



**DEPARTMENT OF THE NAVY**  
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N00221\_004183  
MARE ISLAND  
SSIC NO. 5090.3.A

IN REPLY REFER TO:  
5090  
Ser 120/100  
12 Jun 1998

From: Supervisor of Shipbuilding, Conversion and Repair, USN, Portsmouth, VA  
Director, SSPTS Environmental Detachment, Vallejo, CA  
To: Commanding Officer, Engineering Field Activity, West (6322)

Subj: DRAFT OFFSHORE ECOLOGICAL RISK ASSESSMENT AT MARE ISLAND.

Encl: (1) Comments to the Draft Offshore Ecological Risk Assessment.

1. Attached are comments to the Draft Offshore Ecological Risk Assessment made by the SSPTS Environmental Detachment, Vallejo, CA.
2. The SSPTS Environmental Detachment, Vallejo, point of contact regarding this submittal is Mr. Wallace NeVille, Code 120 , at Commercial 707 562-3229 or facsimile 707 562-3210.

  
R. K. PIEPER  
By direction

Copy to:  
EFA WEST (Code 6321 Pender)

bcc: (w/o encl.)

Originator: W. NeVille, Code 120, ext. 556-3229

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To: EFA West

Sub: Comments to the Draft Offshore Areas Ecological Risk Assessment, Mare Island

1. Page xii Acronyms SSPORTS should be 'Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth VA, Environmental Detachment, Vallejo'
2. Page ES 2, Para 3, line 8: recommend for consistency, use 'reference location' vs 'reference island'
3. Page ES 2, Para 3, line 10: Typo use 'areas' instead of 'areass'
4. Page 2-5/2-6: 1st para in section 2.2.4. referring to the fleet reserve piers is nearly identical to the 1st para in section 2.2.6. referring to Berths 1 and 2. Recommend changing description in 2.2.6 to match existing conditions at the "Berths 1 and 2" area. The following is a history of Berths 1 and 2 based on a survey of Shipyard maps. Between 1938 and 1940 the berths along the quaywall were changed from alpha identifiers to numeric identifiers. Sometime shortly after 1940 Berth 1 was combined with Berth 2 and no longer exists on any current shipyard maps. I recommend that any references to Berth 1 be eliminated from this ERA. There was, however, a freight pier shown on the shipyard maps of the 1940's and early 1950's. This pier was south of the causeway, approximately parallel to Berths 2 and 3, and joined the shipyard at about the same spot as the causeway does. This pier had a railroad spur on it and ships could moor on either side. The mooring points were identified as 1W(west) and 1E(east) which is probably why Berth 1 was eliminated. This freight pier (constructed of timber) does not show up on maps after 1956. It appears have been demolished in 1954. If you think this is important I could do some additional research on this area.
5. Page 2-6, para 2.2.7: This paragraph refers to "light repairs" which should be changed. Ships were moved to the Berths after coming out of the drydocks during overhaul, or the building ways after initial construction. All of the work required for completion was accomplished at these berths. Ships remained at the berths for more than a year and a significant amount of work was accomplished on each vessel. Suggested change, "mooring ships for completion which involved significant amounts of work."
6. Page 2-12, Para 2, line 5: The word shallow is repeated
7. Page 7-14, Sect 7.3.3, line 2: "cooccurred" should be "co-occurred".
8. Page 8-2, Sect 8.1, line 1: The Section 2.5 referred to does not exist.  
line 9: Figure 3-1 referred to should be Figure 3.2
9. Page 8-3, 2nd line from top: Figure 3.1 here should also be Figure 3.2

10. Page 8-5, Section 8.2.2.1, line 6 from the top: this section refers to the tidal channel allowing water to flow into “a limited area of dredge ponds 8 and 9.” Recommend eliminating the words “a limited area of” and then correcting Figure 3-1 to show that the tidal channel feeds all four ponds in that system. The 2 eastern ponds in fact have the most open water and are affected more by the rain runoff than are the 2 western ponds. Pesticides, herbicides, fertilizers, and silt wash into these ponds from a very large portion (over 60%) of the golf course and the uplands.

11. Attached are corrections and suggested changes to Table 3-5.

Birds that do not breed in California should not be called California Natives. These species are noted with an \* in the attached Table 3-5.

