Acquisition Authorities:

PL 92-330, June 30, 1972, as amended by PL 100-556, October 28, 1988.

Refuge Purposes(s):

The purpose for which the refuge was established "... is for the preservation and enhancement of highly significant habitat ... for the protection of migratory waterfowl and other wildlife, including species known to be threatened with extinction, and to provide opportunity for wildlife oriented recreation and nature study..." (PL 92-330, June 30, 1972)

Hunting provides a wildlife-dependent recreational use, and has been identified in the National Wildlife Refuge Improvement Act of 1997 (P.L. 105-57) as a priority public use if determined to be compatible. Other priority public uses are fishing, wildlife observation, photography, environmental education, and environmental interpretation if determined to be compatible. As expressed priorities of the refuge system, these uses take precedence over other potential uses in refuge planning management. The Service strives to provide for the six priority public uses when they are compatible with the purposes of the Refuge. The Improvement Act also mandates that Refuges maintain biological integrity, diversity and environmental health.

Hunting of waterfowl would be permitted in accordance with State and Federal regulations and seasons.

III. STATEMENT OF OBJECTIVES

Refuge management objectives to meet the refuge purposes as expressed in the establishing authority are the following:

Objective 1. To restore and conserve wetland habitats of the refuge for migratory birds and other wildlife, including species known to be threatened with extinction.

Objective 2. To protect migratory birds and other wildlife on refuge lands, including species known to be threatened with extinction.

Objective 3. To protect, restore, and enhance habitat for a native diversity of species and habitats in the San Francisco Bay area.

Objective 4. To provide opportunities for high quality wildlife-oriented education and recreation within the highly urbanized San Francisco Bay area.

ASSESSMENT OF EFFECT OF HUNTING ON REFUGE OBJECTIVES

The ponds addressed in the Amendment are included in the South Bay Salt Pond Restoration Plan (Plan) which is under development. This restoration plan will determine future restoration of the ponds to a mix of tidal wetlands and managed ponds for migratory birds and endangered/threatened species. Hunting of selected ponds would not preclude implementation of any restoration alternative developed as a part of this plan. Hunting of the selected ponds would provide for a high quality wildlife-oriented recreational experience. Closing selected ponds would provide for high quality wildlife oriented education and non-hunting recreation. For example, hunting of selected ponds would allow continued high quality wildlife-oriented observation and education from adjacent non-Refuge lands (Ponds A1 & A2W) such as Shoreline Park at Mountain View and Stevens Creek Trail.

As a part of the Plan, hunting, wildlife-oriented education and other public uses would be determined if appropriate and compatible, changes would be made to the Hunt Plan to protect the diversity of migratory birds, other wildlife, endangered/threatened species, their habitat and non hunting wildlife-oriented recreational uses.

IV. ASSESSMENT OF RESOURCE

The San Francisco Bay including the Don Edwards San Francisco Bay NWR in the South Bay is a major wintering area for Pacific Flyway waterfowl. Substantial numbers of the Pacific Flyway scaup (70%), scoter (60%), canvasback (42%), and bufflehead (38%) are located in the San Francisco Bay/Delta. According to 1998 California Fish and Wildlife surveys, San Francisco Bay held the majority of California's 1999 wintering scaup (85%), scoter (89%), and canvasback (70%) populations. More than 56 percent of the State's 1999 wintering diving ducks were located in the San Francisco Bay proper, which includes the salt ponds and wetlands adjacent to the North and South Bays. Although the San Francisco Bay is most recognized for its importance to diving ducks, large numbers of dabbling ducks like pintail (23,500) and wigeon (14,000) were observed during the 1999 mid-winter waterfowl survey. (Restoring the Estuary, Implementation Strategy of the San Francisco Bay Joint Venture, 2001)

Biologists conducting annual mid-winter waterfowl surveys for San Francisco Bay have counted an average of 190,000 waterfowl per year (range: 89,638 to 347,889 between 1989 -2003). In the past 5 years, approximately half of the Bay Area ducks and geese were found in the South Bay (average 98,000 per year), and fifty-seven percent of the South Bay waterfowl were using the salt ponds versus the open bay (Table 2). These mid-winter surveys were conducted while many of the ponds were open to hunting under Cargill's hunting program or the Refuge's existing hunt program. These data are based on annual aerial surveys conducted during the first week of January for the past several decades.

Cargill managed these ponds with a major water intake structure at Pond A1 and smaller supplemental intake structures at Ponds AB1 and A9. The ponds nearest the intake structures had the lowest salinities and the highest densities of waterfowl: A1, A2W, A9 and A10 (See Table 3). Approximately 12 species of waterfowl were identified in the subject ponds during the mid-winter surveys with the most common species being American widgeon, pintail, northern shoveler, canvasback, ruddy duck and scaup. Coots were common or absent depending on the pond and year. Geese were not common on the ponds but are common to abundant in other habitats near the Refuge such as parks, golf courses and agricultural fields. The ponds are also used by other species of birds during the hunt season and various other times throughout the year including American white pelican, double crested cormorant, California gulls, eared grebes, and a variety of shorebirds such as American avocet, black-necked stilt, willet, and at high tides, western and least sandpipers.

The Federally listed endangered or threatened species known to use the affected salt ponds are California least terns in late summer and early fall prior to migration from their nesting grounds, Western snowy plovers which nest and winter on ponds which are mostly dry (Ponds A8S, A22, A23, SF-2, R3 and R4 have had nesting and wintering plovers at least one year out of the past five years) and rarely brown pelicans in the winter. (See Chapter 6 of this document: Measures Taken to Avoid Conflicts with other Management Objectives for more information on Threatened and Endangered Species as well as other wildlife).

The endangered California clapper rails are most sensitive to disturbance during their breeding season, February 1 through August 31st. The hunting season is outside the rails breeding season.

None of the habitat for the California clapper rail and the endangered salt marsh harvest mouse is found in the salt ponds that are the subject of this amended hunt plan. Strips of salt marsh are found on the outside of the salt pond levees, most of which are not owned by the Refuge. These areas are already open for waterfowl hunting. Ponds that have suitable salt marsh vegetation along their edges (AB1, AB2, and A3N) will be closed to walking hunters. Hunters would only be allowed to hunt from existing blinds on the interior of these ponds which would be accessed via boats that are moored at designated places within the ponds.

