

**CALIFORNIA COASTAL COMMISSION**

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**Th 7.5a****MEMO**

February 17, 1999

To: Commissioners And Interested Persons

From: Peter Douglas, Executive Director  
Tami Grove, Deputy Director  
Elizabeth Fuchs, Manager, Land Use Unit  
Mark Delaplaine, Supervisor, Federal Consistency Staff

Subject: **Negative Determination ND-11-99**, U.S. Marine Corps, Urban Warrior Advanced Warfighting Experiment

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On February 17, 1999, the U.S. Marine Corps submitted a negative determination for a one-day military operation in Monterey scheduled for March 13, 1999. The operation would consist of 250 personnel and 45 vehicles being transported from a ship offshore through nearshore waters and the surf zone using Landing Craft Air Cushion (LCAC) landing craft, with an additional 250 personnel landing by helicopter. The surf zone landing would be at the Naval Postgraduate School (NPGS), with personnel travelling to a destination at the Presidio of Monterey (POM). The helicopter operation would land at the POM. The experiment, described by the Marine Corps as "... a tactical response to a threat from terrorists possessing simulated biological or chemical weapons of mass destruction," is further described in the Marine Corps' negative determination is (attached - Exhibit 1). The Marine Corps has also published an Environmental Assessment for the operation, from which Exhibits 2-6, which elaborate on the operation, were taken.

The Commission staff has requested additional information from the Marine Corps, primarily concerning habitat and access and recreation-related issues. As of the date of the mailing for the March Commission meeting, the staff has not had time to fully

evaluate whether the activity affects the coastal zone, and, therefore, is appropriately reviewed as a negative determination. For Commission and public review, attached are relevant excerpts from the Environmental Assessment, as follows:

Timetable for the operation – Exhibit 2

Map showing the affected areas – Exhibit 3

Avoidance and mitigation commitments – Exhibit 4

Equipment to be used – Exhibit 5

Environmental Impact Analysis (portions – biological resources) – Exhibit 6

The staff will update the Commission as to the status of its review at the March Commission meeting.

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OPTIONAL FORM NO (7-90)

FAX TRANSMITTAL

# of pages = 2

|                          |                             |
|--------------------------|-----------------------------|
| To: <i>Mark DeLapina</i> | From: <i>SAFM</i>           |
| Dept./Agency             | Phone #: <i>650244-3007</i> |
| Fax #                    | Fax #: <i>650-244-3206</i>  |

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Ser 70820M/EP9-1668  
15 February 1999

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CALIFORNIA  
COASTAL COMMISSION

California Coastal Commission  
Attn: Mr. James Raives  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

Dear Mr. Raives

The United States Navy and Marine Corps are planning a joint one time/single event expeditionary training exercises on Federally administered public lands in the cities of Monterey and San Francisco Bay area from 13 to 18 March 1999. These exercises are part of the Marine Corps' Urban Warrior Advanced Warfighting Experiment (UW AWE). This experiment will entail the deployment of Marines with a number of various types of transport vehicles for a beach landing from offshore Navy vessels. We are providing for your review and concurrence the following coastal consistency negative determination that the joint Navy and Marine Corps training experiment does not affect coastal resources including public access to the shoreline.

In executing these urban experiments and training, Naval Expeditionary Forces will not damage any natural or manmade structures, use live munitions, or explosives. Instead they will penetrate urban areas to execute a discrete set of operations as small units in the face of difficult simulated conditions. They will involve widely separate elements ashore and afloat, and will require intensive intelligence and database support from the sea. Urban Warrior experiment and training operations in the Monterey and San Francisco Bay areas and will involve maneuvers throughout these cities and close range engagements to be conducted almost specifically at the Naval Post Graduate School (NPGS) and the Defense Language Institute (DLI) in Monterey, and the City of Oakland, Naval Medical Center Oakland.

In Monterey, the preferred beach landing site is the NPGS Beach, with the Tioga Avenue Beach in Seaside serving as a fowl weather backup landing alternative. The NPGS landing may entail short periods of local police interrupting bicycle traffic that parallels NPGS beach between 8:30 and 10:00 am and again between 4:00 and 6:00 pm as vehicles carrying troops access and egress the training sites. In San Francisco Bay area Naval Air Station (NAS) Alameda is the preferred landing site, and the United States Coast Guard Air Station at San Francisco International Airport will serve as a backup alternative landing area. A guiding strategy used in planning the landing exercises is avoidance as the preferred mitigation, where possible. The Marine Corps will adjust training to avoid potential significant impacts. In addition, the landings themselves are not part of the training, are an administrative movement of troops only, and will not include tactical or combat maneuvers.

An Environmental Assessment (EA) was prepared to provide an environmental analysis pursuant to the National Environmental Policy Act (NEPA) regarding the environmental impacts of the UW AWE. Based on information gathered and detailed analysis of air quality, noise, cultural and biological resources during preparation of the EA, the Navy can conclude that the training experiments at the Monterey or at the San Francisco Bay area landing or backup landing sites will not significantly impact the coastal resources. In addition, the Marine Corps is coordinating closely with both the U.S. Fish and Wildlife Service, Sacramento and Ventura Office

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| EXHIBIT NO. 1   |
| APPLICATION NO. |
| ND - 11 - 99    |

National Marine Fisheries, Long Beach Office. These agencies have reviewed the EA and information from this coordination has been incorporated into the mitigation measures for the appropriate landing sites.