**TABLE 3-4**  
**LIST OF POTENTIAL FISH SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

References:

- Naval Facilities Engineering Command, Western Division (WESTDIV) 1986. "Mare Island Archeological Resources Inventory, First Complete Draft." November.
- Emmett, R.L., S.L. Stone, S.A. Hinton, and M.E Monaco. 1991. "Distribution and abundance of fishes and invertebrates in west coast estuaries, Volume II: Species life history summaries." ELMR Rep. No. 8. NOAA/NOS Strategic Environmental Assessments Division, Rockville, MD, pp.329.
- Mare Island Naval Shipyard and the City of Vallejo, 1997. "Mare Island Naval Shipyard Disposal and Reuse EIS/EIR Preliminary Final Environmental Impact Statement/Environmental Impact Report." March.

TABLE 3-5  
POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREAS

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Red-throated Loon <i>Gavia stellata</i>	None	Yes*	MIGRANT Winter	<del>Not available</del> Dives from surface and pursues food underwater	Carnivore/Omnivore Fish, crustaceans, leeches, snails, aquatic insects, other invertebrates
Common Loon <i>Gavia immer</i>	CSC	Yes	Migrant - winter visitor	Dives for food from water surface, may take prey off bottom	Omnivore Mainly fish, crustaceans, aquatic plants; some snails, leeches, frogs, salamanders, aquatic insects, aquatic birds
Pied-billed Grebe <i>Podilymbus podiceps</i>	None	Yes	All year	Dives for food in aquatic or wetland habitat, will take food off bottom; submerges underwater for cover	Omnivore Adults: mainly insects, crustaceans, fishes; some amphibians, mollusks, leeches, aquatic plants Young: insects
Horned Grebe <i>Podiceps auritus</i>	None	Yes*	Migrant - winter visitor resident	Dives for food, also feeds from surface	Carnivore Small fishes, crustaceans, insects
Eared Grebe <i>Podiceps nigricollis</i>	None	Yes	Migrant - winter resident	Dives and captures food underwater and on bottom, rests on water, builds floating nests	Carnivore Mainly aquatic and land insects and larvae; some crustaceans, mollusks, invertebrates, small fishes, amphibians
Western Grebe <i>Aechmophorus occidentalis</i>	None	Yes	Migrant -winter resident	Dives for and pursues food underwater, rests on water, builds floating nests that may be anchored to bottom	Carnivore Mainly fish; some insects, invertebrates, rarely amphibians, plants
Clark's Grebe <i>Aechmophorus clarkii</i>	None	Yes	Migrant -winter resident	Dives for and pursues food underwater, rests on water, builds floating nests that may be anchored to bottom	Carnivore Mainly fish; some insects, inverts; rarely amphibians, plants

\* Does not Breed in CALIFORNIA - SHOULD NOT BE CLASSIFIED AS CA NATIVE.

**TABLE 3-5**  
**LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

Species	Status	CA Native	Residency	Behavior	Feeding Guild
American White Pelican <i>Pelecanus erythrorhynchos</i>	CSC	Yes	Transient	<del>Dives and</del> scoops up prey items from surface of water, roosts primarily at edge of water on sandbars or beaches	Carnivore Mainly fish; some amphibians, crustaceans
California Brown Pelican <i>Pelecanus occidentalis californicus</i>	CE FE CFP	Yes	Transient	Dives for prey from air at rising tide, rests primarily on water or inaccessible rocks	Carnivore Mainly fish; some crustaceans, carrion, young of its own species
Double-crested Cormorant <i>Phalacrocorax auritus</i>	CSC	Yes	All year	Dives underwater to catch prey, roosts overnight on shore	Carnivore Mainly fish; some crustaceans, amphibians
Brandt's Cormorant <i>Phalacrocorax penicillatus</i>	None	Yes	All year	Dives for food in shallow or deep water: spends little time on water except when fishing	Carnivore Fish, crustaceans
Pelagic Cormorant <i>Phalacrocorax pelagicus</i>	None	Yes	All year	Dives; roosts on rocky cliffs	Carnivore Fish, crustaceans
Great Blue Heron <i>Ardea herodias</i>	None	Yes	All year <i>nests at Mare Island</i>	Feeds in shallow or open water, perches, roosts and nests in tops of trees	Carnivore Mainly fish; some small rodents, amphibians, snakes, lizards, insects, crustaceans, small birds
Great Egret <i>Casmerodius albus</i>	None	Yes	All year	Feeds in shallow water along shores, roosts in trees	Carnivore Mainly fish, amphibians, snakes, snails, crustaceans, insects, small mammals