Waterfowl abundances are higher in the lower salinity ponds near the intake structures than to the higher salinity ponds further from the intake structures. For example, in the non-hunted Pond A9 to A17 system, the two ponds closest to a supplementary pond intake (A9 and A10) had 96% of the waterfowl in that system on surveys from 2000-2003, even though these two ponds comprised only 26% of the pond area in Ponds A9 to A17 (Table 3). This tendency held true for the ponds hunted under Cargill management: the two ponds closest to the major Bay water intake (Ponds A1 and A2W) had 46% of the ducks in the A1 to A8N pond system even though they had only 21% of the pond acreage of that pond system.

Under the ISP, more ponds will have Bay water intakes and therefore, lower salinities. It is expected that wintering waterfowl and certain species of other water birds (except species that prefer higher salinity ponds such as eared grebes and phalaropes) would favor these ponds. Of the ponds that will have lower salinity, Ponds A9, 10, 11, 14, 16 and 17 would not be hunted and would provide avian sanctuary. The South Bay Salt Pond Restoration Plan which is under development will result in the restoration of these ponds to a diversity of tidal wetlands and managed ponds. The Hunt Plan would be reevaluated as a part of this plan before ponds are opened to tidal action. It would also be reevaluated as a part of the Comprehensive Conservation Plan.

Additional information can be found in Chapter 2: Affected Environment and Chapter 4: Environmental Consequences of the Environmental Assessment.

V. DESCRIPTION OF HUNTING PROGRAM AS AMENDED TO INCLUDE FORMER COMMERCIAL SALT PONDS

A. Areas of Refuge Supporting Target Species

Waterfowl are supported on almost all aquatic areas of the Refuge. Specific species are more or less common depending on their habitat requirements. Diving ducks (i.e., canvasback, scaup, and scoter) are most common on the open bay. Dabbling ducks (American wigeon, northern shoveler, mallard, and northern pintail) are more common in the tidal wetlands and slough channels. Both types of ducks can be found on salt ponds depending on the depth and salinity level of the ponds. Lower salinity ponds have a higher density of ducks. Seasonal wetlands support dabbling ducks when precipitation is sufficient to provide proper habitat. Canada geese are uncommon on the Refuge but are common to abundant in nearby parks, lakes, and golf courses. Coots are uncommon on the Refuge but are common to abundant in nearby freshwater areas.

B. Areas To Be Opened To Public Hunting

Ponds AB1, A2E, AB2, A3N, A3W, A5, A7 and A8N would be open to waterfowl hunting three days a week for a total of approximately 2,622 acres. Ponds A1, A2W, A8S, A22, A23, R3, R4, R5, SF-2 and S5 would be closed to waterfowl hunting for a total of approximately 2,378 acres. The use of retrieving dogs would be permitted and encouraged in all areas open to waterfowl hunting. These dogs must be in a vehicle or on a leash until they are on the ponds as a part of the hunt or on the levees (Ponds A5, 7 and 8N only) as a part of the hunt. A Refuge Special Use Permit would be required for hunting of these ponds as well as use of small private boats on the ponds. These permits can be obtained through the mail or at the Refuge's Fremont Visitor Center and Alviso Environmental Education Center.

Ponds A5, A7 & A8N:

Waterfowl hunting of Salt Ponds A5, A7 and A8N would be permitted on Saturdays, Sundays and Wednesdays on a walk in basis. Hunters would be allowed to enter the pond system from Gold Street in Alviso. The Gold Street gate would be opened one hour before the start of shoot time and closed one hour after end of shoot time. Parking would be at the designated parking lot and along Gold Street. Hunters would be able to hunt from the levees and use small private boats to reach blinds in the ponds. These private boats would have been placed in the ponds before the hunting season, left in the ponds during the season and removed after the hunting season. The boats would be either non motorized or electric motors. The blinds could be maintained by private parties with Refuge Special Use Permits but must be open to all hunters on a first come, first use basis. No new blinds would be built.

Ponds AB1, A2E, AB2, A3N, and A3W:

Hunting in these ponds would be the same as described above for Ponds A5, A7, and A8N except access would be restricted to use of motor vehicles driven to the small private boats in the ponds and hunting would only be allowed from existing blinds in the ponds. Hunting would not be allowed from levees. Access to Ponds AB1 and A2E would be by motor vehicles from the end of

Crittenden Lane in Mountain View, across the bridge over Stevens Creek and along the East Levee to the boats moored on the Refuge ponds (Figure 4). Access to Pond A3W would be from the end of Carl Road in Sunnyvale to the Cargill levee road along the A3W/A4 channel to the boats moored on the Refuge pond (Figure 5). Access to Ponds AB2 and A3N would be by boat from AB1, A2E or A3W (Figure 3). Vehicle access would be restricted to those days that the levees are dry enough to be driven safely and prevent damage to the levees. If the access levees are too wet, the ponds would not be open to hunting.

Salt Ponds A1, A2W, A8S, A22, A23, R3, R4, R5, SF-2 and RS5:

The following ponds would be closed to public use: Salt Ponds A1, A2W, A8S, A22, A23, R3, R4, R5, SF-2 and RS5. Of these ponds, only A1 and A2W were open to hunting under Cargill ownership (Figure 2)

C. Species To Be Taken, Hunting Periods

The designated hunting areas would be open during established State waterfowl seasons. Traditionally, the hunting season in the Bay Area is open from mid to late October through mid to late January. In some years, the hunt season is reduced to be protective of certain species populations. All applicable State and Federal regulations would be enforced. Species hunted would be ducks, geese, and coots. Hunting would be permitted on Wednesdays, Saturdays, and Sundays. Hunting dogs would be allowed off leash and under voice control for the purpose of retrieving waterfowl from the ponds. Hunters would be required to keep firearms unloaded until they are within the designated hunt area.