The EA concludes that the project will not affect existing land uses and that the public will continue having shoreline access and recreation with brief temporary interruptions thought the training, after conclusion of the training exercises. Therefore, the U'W AWE experiment will not have an adverse direct or indirect affect on the coastal zone.

Should you have any further questions, please contact Mr. Sam Dennis of this Command at telephone (650) 244-3007.

Samuel L. Dennis  
Head, Environmental and Installations Planning

2 Description of Proposed Action and Alternatives

Table 2-1. Hour-By-Hour Schedule of Events for the Monterey Urban Warrior AWE 1 at NPGS and POM (page 1 of 2)

| Time                                       | Activity (number of personnel)   | Vehicles/Equipment Involved  |
|--|--|--|
| <b>Saturday, 13 March 1999 -- Monterey</b> |  |  |
| 0630-0730                                  | Experimental Control (EXCON) personnel (20), Role-players (250), Opposition Forces (60) and Experiment Land Manager Officer (ELMO) get into positions. ELMO coordinates guards, fire and safety personnel. Experiment Area of Operations (EAO) declared "hot". |  |
| 0730                                       | All personnel begin scenario.  |  |
| 0730-0800                                  | Marine Recon Task Force (10) get into reconnaissance positions.  |  |
| 0815-0930                                  | Land small force of Marines at NPGS by fast rope descent.  | One CH-46; two AH-1s; two AV-8Bs.  |
| 0830-1530                                  | Casualty evacuation.   | One CH-46 and two UH-1s on 1-hr standby.   |
| 0830-1000                                  | Marine Security Task Force and Chemical Biological Incident Response Force (CBIRF) (200 to 250) land at NPGS Beach.  | Four LCACs (six total roundtrips); one escort helicopter for each wave; one small boat for each wave; 20 Humvees; 16 LAVs; six 5-ton trucks. |
| 1000                                       | Experimental Control personnel confirms location of biological threat at POM. Civil Affairs Group coordinates biological threat response with City of Monterey.  |  |
| 1100                                       | CBIRF and Marine Security Force moves by ground transport convoy from NPGS to POM.   | Two AH-1 escorts; 20 Humvees; 16 LAVs; six 5-ton trucks.   |
| 1130-1200                                  | Marine Air Task Force (250) lands by helicopter in POM. (LZ Puffin - primary; LZ Sloat - alternate)  | Six CH-53s; two F-18s.   |
| 1130-1600                                  | Marine Air Task Force and CBIRF secure Biological threat at POM.   | 3,000 blank rounds; 20 smoke canisters; 20 flashbangs; two AH-1s; one UH-1.  |
| 1400-1600                                  | Operational Maneuver Element (OME) (40) lands at NPGS Beach and moves to Glasgow Hall.   | Four LCACs; one UH-1 escort; one small boat escort; six LAVs.  |
| 1400-1430                                  | In response to mass casualties, one CH-53 lands at LZ Sloat in POM.  | One CH-53; two AV-8Bs.   |
| 1600                                       | EXCON terminates experiment. CBIRF remains in Monterey overnight.  |  |
| 1600-1630                                  | Marine Air Task Forces leaves EAO by helicopter from LZ Puffin.  | Six CH-53s (two waves of three).   |

EXHIBIT NO. 2

APPLICATION NO.

ND-11-99

Table 2-1. Hour-By-Hour Schedule of Events for the Monterey Urban Warrior AWE 1 at NPGS and POM (page 2 of 2)

| Time   | Activity (number of personnel)   | Equipment Involved  |
|--|--|---|
| 1600-1800  | LCACs extract Marine Security Task Force. Six LAVs remain at Glasgow Hall overnight after exercise is completed. | Four LCACs (six total roundtrips); 20 Humvees; 10 LAVs; six 5-ton trucks; one UH-1 escort; one small boat escort. |
| 1800   | All Marine Task Forces out of EAO.   |   |
| 1800   | All units staying ashore report to bivouac/billeting.  |   |
| 1900-2000  | Marine Task Forces debrief at Amphibious Ready Group (aboard Navy vessels)                                       |   |
| <b>Sunday, 14 March 1999 – Monterey</b>  |  |   |
| 0730   | Convoy of remaining ground personnel drives north to San Francisco.  | Six LAVs.   |
| 0800-0830  | Detached escort of 2 FW aircraft flies over convoy.  | Two AV-8Bs.   |
| Notes: FW aircraft (F/A-18 or AV-8B) always maintain a minimum altitude of 3,000 feet (915 m) AGL. All helicopters maintain a minimum altitude of 500 feet (152 m) AGL except during landings and takeoffs. The helicopters would maintain a minimum altitude of 1,000 feet (305 m) AGL when flying over the ocean if gray whales are observed in the area. UH-1 and AH-1 helicopters do not land in the exercise areas. |  |   |

1 Each landing or extraction wave of LCACs would be preceded by a patrol of a small boat and a  
 2 helicopter escort. The boat and helicopter would act as spotters to ensure there are no marine  
 3 animals, people, bird flocks, or other boats in the path of LCACs from the sea to the shore or vice  
 4 versa.