**TABLE 3-5**  
**LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Cattle Egret <i>Bubulcus ibis</i>	None	Yes	Winter	Feeds near large mammals, especially cattle	Carnivore Large insects and other arthropods, also worms, amphibians, reptiles, small mammals
Snowy Egret <i>Egretta thula</i>	None	Yes	All year	Feeds in shallow water, nests in trees	Carnivore Mainly small fish, crustaceans, large insects; some amphibians, reptiles, worms, snails, small mammals
Black-crowned Night-Heron <i>Nycticorax nycticorax</i>	None	Yes	All year	Hunts primarily in shallow water, roosts in dense foliage of trees	Carnivore Fishes, crustaceans, aquatic insects, invertebrates, amphibians, reptiles, small mammals; rarely young birds
Greater White-fronted Goose <i>Anser albifrons</i>	HS	Yes*	Migrant - winter resident	Grazes, gleans, and grubs for food, uses bodies of water for drinking and resting	Herbivore Seeds and sprouts of cultivated grains, wild grasses; some aquatic plants
Tundra Swan <i>Cygnus columbianus</i>	None	<del>Yes</del> No	<del>All year</del> Migrant - winter resident	<del>Not available</del> Debbles for aquatic vegetation, and tips in shallow water, ground gleans for grass and seeds.	<del>Not available</del> Aquatic vegetation, fresh water invertebrates, insects, grass, waste corn, soybeans
Canada Goose <i>Branta canadensis</i>	HS	Yes	Migrant* and winter resident also summer resident nests at Mare Island	Seeks grit regularly, roosts on open waters of lakes or ponds	Herbivore Mainly green shoots and seeds of cultivated grains, wild grasses, and forbs; some aquatic plants
Northern Pintail <i>Anas acuta</i>	HS	Yes	Migrant - winter resident	Forages in very shallow water, taking food from surface, subsurface, and bottom	Omnivore Aquatic plant seeds, wild grasses, forbs, grains, stems, leaves, insects, crustaceans, mollusks, worms
add → Mallard <i>Anas platyrhynchos</i>	HS	Yes	Migrant and also summer resident nests at Mare Island	↑ Same	↑ Same

Platyrhynchos

\* Does not Breed in California - should not be classed as "CA native"

TABLE 3-5  
LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Northern Shoveler <i>Anas clypeata</i>	HS	Yes	Migrant - winter resident	Feeds by immersing all or part of head, occasionally dabbles and rarely filters bottom sediments	Omnivore Mainly phyto- and zooplankton; some seeds, aquatic plant parts, mollusks, aquatic insects, macroinvertebrates, small fish
Eurasian Wigeon <i>Anas penelope</i>	None	<del>Yes</del> No	<del>Winter</del> Transient, winter	Not available also ground glean, steals food from diving ducks when they surface	Herbivore/Omnivore Stems and leafy parts of plants, upland grasses and clovers, insects ingests gravel
American Wigeon <i>Anas americana</i>	HS	Yes *	Migrant - winter resident	Forages in shallow waters by gleaning surface or subsurface or dabbling	Omnivore Adults: mainly leaves, stems and seeds of aquatic plants, terrestrial grasses and forbs; some crops (lettuce, alfalfa, clover, barley), waste grain, aquatic insects Young: insects, invertebrates
Canvasback <i>Aythya valisineria</i>	HS	Yes	Migrant - winter resident	Dives for food and grubs in bottom sediment	Omnivore Adults: aquatic plant seeds, tubers, leaves, stems, invertebrates, mollusks, crustaceans, worms, insects, fish Young: invertebrates
Redhead <i>Aythya americana</i>	HS	Yes	Migrant - winter resident	Dives for food and grubs in bottom mud, dabbles in shallow water and takes food from surface	Omnivore Mainly aquatic plant leaves, stems, seeds, and tubers; some aquatic insects
Ring-necked Duck <i>Aythya collaris</i>	HS	Yes	Migrant - winter resident	Feeds in shallow water, dives for food, takes food from muddy bottom or subsurface water	Omnivore Mainly aquatic plant seeds, tubers, rootstocks, and foliage; some aquatic insects, mollusks, invertebrates
Greater Scaup <i>Aythya marila</i>	HS	Yes	Migrant - winter resident	Feeds by diving to bottom	Omnivore Mainly mollusks, crustaceans, insects; some vegetation