Access to Refuge property would be open one hour prior to start of hunt time and one hour after end of hunt time each hunt day. However, in all cases, hunting would be permitted only during legal hunting hours (normal hunting hours are usually ½ hour before sunrise to sunset). The Refuge would remain closed to all other forms of hunting and target shooting.

These areas would be closely monitored to assess if further regulation may be warranted in the future. (See Section E for monitoring details)

D. Consultation and Coordination with State

Hunting would be permitted within the framework of applicable State and Federal regulations. Pre-season meetings between the Refuge and the state to review changes in the regulations and coordinate law enforcement patrol would take place annually. The Service has consulted with the Department of Fish and Game on this plan and will receive formal concurrence from the Department of Fish and Game on this Hunt Plan prior to implementation. The State would also be consulted if any changes are planned in the Refuge Hunting Plan.

When the Refuge obtained the subject salt ponds from Cargill, the California Department of Fish and Game (DFG) also became owners of the former Cargill ponds in the Baumberg Area on the east side of the South San Francisco Bay between the San Mateo Bridge and the Alameda Flood Control Channel. The Refuge has been actively coordinating with DFG on the planning of the

waterfowl hunting programs on both the State and Federal properties acquired from Cargill.

E. Methods of Control and Enforcement

The Refuge would maintain an active law enforcement presence by Refuge officers and would coordinate patrols with State game wardens when available to ensure compliance with hunting regulations. Patrols would be by boat and land based vehicles along the pond levees.

To allow walk in hunting of Ponds A5, A7 and A8N, the gates off Gold Street in Alviso would be opened by Refuge staff one hour before start of shoot time and closed one hour after end of shoot time on the three days of hunting each week. This would allow hunters to get in position for the first and last hours of legal hunting each day.

The Hunting Program would be monitored by taking information on number of hunters and harvest information conducted by Refuge law enforcement staff. Enforcement staff would also monitor for compliance with laws and regulations, and impacts to non-huntable wildlife. The Refuge managers would continue to be in contact with local governments adjacent to the proposed hunt areas to determine if there are any conflicts with existing users. The Refuge would continue to conduct snowy plover surveys and would close any ponds to hunting that contain this species. The Refuge would continue to inventory bird populations through USGS pond surveys and the mid-winter waterfowl surveys. This information would be compared to data from years with the Cargill hunt program and the recent years without hunting to determine if the implemented program is providing quality hunting opportunities for the public, causing conflict with other users and/or impacting bird populations or habitat. Adjustments to the hunt program would be made to correct unanticipated negative impacts.

F. Funding and Staffing Requirements

Approximately 80 staff days would be required to monitor and conduct the hunt program for the newly acquired salt ponds. This would include opening and closing the access gate to the ponds on each of the three hunt days each week during the season as well as law enforcement patrol. This would also include opening all the ponds two weekends before the opening of hunt season and two weekends after the closing of the season to allow hunters to place and retrieve small boats in the ponds and maintain blinds. It would also include sign posting and responding to public inquiries and requests for Special Use Permits. During the first year, the Refuge would establish areas in the ponds for boats to be moored by hunters. Small improvements may be made as necessary to the blinds. The California Waterfowl Association has agreed to partner with the Refuge to hold organized work parties to assist the Refuge in blind and boat dock maintenance at the ponds before each hunting season. The total cost of the program is expected to be \$28,000.00 per year. The initial setup in the first year for the hunt program is expected to cost an additional \$15,000.00. An annual fee would be charged for hunting on the ponds, use of existing hunt blinds and use of boats. Base funding is sufficient to cover costs beyond what would be collected for the permits. Use of the existing law enforcement staff for this expanded hunting area would result in less coverage of other areas of the Refuge. It is expected that the Refuge can accommodate this shift of the staff. However, adjustments to the hunt program would be made if this results in impacts to other parts of the Refuge or Refuge programs.

VI. MEASURES TAKEN TO AVOID CONFLICTS WITH OTHER MANAGEMENT OBJECTIVES

A. Biological Conflicts

Viable populations of fish and wildlife, including waterfowl, have been maintained in the South San Francisco Bay during the past decades under existing hunt programs on Refuge lands and on Cargill managed salt ponds. Due to the loss of private hunting leases, hunting levels are expected to be similar or less under the ISP than under the Cargill management. Therefore, it is expected that the viable populations of fish and wildlife on the Refuge and in the South San Francisco Bay would continue to be maintained under this Hunt Plan. More detailed information on environmental impacts can be found in the Environmental Assessment, Chapter 4, Environmental Consequences.

There would be no measurable effect on Flyway waterfowl populations. Because annual Pacific Flyway harvest regulations are designed to ensure that viable populations of waterfowl are sustained over the long term, this Amendment would not have any measurable impact on viable populations of waterfowl species as long as regulations are enforced on the Refuge. Wildlife populations would continue to be monitored under this Amendment.

Under Cargill ownership, the recently purchased ponds were generally hunted 7 days a week by 175 hunters who held Cargill hunting leases or subleases. Under this hunting pressure, the ducks continued to use the ponds as wintering habitat even though adjacent non hunted ponds and marshes were available for sanctuary (Table 3).

Under this Amendment, ample sanctuary for waterfowl would exist during the hunt season. More sanctuary for wildlife would exist under this plan than under the Cargill Hunt Program (Table 4). The subject ponds would only be hunted three days each week and two ponds (i.e., Ponds A1 and A2W) that were open to hunting under Cargill ownership would be closed to hunting. The nearby Refuge ponds that have been closed to hunting in the past would continue to be closed under this amended plan. The ponds that were closed to hunting under the Cargill ownership would continue to be closed under this plan. Therefore two more ponds would provide sanctuary for waterfowl than occurred under Cargill ownership which would be in addition to that which already exists on the Refuge under the current Refuge Hunt Program (Table 4).

In addition to the reduced pressure on waterfowl under the Refuge's Amendment, there would be less disturbance of non waterfowl species such as American white pelicans, double crested cormorants, eared grebes, willets, stilts, and avocets then under Cargill's Hunt Program.

To protect water quality on the ponds, hunters' boats would be either non motorized or electric motors. No gas powered motors would be allowed.