5 One Medevac helicopter (CH-46) and two UH-1s would remain on standby during the landing  
 6 operations to provide simulated casualty evacuation assistance and cover support, respectively.  
 7 The Medevac helicopter may touch down at an established LZ at POM, but the UH-1 would not.  
 8 In addition, the landing would be supported by two FW fighter aircraft (one section) flying cover  
 9 support. The FW aircraft would be AV-8B Harrier jets, as further described below.

10 After landing, the troops, equipment, and vehicles would gather at a designated staging area  
 11 (location dependent upon the beach landing site selected) before moving off to the grounds of  
 12 NPGS. The entire beach landing process is reversed at the end of the one-day experiment, with  
 13 troops, equipment, and vehicles being loaded and cleared of the beach site by 1800 hours (6:00  
 14 P.M.).

15 **Helicopter Landing/Extraction**

16 A small force of Marines would be landed by a rope descent from a helicopter at NPGS between  
 17 0815 (8:15 A.M.) and 0900 (9:00 A.M.). One reinforced company of Marines (250 personnel) would

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| APPLICATION NO. |
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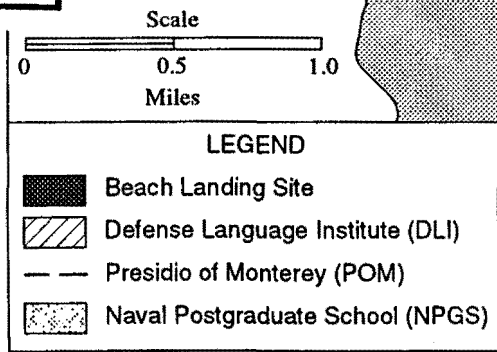
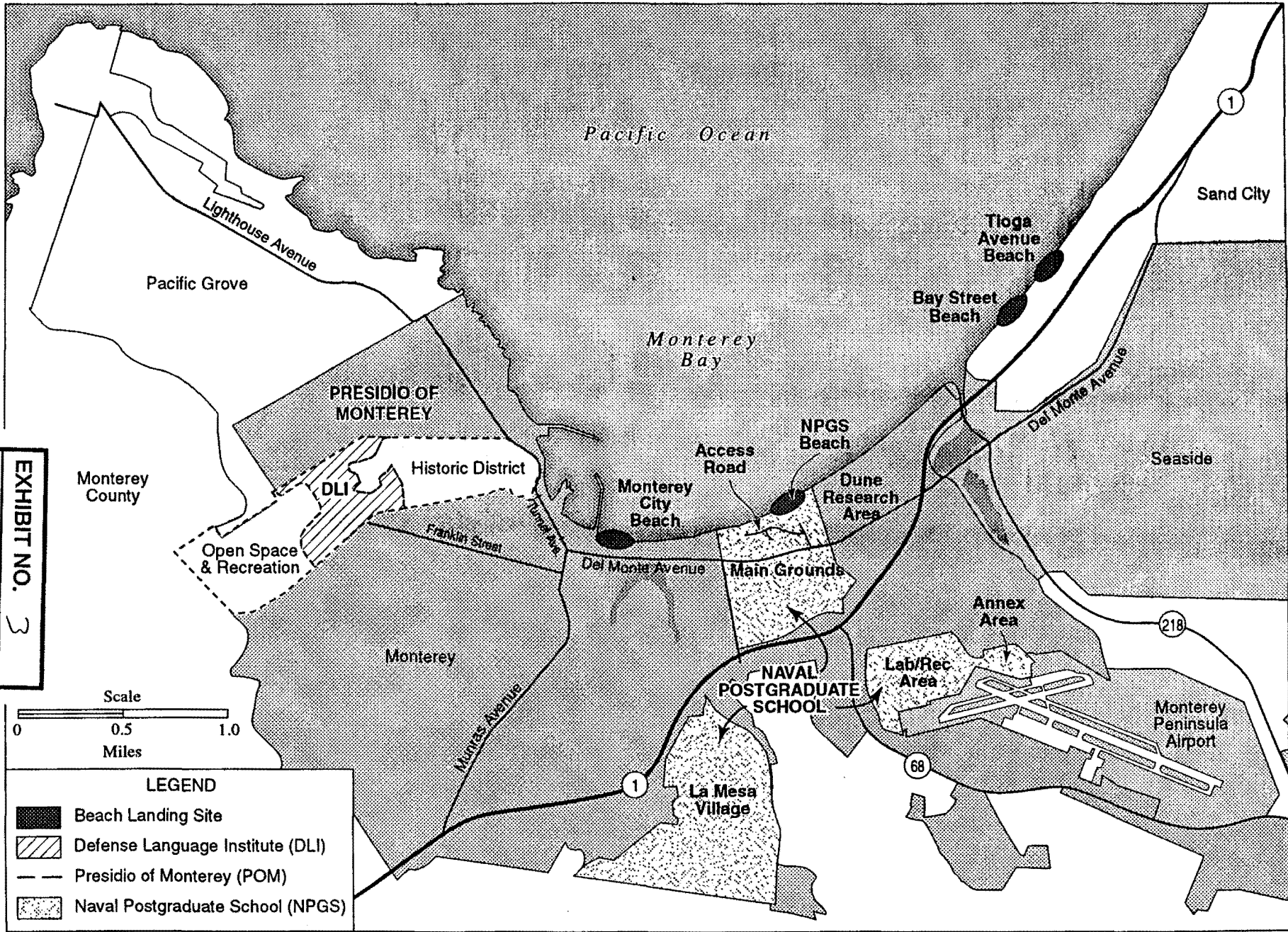


Figure ES-2. Local Map of the Monterey Area Showing Locations of Potential Beach Landing Sites, POM, and NPGS

## APPENDIX B: PROTECTION MEASURES

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### 1 *Protection Measure 1*

2 All Marine Corps personnel involved with the proposed AWE 1 and AWE 2 exercises shall be  
3 briefed on the environmental concerns at both project sites and the measures included in the  
4 project description designed to avoid and/or mitigate those concerns.