\* does not breed in California - should not be classified as a "CA resident":  
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TABLE 3-5  
LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Lesser Scaup <i>Aythya affinis</i>	HS	Yes	Migrant - winter resident	Feeds most frequently by gleaning or grubbing from bottom sediments, dabbles	Omnivore Mainly aquatic invertebrates; some leaves, stems, seeds, and tubers of aquatic plants
Oldsquaw <i>Clangula hyemalis</i>	None	<del>Yes</del> No	Not available Transient-winter	Not available Dives for food. Capable of diving great depths, up to 180 feet.	Omnivore Small crustaceans, mollusks, aquatic insects, small fishes, plant matter)
Black Scoter <i>Melanitta nigra</i>	None	Yes *	Not available migrant - winter resident	Not available Dives for food, Can dive to 40' but <del>prefers</del> prefers 20' or less	Omnivore Marine invertebrates, bivalves, gastropods, barnacles, shrimp, herring roe, aquatic plant material
Surf Scoter <i>Melanitta perspicillata</i>	HS	Yes *	Migrant - winter resident	Dives and takes food from the bottom, 6' to 30'. Often prefers estuaries <del>for</del> for food search.	Omnivore Mainly mollusks; some crustaceans, invertebrates, aquatic insects, fish; small amounts of aquatic plants
White-winged Scoter <i>Melanitta fusca</i>	HS	Yes *	Migrant - winter resident	Dives and takes food from bottom, preferring shallow water Dives up to 40', usually over shell fish beds.	Carnivore Mainly mollusks; some crustaceans, invertebrates, aquatic insects, fishes; small amounts of aquatic plants
Common Goldeneye <i>Bucephala clangula</i>	HS	Yes	Migrant - winter resident	Dives and takes food from bottom by gleaning, grubbing in mud, or turning over stones, seldom comes ashore except to visit nest	Omnivore Mainly crustaceans, mollusks, small fish, insects; some seeds, tubers, leaves, and stems of aquatic plants
Barrow's Goldeneye <i>Bucephala islandica</i>	CSC HS	Yes	Migrant - winter resident	Feeds on rocky bottoms, gleans food from submerged plants	Omnivore Adults: mainly mollusks, crustaceans, aquatic insects; some fish eggs and young, algae, aquatic plants Young: aquatic insects

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TABLE 3-5  
LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Bufflehead <i>Bucephala albeola</i>	HS	Yes*	Migrant - winter resident	Dives for food, pusing prey underwater, gleans from bottom	Omnivore Adults: mainly small invertebrates, crustaceans, mollusks, aquatic insect, gastropods; some fish, parts of aquatic plants Young: aquatic insects
Common Merganser <i>Mergus merganser</i>	HS	Yes	All year	Dives from surface, probes among submerged rocks to flush out prey	Omnivore Mainly fish, fish eggs, aquatic invertebrates, frogs, newts, tadpoles: small amount of plant material
Red-breasted Merganser <i>Mergus serrator</i>	None	Yes*	Not available Migrant - winter resident, often on salt water.	Not available Dives for food, individuals often fish in a cooperative manner to drive fish to shallow water.	Omnivore Fish, crustaceans, amphibians, insects worms
Ruddy Duck <i>Oxyura jamaicensis</i>	HS	Yes	All year	Dives to bottom and gleans food, filters bottom sediments, surface and subsurface waters	Omnivore Submerged aquatic plant seeds, tubers, foliage, stems, algae, bulrush seeds, aquatic insects, mollusks, crustaceans, worms
Osprey <i>Pandion haliaetus</i>	CSC	Yes	Migrant - summer resident	Feeds and forages on open clear water; catches prey on surface	Carnivore Mainly fish; some mammals, birds, amphibians, invertebrates
California Black Rail <i>Laterallus jamaicensis cotinuculus</i>	CT CFP	Yes	All year	Gleans food from mud and vegetation	Carnivore Isopods, insects, arthropods
Peregrine Falcon <i>falco peregrinus</i>	FE	yes	All year	stoops or flies fast and low	Birds, shore birds, water fowl, and passerines

suggest adding

\* Does not Breed in California - should not be ~~classified~~ classified as 'CA resident'.