An informal Section 7 of the Endangered Species Act consultation is being conducted on this proposed amendment of the Refuge Hunt Plan. The consultation will be included in the final Environmental Assessment.

The following federally listed species are known to use salt pond habitat or adjacent salt marsh habitat in the South San Francisco Bay:

Endangered Species: California brown pelican (*Pelecanus occidentalis*): There are no roost sites or feeding areas for brown pelicans in the South Bay. Brown pelicans breed on the Channel Islands and south into Mexico. During the summer and fall there is a post-breeding dispersal up the Pacific Coast (Anderson and Gress 1983). Brown pelicans begin arriving in northern California in April or May, and numbers are highest in July through September following their breeding season. Pelicans roost in several sites in north and central San Francisco Bay, and on the Farallon Islands. They feed on small surface-schooling fish, primarily anchovy, in the Bay and coastal waters. Pelican numbers begin dropping in November, and the majority have retreated south by the end of December (Jaques-Strong 1994).

Brown pelicans are occasionally observed in South Bay salt ponds but they do not use salt ponds for any particular life history component, nor have they been documented to favor certain ponds over others. Brown pelicans have not been observed in salt ponds during the mid-winter waterfowl surveys that are conducted in early January or late December (Joelle Buffa, personal communication). United States Geological Survey (USGS) conducted waterfowl surveys of the newly acquired salt ponds during 2002 and 2003 (USGS Unpublished Data 2002-2203). The following table lists the USGS brown pelican observations during hunting season (late October through January) on the salt ponds proposed to be open to hunting under the Refuge Hunt Plan Amendment.

Table 1. Brown Pelican Observations on Ponds Proposed to be Open to Hunting under the Amendment

	AB1	A2E	AB2	A3N	A3W	A5	A7	A8N
2002	0	0	0	4 in Dec	1 in Oct 2 in Nov 5 in Dec	2 in Nov	0	0
2003	0	1 in Jan	1 in Jan	0	1 in Jan	0	0	0

Although sparse, these data demonstrate the intermittent manner in which brown pelicans use the salt ponds. While ponds A3N and A3W had a combined total of 12 observations in 2002, only 1 brown pelican was seen on these ponds in 2003. Additionally, during the 2002 observation period, the ponds were still open to hunting under Cargill’s more extensive hunt program. Although brown pelicans were observed on the ponds during hunt season that year, there are no reported cases of take of brown pelicans in these ponds under Cargill’s hunt program, nor on the Refuge’s ponds currently open to waterfowl hunting. Because of the pelicans obvious differences in size and shape, hunters are unlikely to confuse pelicans with legally hunted waterfowl.

No adverse impacts to brown pelicans are expected under this Hunt Plan Amendment. Hunting season does not coincide with seasonal peaks of pelican distribution in northern California. The

majority of pelicans have moved south to breeding areas by November and December. The closest Bay Area roost to the subject ponds is Breakwater Island in Alameda, over 20 miles north of the Dumbarton Bridge. Although the USGS data shows that some lingering brown pelicans from this roost may still be present during hunting season, there is ample comparable habitat in the South Bay for them to use, including tidal marsh, open bay, and adjacent non-disturbed ponds. Additionally, pelicans spend the night on their roosts and most hunting occurs in the early morning hours, which makes the chances of a pelican being in the vicinity of hunting activity even more unlikely. Therefore, the chance of a pelican landing in a pond during the period of time actually occupied by hunters is very small. The proposed hunting may affect individual pelicans but the brown pelican is not likely to be adversely effected.

Although no adverse impacts to brown pelicans are expected under this Hunt Plan Amendment, the slight chance that a brown pelican would be present or fly over one of the salt ponds proposed to be open to hunting does exist. In order to reduce to inconsequential any disturbance to brown pelican, and eliminate the potential for take on ponds open to hunting, law enforcement activity would be heightened during the waterfowl season. Additionally, the USGS surveys of the ponds will continue as part of the monitoring program for the ISP. These data will be assessed annually by the Refuge Manager. If brown pelican observations increase substantially on any of the ponds, the potential for disturbance will be re-evaluated and the hunting program modified to eliminate any negative impacts. USGS monitors will be put on “heightened awareness” during the hunting season and instructed to report any brown pelican disturbance to the Refuge Manager.

California clapper rail (*Rallus longirostris obsoletus*): The California clapper rail resides year round in tidally inundated pickleweed-dominated salt marsh habitat. The California clapper rail is generally found in the low- to mid- elevations of the marsh, and spends most of the time hiding within the vegetation (*Spartina* spp. and *Grindelia* spp.). Clapper rails are most sensitive to disturbance during their breeding season which is February 1 through August 31st. Since the hunting season does not overlap with clapper rail breeding season, no impacts to breeding rails are anticipated. Non-breeding rails will not be impacted either because no suitable salt marsh habitat is found within the salt ponds that are the subject of this alternative. Thin (< 5 feet wide) strips of salt marsh vegetation are found along the base of certain salt pond levees on the Refuge. Wider areas of salt marsh vegetation exist along the exterior side of levees that border the section of the following slough channels (Permanente Creek, Stevens Creek, Guadalupe Slough, and Alviso Slough) near the Bay. In order to avoid potential trampling of marsh habitat or disturbance by hunters or their dogs, hunters would only be allowed to hunt on foot along the levees of ponds that are not bordered with salt marsh vegetation. The pond levees that have suitable salt marsh vegetation along their edges (AB1, AB2, and A3N) will be closed to walking hunters. This would virtually eliminate disturbance by dogs as well, since hunting dogs are trained to remain with their owners or with sight control. Hunters would only be allowed to hunt from existing blinds on the interior of these ponds which would only be accessed via boats that are moored at designated places within the pond. There would be no effect on the rail.

California least tern (*Sterna antillarum browni*):

The California least tern does not currently breed on the Refuge. Individuals breeding at Alameda Point feed on open water areas of the Bay. The terns use the salt ponds on the Refuge during late summer and early fall prior to migration from their nesting grounds. The hunting

season typically opens in mid-October and ends in late-January. Terns are not present during the hunting season and therefore would not be affected by the proposed action.