### 5 *Protection Measure 2*

6 An on-site monitor, knowledgeable about the sensitive biological resources of the Monterey Bay  
7 area and selected in consultation with the NPS Environmental Coordinator [Contact: Frank Vogl  
8 (831) 656-2841], shall be present at the landing site prior to and during the AWE 1 landing to (a)  
9 identify any sensitive resources outside fenced areas, (b) fence or flag any sensitive resources that  
10 require avoidance, and (c) to monitor and document the actual beach landing and operations to  
11 ensure all sensitive resources are avoided.

### 12 *Protection Measure 3*

13 On-site monitors, funded by the Marine Corps, knowledgeable about the sensitive biological  
14 resources of the Presidio area and selected in consultation with GGNRA and the National Park  
15 Service's Natural Resource Office [contact: Mark Albert (415) 668-4392], shall be present at the  
16 AWE 2 landing site (Baker Beach only) prior to and during the landing to (a) identify any sensitive  
17 resources outside fenced areas, (b) fence or flag suitable access roads and any additional sensitive  
18 resources that require avoidance, and (c) to monitor, document, and photograph the actual beach  
19 landing, operations and final departure to ensure all sensitive resources are avoided. GGNRA  
20 representatives shall have the authority to stop operations from entering designated sensitive  
21 areas.

### 22 *Protection Measure 4*

23 A helicopter in radio communication with the landing craft shall precede all incoming and  
24 outgoing landing craft. Similarly, a small boat with a spotter, shall also be located near the travel  
25 route to identify marine mammals and large flocks of rafting birds. The helicopter and small boat  
26 shall be able to notify the incoming vessels of the presence of any marine mammals or large flocks  
27 of seabirds that would require a course adjustment to avoid. All gray whales shall be avoided in  
28 this fashion by a minimum of 1,000 feet (305 m). Other marine mammals and large rafts of birds  
29 shall be avoided by a minimum of 500 feet (152 m).

### 30 *Protection Measure 5*

31 Areas at landing sites and within the AWE 1 and AWE 2 project footprints that are vegetated with  
32 native vegetation shall be avoided by all military activities, including foot traffic, during the  
33 exercises. For the AWE 2 San Francisco exercise, the Marine Corps shall, prior to the beginning of



## *Appendix B: Biological Protection Measures*

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activities, install temporary protective orange fencing, 4-5 feet (1.2-1.5 m) in height around the perimeter of all sensitive areas identified by GGNRA or NPS biologists. The Marine Corps shall also provide personnel to patrol the fenced areas and prevent the general public from entering these sensitive areas. All fencing shall be removed by the Marine Corps within 24 hours of the end of the exercise. The Marine Corps shall be responsible for compensating the Presidio for any impacts to native plant communities that could occur as a result of exercises.

### *7 Protection Measure 6*

8 To reduce the threat of western snowy plovers being disturbed by landing craft, vehicles, or other equipment, surveys shall be conducted at the proposed beach landing sites one to two days prior to operations by a qualified biologist familiar with western snowy plover biology. Surveys shall determine snowy plover use of the beach at the time of the operations so as to assure avoidance of any aggregations. Surveys would also determine the need to choose an alternative beach landing site if there is any indication of nesting detected at the landing site.

### *14 Protection Measure 7*

15 Impacts to shorebirds on beaches and offshore rocks shall be reduced by restricting helicopters, boats, and landing craft to routes directed straight at landing sites as opposed to running parallel to shorelines.

### *Protection Measure 8*

19 Impacts to seabirds potentially nesting on offshore rocks, raptors breeding in the Presidio's forested areas and seals and harbor seals hauled out on offshore rocks shall be reduced by maintaining a minimum ¼ mile (439 m) buffer area from Seal Rocks, Lands End Rocks, and the shoreline within the GGNRA, except for direct approaches. Helicopters would not hover over any shoreline within the GGNRA.

### *24 Protection Measure 9*

25 The Marine Corps shall provide funding for a qualified biologist to identify, prior to operations, raptor nesting sites that could be affected by the exercises. Raptor nest sites shall be monitored during the operations to determine impacts and to provide for changes in plans to increase protection if needed. Monitoring will continue for two weeks following the event to assess event-related impacts to reproductive success.

### *30 Protection Measure 10*

31 All routes of entry to the AWE 2-San Francisco exercise areas shall be on established roads, sidewalks, fire roads and designated trails. Any exceptions requested must be specifically approved in Advance and clearly flagged in consultation with Presidio Natural Resources personnel.