**TABLE 3-5**  
**LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

Species	Status	CA Native	Residency	Behavior	Feeding Guild
California Clapper Rail <i>Rallus longirostris obsoletus</i>	FE CE CFP	Yes	All year	Gleans, pecks, probes and scavenges from surface	Carnivore Mainly crabs, mussels, clams, snails, insects, spiders, worms; some mice, dead fish
Virginia Rail <i>Rallus limicola</i>	None	Yes	All year	Forages, probes in mud, wades in shallow water	Carnivore Insects, insect larvae, slugs, crustaceans, worms, small fish, seeds
Sora <i>Porzana carolina</i>	None	Yes	All year	Primarily forages on ground in dense, emergent vegetation	Omnivore Mainly seeds; some small mollusks, aquatic insects
American Coot <i>Fulica americana</i>	HS	Yes	All year	Forages underwater on the foliage and roots of submerged aquatic plants	Omnivore Submerged aquatic plants, seeds, insects, small fish
Black Oystercatcher <i>Haematopus bachmani</i>	None	Yes	All year	Not available	Carnivore Crustaceans, marine worms, fish
Black-bellied Plover <i>Pluvialis squatarola</i>	None	Yes*	Migrant - winter visitor	Feeds by pecking at water surface or substrate	Carnivore Polychaete worms, small mollusks, crustaceans, insects, mud snails
Western Snowy Plover <i>Charadrius alexandrinus nivosus</i>	CSC FT	Yes	All year	Gleans prey from sand of upper beaches; requires a sand, gravelly or friable soil substrate for nesting	Carnivore Mainly insects, amphipods; some sand crabs, brine flies

Not known to visit Mare Island →

\* Does not breed in California - should not be classified as "CA native."

**TABLE 3-5**  
**LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Semipalmated Plover <i>Charadrius semipalmatus</i>	None	Yes*	Migrant - winter resident	Feeds by pecking at water surface or substrate	Carnivore Worms, small mollusks, amphipods, fly larvae, locusts, aquatic and terrestrial insects
Killdeer <i>Charadrius vociferus</i>	None	Yes	All year	Forages on ground and shore by gleaning and probing shallowly; probably drinks water	Carnivore Insects, invertebrates, beetles, grasshoppers, flies, mosquitoes, weevils, crustaceans, worms, mollusks, seeds
Black-necked Stilt <i>Himantopus mexicanus</i>	None	Yes	All year	Gleans and probes in mud and shallow water	Carnivore Mainly insects, crustaceans, mollusks, aquatic invertebrates; some small fish
American Avocet <i>Recurvirostra americana</i>	None	Yes	All year	Feeds by probing in mud, sweeping bill through water or soupy mud or dabbling	Omnivore Aquatic insects, crustaceans, snails, worms; some aquatic plant seeds
Greater Yellowlegs <i>Tringa melanoleuca</i>	None	Yes*	Migrant - winter resident	Takes prey by snatching at surface; occasionally probes into substrate	Carnivore Aquatic insects, small fish, crustaceans, worms, terrestrial insects, gobies
Lesser Yellowlegs <i>Tringa flavipes</i>	None	Yes*	Migrant - winter resident	Forages in shallow water by pecking at water surface or mud	Carnivore Adult and larval aquatic insects, grasshoppers, small fish, crustaceans, worms
Willet <i>Catoptrophorus semipalmatus</i>	None	Yes	Migrant - winter resident	Feeds by a peck-probe method	Carnivore Invertebrates, small crustaceans, mollusks; some fish, polychaete worms, larval and pupal dipteran insects, fish eggs