Salt marsh harvest mouse (*Reithrodontomys reventris reventris*): The salt marsh harvest mouse is a year round, breeding resident of tidally inundated, pickleweed-dominated salt marsh habitat on the Refuge. Salt marsh harvest mice can survive in pickleweed-dominated areas at all elevations, including the margins, of the marsh. No suitable salt marsh habitat is found within the salt ponds that are the subject of this alternative. However, the thin (< 5 feet wide) strips of salt marsh vegetation that line the base of certain salt pond levees are considered suitable habitat for the salt marsh harvest mouse. Therefore, hunters would only be allowed to hunt by foot along the levees of ponds that are not bordered with salt marsh vegetation. Wider areas of salt marsh vegetation exist along the exterior side of levees that border the section of the following slough channels (Permanente Creek, Stevens Creek, Guadalupe Slough, and Alviso Slough) near the Bay. In order to avoid potential trampling of marsh habitat by hunters or their dogs, hunters would only be allowed to hunt on foot along the levees of ponds that are not bordered with salt marsh vegetation. The pond levees that have suitable salt marsh vegetation along their edges (AB1, AB2, and A3N) will be closed to walking hunters. Hunters would only be allowed to hunt from existing blinds on the interior of these ponds which would only be accessed via boats that are moored at designated places within the pond. There would be no effect on the salt marsh harvest mouse.

Threatened species:

Western snowy plover (*Charadrius alexandrinus nivosus*): Western snowy plovers nest and winter on salt ponds which are dry or have limited water confined to the dredge channels along the inside edges of the levees. None of the ponds that would be open to hunting under the proposed action have been used by plovers during the hunting season for the past five years. Ponds A22, A23, SF-2, R3 and R4 have had nesting and wintering plovers at least one year out of the past five years. Although ducks do not normally use these dry ponds, these five ponds would be closed to hunting in order to avoid any impact to nesting or wintering plovers.

Ponds A8N and A3N are operated as seasonal ponds and fill with rain water. Under normal rainfall years, these ponds fill with sufficient water so as to not be considered suitable habitat for snowy plovers. However, if an extremely dry year is encountered such that these two ponds are dry enough to become suitable plover habitat, they will be closed to hunting. No impact on snowy plovers is expected under the proposed action.

B. Public Use Conflicts

Conflicts with the public would likely be less than what occurred under Cargill's hunting program. The two ponds that were the biggest source of conflict, Ponds A1 and A2W, would be closed to hunting under this Amendment. These ponds are adjacent to and completely visible from high public use trails and parks in Palo Alto and Mountain View. Many of these trail users are pursuing other wildlife-oriented recreation activities, such as wildlife observation and photography. Complaints were regularly received about hunting on these two ponds during the past (personal communication, Cargill staff and City of Mountain View staff). In February, 2004, the Mountain View City Council took the position that "...hunting should be prohibited in Ponds

A1 and A2W". Although this source of conflict would be removed, some conflicts would likely continue to occur on other ponds that would be open to hunting. However, the number of conflicts is expected to decrease because ponds open to hunting are either less visible from public use trails or the trails are used less than the trails overlooking Ponds A1 and A2W.

Under the Cargill hunt program, hunters holding private leases accessed a number of ponds by driving on public access trails that are used by the non-hunting public. This caused conflicts with the public who were not allowed to drive these trails and who were trying to walk or bike along these paths. Because Ponds A5, 7 and 8N are accessed only by foot over levees that are not open to the public, this conflict would not occur (Figure 6).

Hunters' vehicle access to Pond A3W would cross about 200 yards of levee trail in Sunnyvale that is open to the public before it enters the closed portion of Cargill's property along the A3W/A4 channel (Figure 5). Trail users might object to private parties driving on the trail. However, it is likely that the non-hunting public would have an even stronger adverse reaction to seeing hunters with their firearms, dogs and ducks walking on the public trail. To reduce this conflict as much as possible and because the distance from the trail to Pond A3W is over one mile, it was decided that requiring vehicle access was the best alternative.

Hunters' vehicle access to Ponds A2E and AB1 would cross the pedestrian and authorized vehicle bridge over Stevens Creek and along one half mile of the Stevens Creek Trail (Figure 4). Like the access route to Pond A3W in Sunnyvale, it is likely that the non-hunting public would have a stronger adverse reaction to seeing hunters walking along the trail with their shotguns, dogs and ducks than seeing the hunters driving along the trail.

The ponds open to hunting would be closed to other public access except along the Stevens Creek trail on the west levee of Ponds AB1 and A2E (Figure 3). This trail is not as heavily used as the trails in Palo Alto and Mountain View and hunting on adjacent ponds has not generated conflicts with trail users (personal communication. City of Mountain View staff). The Refuge also provides scheduled docent-led tours of these ponds. Currently, these tours are only conducted off the Refuge on the Menlo Park Bayfront Park overlooking the Ravenswood Ponds (Figure 2). Since no hunting is proposed for these ponds, this Hunt Plan Amendment would not impact the tours. Since over 2,000 acres of the recently purchased salt ponds would not be open to hunting and hunting is restricted to 3 days a week, the salt pond tours would have adequate locations and time to continue during the hunt season if the tours were expanded in the future.

Except for allowing hunters' access to these ponds, Stevens Creek Trail and docent lead tours during the ISP and development of the South Bay Salt Pond Restoration Plan (plan), these ponds are closed to the public. The Plan being developed would include increased public access to these ponds. At that time, the hunting plan would be reevaluated based on these changes to public use and habitat type.

Hunters would only be allowed to hunt from established hunting blinds in the huntable ponds except Ponds A5, 7 and 8N where they would be able to hunt along the levees as well as the blinds. These three ponds are closed to the non-hunting public so no conflict is anticipated. The Stevens Creek Trail is on the levee forming the western side of Ponds A2E and AB1. Hunters would be restricted to hunting from established blinds. These blinds would be located sufficient

distance (300 feet) from the trail to provide for safety.