1 *Protection Measure 11*

2 The Marine Corps shall provide personnel at both entrances to the field office of the San Francisco  
3 Presidio Park Stewards Program (Buildings 1539 and 1599) to welcome all staff and volunteers  
4 and explain why there are military operations occurring and that the field office is still open.

5 *Protection Measure 12*

6 Sufficient portable toilets shall be provided in all areas of operations and personnel shall be  
7 instructed on the importance of using these facilities throughout the operations.

8 *Protection Measure 13*

9 The Marine Corps shall be responsible for collecting all spent ammunition cases and depleted  
10 smoke canisters.

11 *Protection Measure 14*

12 Prior to landing, a traffic management plan shall be prepared in consultation with San Francisco  
13 Presidio Park Police. The plan would include information on traffic scheduling, proposed routes,  
14 parking, staging area management, visitor safety, closures, and detour routes. The movement of  
15 personnel and vehicles shall be limited to periods of off-peak traffic whenever possible. Any  
16 alterations to the traffic management plan shall be subject to written approval by the Park Police  
17 prior to implementation.

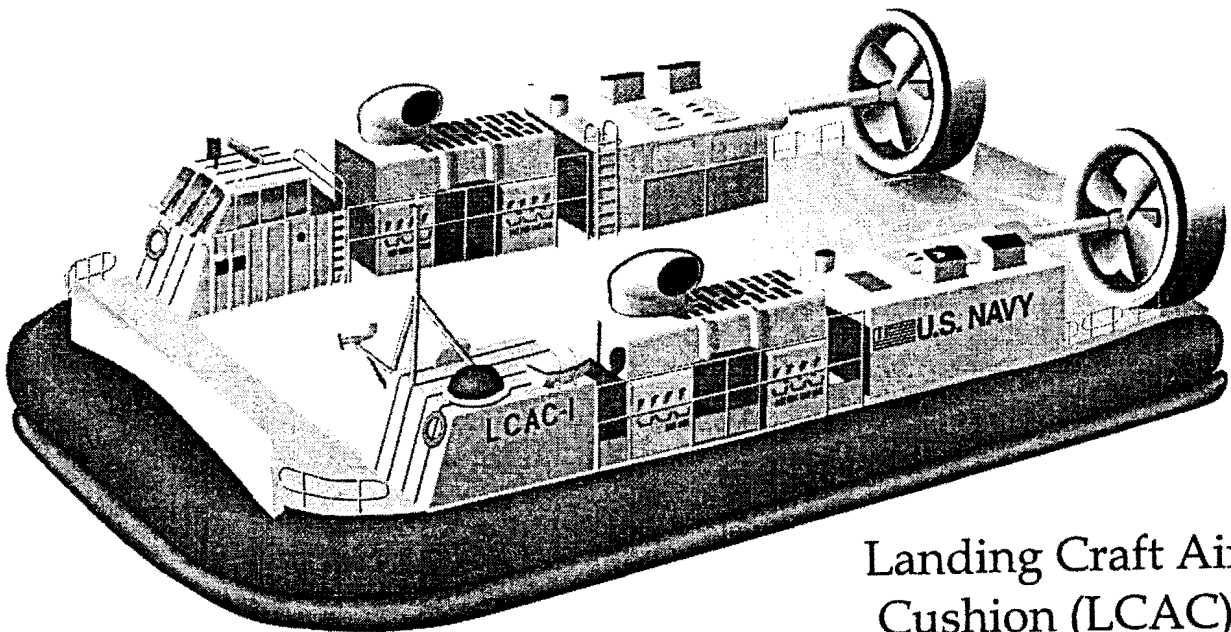
18 *Protection Measure 15*

19 At the LCAC landing site in Alameda, all LCAC vehicles shall remain 1,500 feet (457 m) from the  
20 outer Breakwater Island during trips to and from the landing site.

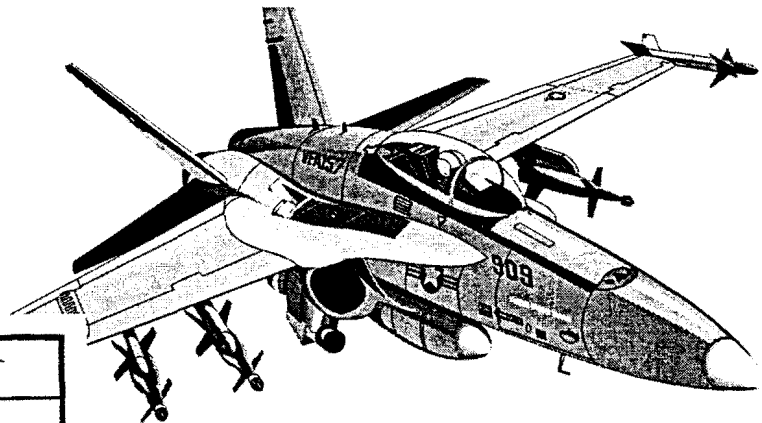
Appendix D. Navy and Marine Equipment Employed for Urban Warrior