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TABLE 3-5  
LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Spotted Sandpiper <i>Actitis macularia</i>	None	Yes	<del>Migrant - winter resident</del> year around	Probes, gleans, and stalks; wades into water to forage on the bottom	Carnivore Flying and benthic insects, beetles, crickets, flies, grasshoppers, worms, ants, aquatic invertebrates, small fish
Whimbrel <i>Numenius phaeopus</i>	None	Yes*	Migrant - winter resident	Feeds by probing in to substrate or picking prey from surface	Omnivore Berries, insects, crabs, crayfish, marine worms, grasshoppers, spiders, beetles
Long-Billed Curlew <i>Numenius americanus</i>	CSC	Yes	Migrant - winter resident	Uses long bill for probing deep into substrate	Carnivore Invertebrates, small crustaceans, mollusks, insects, insect pupae
Marbled Godwit <i>Limosa fedoa</i>	None	Yes*	Migrant - winter visitor	Obtains prey by probing into substrate	Carnivore Snails, clams, sand crabs, amphipods, worms, aquatic insects, grasshoppers, mollusks
Ruddy Turnstone <i>Arenaria interpres</i>	None	Yes*	Migrant - winter resident	Feeds by probing, jabbing, and overturning objects such as mud crust	Carnivore Mainly dipterans (midges), lepidopterans, hymenopterans, spiders, crustaceans, worms, mollusks, insects; some plant material, small fish, carrion
Black Turnstone' <i>Arenaria melanocephala</i>	None	Yes*	Not available migrant - winter resident	Not available ground gleans	Carnivore Small crustaceans and mollusks
Western Sandpiper <i>Calidris mauri</i>	None	Yes*	Migrant - winter resident	Probes and gleans in soft mud of tidal marine mudflats	Carnivore <del>Adults:</del> insects, mollusks, crustaceans, worms <del>Young:</del> flies, larval flies, beetles
Wandering Tattler <i>Heteroscelus incanus</i>	None	No	Migrant - winter resident	Probes <del>and gleans</del> in soft mud of tidal marine mudflats	Crustaceans, marine worms, mollusks

nonbreeding adult winter residents only

\* Does not Breed in California - should not be classified as "CA native" <sup>3-26</sup>

TABLE 3-5  
LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Least Sandpiper <i>Calidris minutilla</i>	None	Yes*	Migrant - winter visitor	Feeds by pecking and probing in mud or soft earth; bathes in tidepools and may drink	Carnivore Crustaceans, worms, insects, insect larvae; some seeds and plant material
Dunlin <i>Calidris alpina</i>	None	Yes*	Migrant - winter visitor	Feeds by deep or shallow probing and surface pecking	Carnivore Flies, fly larvae (crane, midge), polychaete worms, small crustaceans, small mollusks
Short-billed Dowitcher <i>Limnodromus griseus</i>	None	Yes*	Migrant - winter resident	Forages on soft mud substrate by probing deeply, in shallow water entire head may be immersed	Carnivore Mainly small mollusks, crustaceans, marine worms, insects, fly larvae, polychaete worms, small gastropods, mud-burrowing gobies; some vegetation
Long-billed Dowitcher <i>Limnodromus scolopaceus</i>	None	Yes*	Migrant - winter resident	Forages on soft mud substrate by probing deeply	Omnivore Fly larvae (crane, midge), small burrowing crustaceans, insect larvae, small snails; some seeds, plant fiber
Common Snipe <i>Gallinago gallinago</i>	HS	Yes	Migrant - winter resident	Feeds by probing in water-saturated soils and by seizing prey from the surface	Omnivore Insects (beetle, fly larvae), earthworms, crustaceans, mollusks; some fish, grass, sedge seeds, grit
Wilson's Phalarope <i>Phalaropus tricolor</i>	None	Yes	Migrant - summer visitor	Tips up in deep water; gleans, probes, and sweeps in shallow water	Carnivore Insects, small crustaceans, dytiscid and hydrophilid beetles and larvae, midge larvae, mosquito larvae, hemipterans, <i>Ephedra</i> brine
Red-necked Phalarope <i>Phalaropus lobatus</i>	None	Yes No	Not available Transient, winter	Not available dips and probes, spins in water to stir up food & insects.	Carnivore/Omnivore Crustaceans, aquatic insects, mollusks, zooplankton, seeds

\* Does not breed in California - should not be classified as 'CA native'.