C. Administrative Conflict

The levees to be used for vehicle access to Ponds A2E, AB1 and A3W were constructed with bay muds that become extremely dangerous to drive upon and can be easily damaged after rains. Anyone driving on the earthen levee roads after rain could cause considerable damage. Under this Amendment, the hunters would not be allowed to drive their vehicles on the levee roads when they are wet enough to cause damage and be unsafe to drive. The ponds would be closed to hunting on these days.

The only walk-in access point that would be open to the hunting public would be Gold Street in Alviso: the access for Ponds A5, A7 and A8N (Figure 6). If the Refuge is able to obtain funding or volunteer cooperation, it is possible that the access road from Gold Street in Alviso could be upgraded to allow vehicle access by hunters to the junction of Pond A8N and A5 along the Guadalupe Slough. Until that time, it would remain a walk in access.

Reducing the number of hunting days per week from seven to three would also reduce the administrative burden on the Refuge because the gates would have to be opened on fewer days as well as it would provide more sanctuary for the hunted waterfowl.

Use of the existing law enforcement staff for this expanded hunting area would result in less coverage of other areas of the Refuge. It is expected that the Refuge can accommodate this shift of the staff. However, adjustments to the hunt program would be made if this results in impacts to other parts of the Refuge or Refuge programs.

VII. CONDUCT OF THE HUNT

A. Federal Register Special Regulations

The following special regulations are proposed to replace the existing special regulations for Hunting of Migratory Game Birds on the salt ponds at the Don Edwards San Francisco Bay NWR. Existing regulations for hunting of tidal areas are not modified and are not included below. The revised regulations will be noticed in the Federal Register and incorporated into 50 CFR 32.24, California Refuge-specific regulations.

50 CFR 32.24 California

DON EDWARDS SAN FRANCISCO BAY NATIONAL WILDLIFE REFUGE

A. Hunting of Migratory Game Birds. We allow hunting of geese, ducks, and coots on designated areas of the refuge in accordance with State regulations subject to the following conditions:

2. We allow hunting in the 17 salt evaporation ponds listed below. These ponds are surrounded by levees and were formerly part of the San Francisco Bay. We close all other salt ponds.

i. Ponds R1 and R2 in the Ravenswood Unit. These ponds are located on the west side of the Dumbarton Bridge between Ravenswood Slough and Highway 84. You may access these ponds by foot from either of two trailheads off Highway 84. We prohibit hunting within 300 feet (90 m) of Highway 84. These ponds will be open seven day a week.

ii. Ponds M1, M2, M3, M4, M5, M6, and A19 in the Mowry Slough Unit. These ponds are located on the east side of the Bay between Mowry Slough and Coyote Creek. You may access these ponds by boat only. You may land your boat at specific points on the Bay side of the levee as designated by refuge signs. We prohibit hunting within 300 feet (90 m) of the Union Pacific Railroad track. These ponds will be open seven days a week.

iii. Ponds AB1, A2E, AB2, A3N and A3W in the Alviso Unit. These ponds are located on the west side of the Bay between Stevens Creek and Guadalupe Slough. A Refuge Special Use Permit is required to be obtained from the Refuge to hunt these ponds. Motor vehicle access to Ponds AB1 and A2E will be from the Crittenden Lane Trailhead in Mountain View. Motor vehicle access to Ponds A3W will be from the Carl Road Trailhead in Sunnyvale. Access to Ponds A3N and AB2 is by boat from the other ponds. No foot access is allowed to these ponds. These ponds will be closed to hunting when the levee roads are too wet to be driven safely or would damage the levees. Hunting is only allowed from existing hunting blinds. We allow hunting only on Wednesdays, Saturdays and Sundays on these ponds.

iv. Ponds A5, A7 and A8N in the Alviso Unit. These ponds are located on the south end of the Bay between Guadalupe Slough and Alviso Slough. A Refuge Special Use Permit is required to be obtained from the Refuge to hunt these ponds. You may access these ponds by foot from the Gold Street gate in Alviso. Hunting is allowed from existing hunting blinds and by walking pond levees. We allow hunting only on Wednesdays, Saturdays and Sundays on these ponds.

3. During the two weekends before opening of the hunt season, you may bring a boat into Ponds AB1, A2E, AB2, A3N, A3W, A5, A7 and A8N and moor it at a designated site if you have a valid Refuge Special Use Permit. These boats will stay in the pond for during the season to be used to access the hunting blinds. You must remove this boat within two weeks following close of the hunt season. The boats will be either non motorized or electric motors. No gas powered motors are allowed.

4. You may maintain an existing blind in the ponds open to hunting if you have a valid Refuge Special Use Permit, but the blind will be open for general use on a first-come, first-served basis and no new blinds will be built. We prohibit pit blinds or digging into the levees.

5. You must remove all decoys and other personal property (except personal boats authorized

with a Special Use Permit) from the refuge at the end of each day's hunt. You must remove all trash, including shotshell hulls, when leaving hunting areas.

6. Hunters may enter closed areas of the refuge to retrieve downed birds, provided they leave all weapons in a legal hunting area. We encourage the use of retriever dogs. You must keep your dog(s) under control at all times. These dogs must be in a vehicle or on a leash until they are on the ponds as a part of the hunt or on the levees (Ponds R1, 2, A5, 7 and 8N only) as a part of the hunt.
7. You may possess only approved non-toxic shot while in the field.
8. You must keep firearms unloaded until you are within the designated hunt area.
9. We prohibit target practice on the refuge or any nonhunting discharge of firearms.

B. Anticipated Public Reaction To The Hunt

Most hunters would support the reopening of the subject ponds, which have been historically open to waterfowl hunting. Hunters who previously held private leases may object that the number of ponds has been reduced from what was open under the Cargill hunting program and the number of hunt days per week has been reduced from seven to three. They may also object to not being able to drive their personal vehicles to their moored boats in Ponds A5, 7 and 8N. Some of these hunters may object to having to share blinds on a first come first serve basis because, under the Cargill hunt program, they were their own private blinds that were not used by others. Other hunters would be pleased to learn of additional public hunting opportunities in the Bay area since these ponds are currently closed to all hunting and were only open to private hunting under Cargill management before spring of 2003. Some hunters would object to having to obtain a Refuge Special Use Permit, having to pay a fee to hunt these ponds, and/or having to use electric motors or non motorized boats instead of gas powered boat motors.