AV-8B Harrier



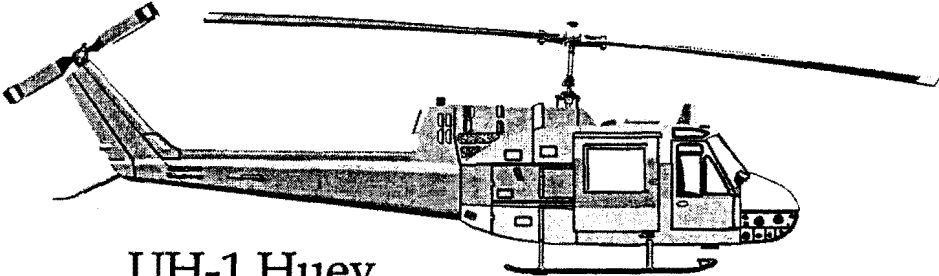
Landing Craft Air Cushion (LCAC)



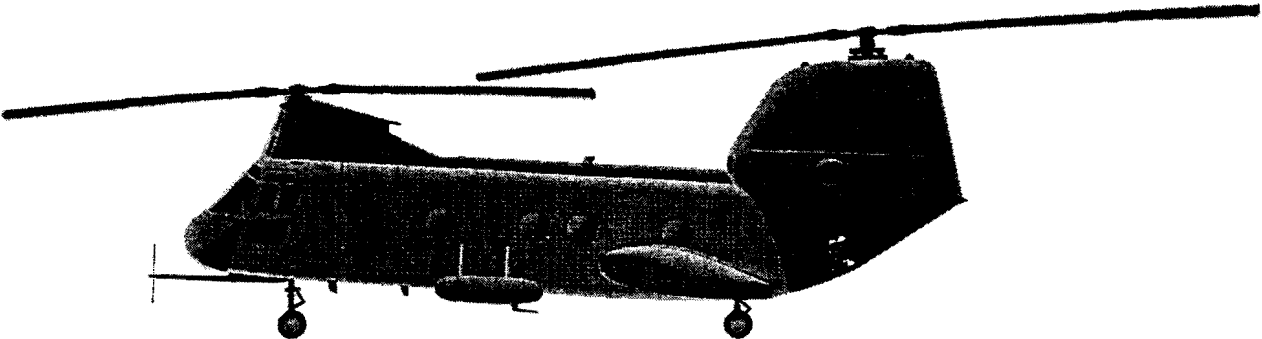
F/A-18 Hornet

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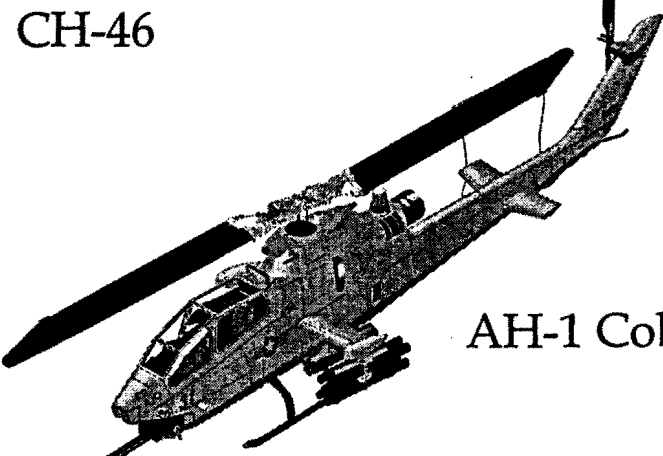
Appendix D. Navy and Marine Equipment Employed for Urban Warrior