TABLE 3-5  
LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Bonaparte's Gull <i>Larus philadelphia</i>	None	Yes *	Transient/ winter visitor	Catches food in flight or picks it from the water surface	Carnivore Insects, fish, crustaceans, marine worms, refuse
Mew Gull <i>Larus canus</i>	None	Yes *	Migrant - winter visitor	Dives from above or forages on water's surface	Carnivore Mollusks, crustaceans, echinoderms, worms, insect larvae
Ring-billed Gull <i>Larus delawarensis</i>	None	Yes	Migrant - winter resident	Gleans, searches, and dives for fish; drinks and bathes in freshwater	Omnivore Fish, insects, earthworms, crustaceans, garbage, grain, rodents, amphibians, reptiles, carrion, plant material
California Gull <i>Larus californicus</i>	CSC	Yes	All year	Nests in a scrape lined with grass or rubble	Omnivore Adults: refuse, carrion, insects, insect larvae Young: larval insects, brine shrimp, young birds, garbage, earthworms, insects
Herring Gull <i>Larus argentatus</i>	None	Yes	Migrant - winter resident	Forages near water surface or dives like a tern	Omnivore Refuse, small fish, marine invertebrates, worms, insect larvae, rats, mice, moles, small rabbits
Thayer's Gull <i>Larus thayeri</i>	None	Yes *	Migrant - winter visitor	Forages near water surface for fish	Omnivore Refuse, fish, marine invertebrates, carrion
Western Gull <i>Larus occidentalis</i>	None	Yes	All year <i> nests on Mare Island</i>	Forages over open water using aerial dives; on the water's surface, feeds by dipping	Omnivore Fish, intertidal inverts, small birds, eggs, refuse
Glaucous-winged Gull <i>Larus glaucescens</i>	None	Yes *	Migrant - winter resident	Roosts and preens on sandy beaches or mudflats; drinks and bathes in fresh water	Omnivore Refuse, barnacles, mollusks, sea urchins, carrion, fish

\* Does not breed in California - should not be classified as 'CA native'.

**TABLE 3-5**  
**LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

Species	Status	CA Native	Residency	Behavior	Feeding Guild
Caspian Tern <i>Sterna caspia</i>	None	Yes	Migrant - summer resident	Dives for prey just below water's surface	Carnivore Small fish (up to 15cm)
Forster's Tern <i>Sterna forsteri</i>	None	Yes	All year	Dives for prey; may scoop small prey from shallow water	Carnivore Small fish, aquatic insects, crustaceans, small amphibians
Black Tern <i>Chidonias niger</i>	CSC	Yes	Migrant - summer visitor	Hovers over water and plucks prey from surface; requires fresh water for breeding	Carnivore Insects, grasshoppers, dragonflies, moths, flies, beetles, crickets
Least Tern <i>Sterna antillarum browni</i>	CE (nest colony) FE (nest colony)	Yes	<del>Not available</del> Migrant - summer visitor	<del>Not available</del> Hovers and dives, skims	Piscivore Small fish, anchovy, silversides, shiner surfperch
Belted Kingfisher <i>Ceryle alcyon</i>	None	Yes	<del>Not available</del> Year around	<del>Not available</del> dives into water from the air for prey.	Carnivore Fish, also amphibians, crayfish, insects
American Pipit <i>Anthus rubescens</i>	None	Yes	Winter	<del>Not available</del> Ground Gleaners and Hawks from the ground.	Omnivore Insects, also mollusks, crustaceans, arthropods, seeds

Notes:

**Status:** Species of special conservation status, as registered in the California Department of Fish and Game's Natural Diversity Data Base, are indicated by the following codes:

- CCE State of California Candidate for Endangered Species
- CCT State of California Candidate for Threatened Species
- CE State of California Endangered Species

**TABLE 3-5**  
**LIST OF POTENTIAL BIRD SPECIES AT MARE ISLAND OFFSHORE AREA (Continued)**

**Status (continued):**

CFP	State of California Fully Protected
CSC	California Department of Fish and Game (CDFG) "Species of Special Concern"
CT	State of California Threatened Species
FC	Federal Candidate
FE	Federal Endangered Species
FNC	Federal Northern California Species of Special Concern
FPE	Federal Proposed Endangered
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened
FT	Federal Threatened Species
HS	Species designated for harvest under California State Fish and Game Code and USFWS regulations
None	Species has no special status

**California Native:**

Yes	Species is native to California
No	Species is not native to California

**Residency:**

All year	Species resides at Mare Island year round
Migrant - summer resident	Species may breed at Mare Island for the summer
Migrant - summer visitor	Migrating species making a summer stopover at Mare Island
Migrant - winter resident	Species resides at Mare Island for the winter season
Migrant - winter visitor	Migrating species making a winter stopover at Mare Island
Transient	Species that strays off of its usual migration route, making its presence a casual occurrence at Mare Island

**Behavior:** The behavior noted may influence the exposure of individuals to contaminants.