The non-hunting public may object to hunting on any ponds that are visible from public use areas. Anti-hunting individuals and organizations can be expected to voice their objection to any hunting on salt ponds. The non-hunting public may be pleased that two fewer ponds would be subject to hunting than were hunted before spring of 2003 under Cargill management. Some members of the public may object to hunters driving on sections of public trails that are otherwise only open to official vehicles. Others would be supportive of hunters using motorized vehicles to access these ponds since they would not have to see the hunters' guns, dogs and dead waterfowl.

Some members of the public may object to the ponds being opened to hunting but not other public uses. When the South Bay Salt Pond Restoration Plan is completed in 2007, other public uses may be allowed on some of the ponds which might require a revision of the hunt plan.

The City of Mountain View would support closing Ponds A1 and A2W, which they requested.

C. Hunter Applications Procedures

A Special Use Permit is required to hunt and to place a boat, maintain hunting blinds, and improve an existing hunting blind in Ponds A2E, AB1, A3N, A3W, A5, A7, and A8N. The Special Use Permit may be obtained in person during normal business hours from the Refuge Headquarters at 1 Marshland Road, Fremont, and the Refuge Environmental Education Center at 1751 Grand Avenue, Alviso. They may be obtained by mail at PO Box 524, Newark, CA 94560. All hunters who agree to abide by the permit conditions by signing the permit would be allowed to hunt. A fee would be charged to hunt the ponds each year.

D. Media Selection for Announcing and Publicizing the Hunt

The Refuge would publicize the hunt through a press release to the local media outlets as well as to the state hunting organizations.

E. Hunter Requirements

Hunters must comply with all State and Federal regulations including the Refuge specific regulations listed under 50 CFR 32.24. Dogs are encouraged for hunting on the Refuge. Motorized vehicles, boats, electric motors, use of blinds are allowed per Section V11. A above. A California hunting license with a hunter education stamp and federal and state duck stamps are required. The Harvest Information Program Survey must be completed which are available where hunting licenses are sold. Only nontoxic shot approved by the U.S. Fish and Wildlife Service can be used.

Table 1. Pond Elevations under Existing and ISP Conditions and Salinity under Existing Conditions

Pond	Pond Area (Acres)	Pond Bottom Elevation NGVD	Existing Average (Year Round) Depth (ft)	Salinity Range (ppt)	Summer					Winter				
					Existing			ISP Avg Water Depth (ft)	Change (ISP-Avg) (ft)	Existing			ISP Avg Water Depth (ft)	Change (ISP-Avg) (ft)
					6-year Average Depth (ft)	Depth Range				6-year Average Depth (ft)	Depth Range			
		Min (ft)	Max (ft)			Min (ft)	Max (ft)							
Alviso Ponds														
A1	277	-1.8	1.8	11-42	1.8	1.3	2.5	1.4	-0.4	1.8	1.4	2.8	1.7	-0.2
A2W	429	-2.4	1.8	15-43	1.8	1.1	2.6	1.9	0.2	1.8	1.3	2.8	2.2	0.4
B1	142	-0.8	1.5	13-41	1.4	0.7	2.2	1.2	-0.1	1.6	1.0	2.4	1.7	0.0
B2	170	-0.6	1.3	13-43	1.2	0.5	2.0	1.0	-0.1	1.4	0.8	2.2	1.5	0.0
A2E	310	-3.1	1.9	18-43	2.0	1.1	2.7	2.6	0.7	1.9	1.3	2.8	3.1	1.2
A3N	163	-1.4	0.6	16-41	0.8	0.0	1.2	B/S		0.6	-0.1	1.3	B/S	
A3W	560	-3.2	1.9	23-44	1.9	1.1	2.6	1.8	-0.1	2.0	1.3	2.9	2.1	0.2
A5	615	-0.6	0.7	28-60	0.7	0.2	1.1	1.0	0.3	0.8	0.1	1.2	1.2	0.4
A7	256	-0.5	0.6	28-75	0.5	0.0	0.9	0.9	0.4	0.7	-0.1	1.1	1.1	0.5
A8	406	-3.4	1.6	31-110	1.4	0.6	2.2	B/S		1.8	1.2	3.3	B/S	
A9	385	-0.2	4.1	11-38	4.1	3.5	4.7	2.2	-1.9	4.1	3.2	5.1	1.7	-2.3
A10	249	-0.8	3.3	17-45	3.3	2.8	4.0	2.6	-0.7	3.4	2.6	4.5	2.3	-1.1
A11	263	-1.8	3.5	28-69	3.3	2.5	4.3	3.1	-0.1	3.6	2.9	4.6	3.2	-0.4
A14	341	0.0	1.4	48-135	0.8	0.1	2.0	0.9	0.1	1.5	0.5	2.5	1.3	-0.3
A12	309	-2	3.4	35-66	3.1	2.3	4.2	B		3.7	2.5	4.6	B	
A13	269	-1.1	2.3	38-77	2.0	1.2	3.2	B		2.7	1.6	3.6	B	
A15	249	0.7	2.2	40-111	2.1	0.8	2.7	B		2.3	1.6	3.0	B	
A17	131	1.1	1.6	45-137	1.4	0.6	2.5	1.2	-0.3	1.8	1.3	2.7	1.1	-0.7
A16	243	0.6	2.1	43-122	1.9	1.0	2.8	1.7	-0.2	2.3	1.7	3.2	1.6	-0.7
A19	265	1.8	2.0	79-290	2.0	-0.2	2.9	T		2.1	1.1	3.0	T	
A20	63	1.8	1.9	87-289	1.7	0.4	2.6	T		2.0	1.2	3.1	T	
A21	147	2.31	1.2	87-304	1.0	-0.1	2.0	T		1.5	0.5	2.5	T	

Notes: S = Seasonal Pond
 B = Batch Pond
 T = Tidal Pond

Table 1. Pond Elevations under Existing and ISP Conditions and Salinity under Existing Conditions (Concluded)