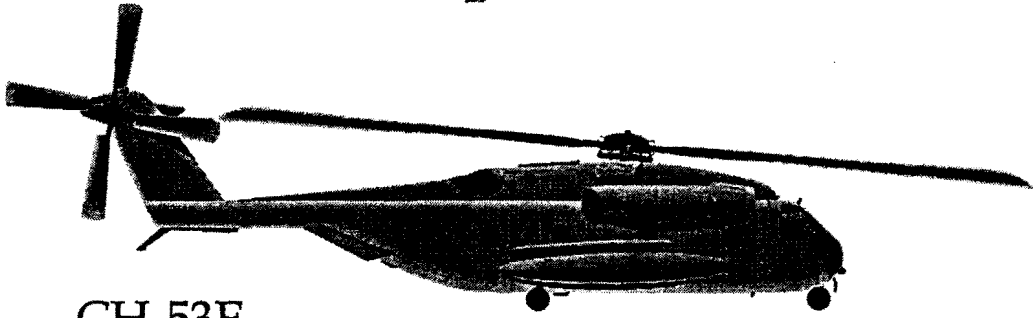
UH-1 Huey



CH-46

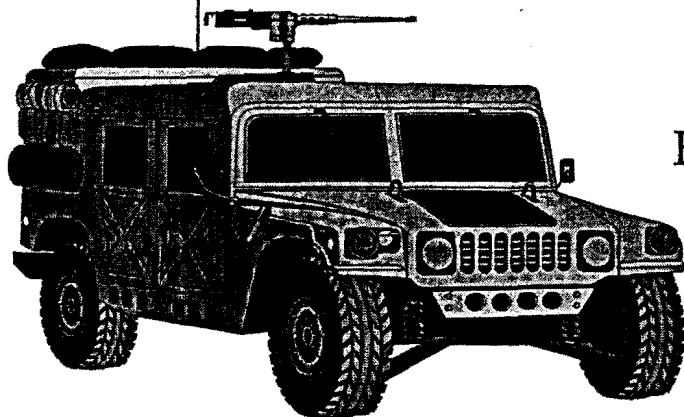


AH-1 Cobra

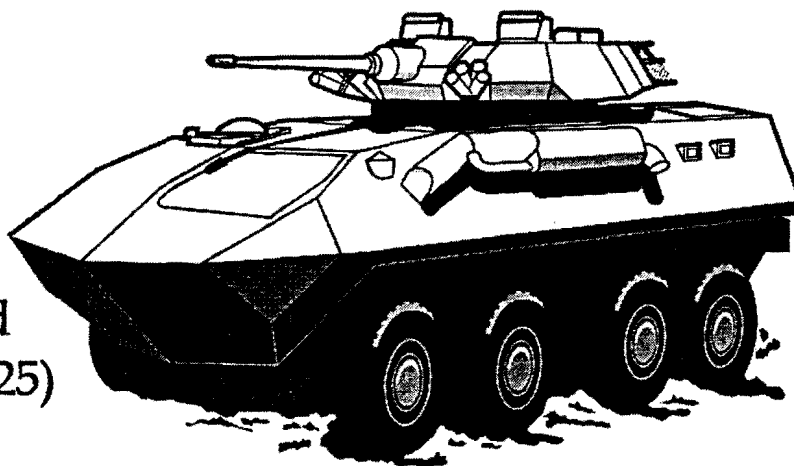


CH-53E

Appendix D. Navy and Marine Equipment Employed for Urban Warrior



HUMVEE



Light Armored  
Vehicle (LAV-25)



5-Ton Truck

1 landing on the beach and the second vehicle was approaching within 1,500 feet (457 m), noise  
2 levels measured 300 feet (91 m) from the landing vehicle were 100 dBA. Each LCAC approach  
3 from approximately 1,500 feet (457 m) offshore to the delivery/ loading area took less than 5  
4 minutes. Idling, the two LCACs generated noise levels of between 85 and 90 dBA at a distance of  
5 50 feet (15 m). These measurements are considered reasonable worst-case estimates for the AWE 1  
6 analysis (U.S. Navy 1997).

7 Because all landing activities would take place during daytime hours between 0830 to 1100 (8:30  
8 a.m. to 11:00 a.m.) and 1400 to 1800 (2:00 P.M. to 6:00 P.M.), sleep disturbance should not occur.  
9 Speech interference occurs when noise levels exceed 60 dBA. This could be true for those engaged  
10 in outdoor activities within about one mile of the activities or indoor at residences within 300 to  
11 950 feet (91 to 290 m) of the activities, depending on whether the windows are open or not. Based  
12 upon the average levels of general noise reduction provided by typical residential construction (15  
13 dB with the windows open and 20-25 dB with the windows closed), some degree of indoor speech  
14 interference would be expected when exterior noise levels exceed 75 to 85 dBA with windows  
15 opened or closed, respectively. This impact could be annoying, but it would be a one-day event of  
16 short noise period durations for any particular sensitive receptor and therefore not significant.  
17 Noise from such an event could prove frightening to some or distracting to motorists; however,  
18 adequate advance notice would be given to the public regarding the nature of the proposed  
19 activity (refer to section 2.3). This advance notice would help alleviate most startle reactions.

#### 20 5.1.4 BIOLOGICAL RESOURCES

##### 21 *Significance Criteria*

22 For biological resources, an impact that results in a substantial long-term loss or degradation of a  
23 sensitive habitat or that results in a "take" (harass, harm, pursue, hunt, shoot, wound, kill, trap,  
24 capture or collect) of a rare, threatened or endangered species would be considered significant.  
25 Significant impacts includes those project-related activities that would result in any of the  
26 following:

- 27 • Effect on a rare, endangered or threatened species of animal, plant or listed species' habitat;
- 28 • Substantial interference with the movement of any resident or migratory fish or wildlife  
29 species;
- 30 • Substantial loss of habitat for fish, wildlife or plants.

31 The most effective tool to reduce impacts to biological resources is avoidance. The proposed AWE  
32 1 incorporates avoidance into the experiment design so that all sensitive resources known or  
33 expected to occur in the activity areas would be avoided and disturbances due to military activities  
34 would be minimized. Protection measures discussed in this section have been incorporated into  
35 the experiment design. The protection measures are listed in Appendix B.

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## 5 Environmental Consequences - Monterey (AWE 1)

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1 There are no anticipated impacts to threatened, endangered or rare plant species or to native  
2 vegetation for the AWE 1 preferred alternative. All personnel involved with the operations would  
3 be briefed on all sensitive resources and the measures designed to protect them (Protection  
4 Measure 1). Sensitive plant species and native plant habitat located in the foredune habitat on the  
5 NPGS Beach and within the NPGS properties have been identified and mapped on Figure 3.4-1.  
6 The locations of important biological resource areas at the POM are mapped in Figure 3.4-2. Most  
7 of the dune habitat currently being restored at the NPGS Beach has been fenced to avoid  
8 disturbances by the public. Areas identified as being vegetated with native plant species,  
9 including all vegetated areas in the NPGS Beach area, would be avoided by all military activities,  
10 including foot traffic during the one-day exercise (Protection Measure 5). An on-site monitor,  
11 knowledgeable about the sensitive biological resources of the Monterey Bay area, would be present  
12 at the landing site prior to and during the landing to (a) identify any sensitive resources outside  
13 fenced areas, (b) fence or flag any sensitive resources that require avoidance, and (c) monitor,  
14 document, and photograph the actual beach landing and operations to ensure all sensitive  
15 resources are avoided (Protection Measure 2). The existing dirt access road through the native  
16 habitat is wide enough to allow passage for all military vehicles. This access road would be clearly  
17 marked or identified for use by all military personnel and equipment.

18 Disturbances to common terrestrial wildlife species would be very short term. Disturbances  
19 include scaring shorebirds from their resting or foraging areas and disturbing common species by  
20 loud noises, low flying helicopters and increased human presence. These animals are expected to  
21 move to other readily available habitat in the vicinity of the proposed activity and to reoccupy the  
22 project area after the exercise is completed.

23 The only threatened or endangered terrestrial wildlife species likely to be present within the  
24 proposed project activity footprint is the western snowy plover (FT). There are no impacts to this  
25 species from the proposed exercise. The proposed exercise occurs in mid-March which coincides  
26 with the very earliest records of western snowy plover nesting (records are from southern San Luis  
27 Obispo County, about 150 miles [240 km] south of the project area) (San Luis Obispo County 1998).  
28 There are no recent records of snowy plover breeding in the areas of the proposed exercise  
29 activities. Therefore, no disturbances to this species' breeding activities are anticipated to result  
30 from the preferred alternative. As true for most beaches in California, western snowy plovers may  
31 still be found on Monterey Bay beaches in mid-March. However, the proposed landing site at  
32 NPGS Beach is heavily used by the public (including unleashed dogs) discouraging snowy plover  
33 breeding and roosting. It is expected that the proposed action would not result in any additional  
34 effects on western snowy plovers.

35 LCAC landings would produce a temporary intense and intrusive source of noise within 1,000 feet  
36 of the landing site. It is expected that any snowy plovers in the area, as well as any other  
37 shorebirds, might temporarily move either up or down the eight-mile-long beach. This should not  
38 alter their behavior or preclude their use of the beach habitat. Nonetheless, to reduce the potential  
39 of western snowy plovers being disturbed by activities on the beach and to assure avoidance of  
40 any aggregations, surveys would be conducted on this beach within one to two days prior to  
41 operations by a qualified biologist familiar with snowy plover biology. Surveys would determine

1 snowy plover use of the beach at the time of the operations and the need to choose an alternative  
2 beach landing site if there is any indication of nesting detected at the landing site (Protection  
3 Measure 6).

4 Disturbances to sensitive aquatic wildlife species including listed species such as southern sea  
5 otters (FT) and other species protected under the Marine Mammal Protection Act (gray whales,  
6 California sea lions, and harbor seals) would be similar to normal use of the coastal region and  
7 could include temporary displacements due to the presence of loud boats such as the LCACs and  
8 low flying helicopters. Gray whales have been recorded to react to oncoming LCACs by making  
9 sudden turns and diving while LCACs were still up to 1,970 feet (600 m) away (Richardson et al.  
10 1995). California sea lions resting on the beach less than 400 feet (122 m) away from LCAC  
11 landings have actually been observed to remain where they were, and several sea lions in the  
12 water allowed the LCAC vehicle to approach within 100 feet (30 m) before diving (SAIC  
13 unpublished field notes). However, the proposed action includes measures to reduce potential  
14 disturbances to these species by avoidance. A helicopter with radio communication with the  
15 LCACs would precede each wave of landing craft. Similarly, a small boat with a spotter, provided  
16 by the Marine Sanctuary would also be located near the travel route to identify marine mammals  
17 and large flocks of rafting birds. The helicopter and small boat would be able to notify the  
18 incoming vessels of the presence of any marine mammals or flock of birds that would require a  
19 course adjustment to avoid. All gray whales would be avoided in this fashion by approximately  
20 1,000 feet (304 m). All other marine mammals and large rafts of seabirds would be avoided by  
21 approximately 500 feet (152 m) (Protection Measure 4). The LCACs would adjust their course at  
22 the direction of the Sanctuary monitors to avoid any significant impact to resources.

### 23 5.1.5 CULTURAL RESOURCES

#### 24 *Significance Criteria*

25 For purposes of this analysis, significant cultural resources are those properties listed in or eligible  
26 for inclusion on the National Register of Historic Places. To evaluate the potential significant  
27 impacts on these properties, this analysis uses the Criteria of Adverse Effect, as developed by the  
28 Advisory Council on Historic Preservation in its regulations for the "Protection of Historic  
29 Properties," 36 CFR Part 800, in identifying adverse effects. These regulations define an adverse  
30 effect as any action that would diminish the integrity of a historic property's location, setting,  
31 design, materials, workmanship, feeling or association. The following impacts could be adverse,  
32 and therefore, significant.

- 33 • Physical destruction, damage, or alteration of all or part of the property;
- 34 • Isolation of the property or alteration of the character of the property's setting when that  
35 character contributes to the property's qualifications for the National Register;
- 36 • Introduction of visual, audible, or atmospheric elements that are out of character with the  
37 property or alter its setting (Section 800.9 [b]).