Pond	Pond Area (Acres)	Pond Bottom Elevation NGVD	Existing Average (Year Round) Depth (ft)	Existing Salinity Range (ppt)	Summer					Winter				
					Existing			ISP Avg Water Depth (ft)	Change (ISP-Avg) (ft)	Existing			ISP Avg Water Depth (ft)	Change (ISP-Avg) (ft)
					6-year Average Depth (ft)	Depth Range				6-year Average Depth (ft)	Depth Range			
						Min (ft)	Max (ft)				Min (ft)	Max (ft)		
Ravenswood Ponds														
1	445	2.1	0.5	35-326	0.4	-2.0	2.9	0.9	0.5	0.8	-2.0	3.1	1.0	0.2
2	145	2.0	1.6	64-306	1.4	0.1	2.9	0.8	-0.6	1.7	0.2	3.4	0.9	-0.8
3	273	2.2	1.2	145-320	0.9	-0.4	2.4	0.8	-0.1	1.6	-0.4	2.7	0.9	-0.8
4	297	2.8	0.4	88-341	0.0	-1.8	1.5	0.7	0.6	0.7	-1.8	2.0	0.7	0.0
5	31	2.5	0.6	96-340	0.3	-1.6	1.7	1.0	0.7	1.0	-1.6	2.2	1.0	0.0
S5	29	2.5	-2.5					1.2					1.2	
SF2	242	2.6	1.0	76-316	1.0	0.3	2.1	0.7	-0.3	1.0	0.2	2.2	0.8	-0.2

Notes: S = Seasonal Pond
B = Batch Pond

Year	San Francisco Bay (Total)	South Bay (Total)	South Bay – Salt Ponds	South Bay– Open Bay
1989	186,097	98,294	74,921	23,373
1990	252,276	75,290	45,506	29,784
1991	164,155	69,312	45,765	23,547
1992	229,907	76,510	31,762	44,748
1993	117,947	66,079	29,701	36,378
1994	191,887	72,234	33,463	38,771
1995	89,638	32,653	28,510	4,143
1996	Data not available			
1997	114,335	36,347	15,008	21,339
1998	207,884	109,207	50,685	58,522
1999	262,170	57,977	31,797	26,180
2000	169,950	86,378	47,709	38,669
2001	347,889	189,618	71,183	118,435
2002	175,292	85,405	68,176	17,229
2003	143,600	74,959	61,851	13,108

Table 3. Waterfowl Counted on Alviso Ponds During 2000 - 2003 Mid Winter Waterfowl Surveys

Pond No.	Acres	YEAR OF SURVEY				Average	Average/acre
		2000	2001	2002	2003		
<u>Alviso Ponds with Previous Hunting Leases</u>							
A1	277	844	2643	78	6581	2537	9.2
A2W	429	1829	4273	2674	1748	2631	6.1
A2E	310	560	1889	3390	806	1661	5.4
AB1	142	40	1000	540	2738	1080	7.6
AB2	170	206	1450	730	634	755	4.4
A3N	163	0	285	244	1201	433	2.7
A3W	560	2265	1269	4051	1386	2243	4.0
A5	615	19	250	122	79	118	0.2
A7	256	6	20	2	200	57	0.2
A8	406	37	0	65	113	54	0.1
Subtotal	3328	5806	13079	11896	15486	11567	3.5
<u>Alviso Ponds without Hunting</u>							
A9	385	7342	14506	4850	8620	8830	22.9
A10	249	3972	7265	1140	3673	4013	16.1
A11	263	0	88	372	230	173	0.7
A12	309	0	41	20	0	15	0.0
A13	269	2	19	10	0	8	0.0
A14	341	0	185	121	55	90	0.3
A15	249	29	65	357	0	113	0.5
A16	243	14	0	0	1	4	0.0
A17	131	5	56	19	13	23	0.2
Subtotal	2439	11364	22225	6889	12592	13268	5.4
Total	5767	17170	35304	18785	28078	24834	4.3

Table 4: Comparison of Refuge Amended Hunt Program with Hunting Program under Cargill Ownership

Acreeage of Pond Area Open to Hunting*

Cargill	3,328 acres of 5,500 acres of ponds sold to Refuge (Refuge had additional 7,663 acres open to hunting)
Refuge	2,622 acres of 5,500 acres of ponds sold to Refuge (Refuge total would be 10,285 acres)

* Refuge purchased 5,500 acres of Cargill land in fee title. Approximately 5,000 acres are pond area and approximately 500 acres are upland areas such as pond levees and small pieces of adjacent mudflats and creeks, which were not considered for inclusion in the hunt program.

Days per Week Ponds Would Be Open to Hunting

Cargill	Some ponds open 7 days a week, some open 3 days a week
Refuge	3 days per week (other parts of Refuge open 7 days a week)

Hunters Legally Able to Hunt on Ponds

Cargill	Only hunters with valid state license, duck stamps and Cargill leases or subleases (175 hunters/year)
Refuge	All hunters with valid state license, duck stamps and Refuge Special Use Permit

Method of Access to Ponds by Hunters

Cargill	Drive private vehicles to ponds
Refuge	Some ponds accessed by private vehicles, some accessed by foot,

Able to Use Hunting Blinds on Ponds and Small Private Boats to Access these Blinds

Cargill	Yes, use existing blinds, use motorized (gas & electric) and non-motorized boats to access blinds in ponds
Refuge	Yes, use existing blinds, use boats which must be non motorized or electric motor; no gas powered motors

Number of Ponds Open to Hunting with Low Salinity Attractive to Waterfowl

Cargill	2 ponds
Refuge	8 ponds**

** More ponds will have lower salinity under the water management proposed by the Refuge than occurred under Cargill management. (See Section titled: "Anticipated Management of the Ponds During the Initial Stewardship Period".

Acreeage of Sanctuary for Wildlife in Refuge

Cargill	17,509 acres (includes 2,172 acres of 5,500 acres of lands that were owned by Cargill that were not open to hunting)
Refuge	19,715 acres because 2,622 acres of 5,500 acres would be hunted